Torres Rojas, Genara

From: sharon.goldin@exelisinc.com
Sent: Tuesday, July 08, 2014 12:51 PM
To: Duffy, Daniel; American, Heavyn-Leigh
Cc: Torres Rojas, Genara; Van Duyne, Sheree
Subject: Freedom of Information Online Request Form

Information:

First Name: Sharon
Last Name: Goldin
Company: Exelis Inc.
Mailing Address 1: 12930 Worldgate Drive
Mailing Address 2:
City: Herndon
State: VA
Zip Code: 20170
Email Address: sharon.goldin@exelisinc.com
Phone: 703-473-5132
Required copies of the records: Yes

List of specific record(s):
This is a second request. I originally requested these items 2 weeks ago. This is a Request for copies of all records related to PANYNJ bid number 31644 - In Support of The Port Authority of New York New Jersey Request for Proposals RFP for: Airport Noise Operations Management System Contract for John F. Kennedy International JFK, LaGuardia LGA, Newark Liberty International EWR, Stewart International SWF and Teterboro TEB Airports. We are specifically looking for bid package information from Brüel Kjaer - Environment Management Solutions EMS We would like copies of their proposals, equipment specifications, and costs.And a copy of the final award contract. We do not require hard copies of the records if they are posted on this website. Thanks Sharon Goldin

THE PORT AUTHORITY OF NY & NJ

FOI Administrator

August 11, 2014

Ms. Sharon Goldin
Exelis Inc.
12930 Worldgate Drive
Herndon, VA 20170

Re: Freedom of Information Reference No. 15066

Dear Ms. Goldin:

This is in response to your July 8, 2014 request, which has been processed under the Port Authority's Freedom of Information Code (the "Code"), for copies of "all records related to PANYNJ bid number 31644 - In Support of The Port Authority of New York New Jersey Request for Proposals RFP for: Airport Noise Operations Management System Contract for John F. Kennedy International JFK, LaGuardia LGA, Newark Liberty International EWR, Stewart International SWF and Teterboro TEB Airports ... specifically ... bid package information from Brüel Kjaer - Environment Management Solutions EMS ... copies of their proposals, equipment specifications, and costs ... and a copy of the final award contract."

Material responsive to your request and available under the Code can be found on the Port Authority's website at http://www.panynj.gov/corporate-information/foi/15066-C.pdf. Paper copies of the available records are available upon request.

Certain material responsive to your request is exempt from disclosure pursuant to exemptions (1), (2.b.) and (4) of the Code.

Please refer to the above FOI reference number in any future correspondence relating to your request.

Very truly yours,

Daniel D. Duffy
FOI Administrator

225 Park Avenue South, 17th FL
New York, NY 10003
T: 212 435 3642 F: 212 435 7555

THE PORT AUTHORITY OF NY & NJ

Lillian D. Valenti
Director, Procurement

June 27, 2013

Email: Nicole.Eib@bksv.com
Robert.Brodecky@bksv.com

Bruel & Kjaer EMS, Inc.
1050 Fulton Ave, Suite 213
Sacramento, CA 95825

Attn: Mr. Robert Brodecky, Vice President Americas

RE: **ALL AIRPORTS - NOISE & OPERATIONS MANAGEMENT SYSTEM RFP #31644, CONTRACT NO. 4600009546, PURCHASE ORDER NO. 4500064216**

Dear Mr. Brodecky:

The Port Authority of New York and New Jersey ("the Authority") hereby accepts the proposal of Bruel & Kjaer EMS, Inc. for a contract (the "Contract") for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports, with a term commencing at 12:01 AM on June 24, 2013 and, unless sooner terminated, expiring at 11:59 PM on June 23, 2016. The Authority shall have the option to extend this Agreement for an additional three (3) two-year renewal options and an additional 120-day optional extension period.

The Contract between the parties shall consist of the following items, stated in order of precedence in case of conflict:

1. This Letter of Acceptance;

2. Letter of Credit;

3. Revised Section 32 of Attachment B, Rev. 6/25/13;

4. Revised General Contract Provisions, Attachment B, as mutually agreed upon, as set forth in Item 3 above and Item 7a) below, section BAFO-11 Exceptions;

5. Appendix A, NoiseOffice Services, received by the Authority by email dated June 21, 2013;

6. a) Bruel & Kjaer EMS Inc., Response to Clarification dated May 3, 2013;

   b) The Authority's letter to Bruel & Kjaer EMS, Inc. for Clarifications dated May 2, 2013;

2 Montgomery Street, 3rd Floor
Jersey City, NJ 07302
T: 201 395 7477

7. a) Bruel & Kjaer EMS, Inc., Best and Final Offer dated April 29, 2013 including Attachment B Part II – Cost Proposal Form and Assumptions;

   b) The Authority's letter to Bruel & Kjaer EMS, Inc. for "Best and Final Offer" and Clarifications dated April 24, 2013;

8. a) Bruel & Kjaer EMS, Inc., Best and Final Offer and Response to Additional Clarifications dated April 2, 2013 excluding Attachment B Part II – Cost Proposal Form and Assumptions;

   b) The Authority's letter to Bruel & Kjaer EMS, Inc. for "Best and Final Offer" and Clarifications dated March 28, 2013;

9. a) Bruel & Kjaer EMS, Inc., Response to Additional Clarifications dated March 13, 2013 excluding Attachment B Part II – Cost Proposal Form and Assumptions;

   b) The Authority's letter to Bruel & Kjaer EMS, Inc. for Additional Clarification dated March 7, 2013;

10. a) Bruel & Kjaer EMS, Inc., Vendor Presentation & Response to Clarification Questions dated February 25, 2013;

    b) The Authority's letter to Bruel & Kjaer EMS, Inc. presentation invitation and clarification questions dated February 20, 2013 and Authority's presentation invitation dated February 1, 2013;

11. Bruel & Kjaer EMS, Inc., proposal (RFP Response) dated January 24, 2013, excluding WebTrak MyNeighbourhood Product Description; and

12. The Authority's "Request for Proposal" # 31644 entitled Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports issued December 5, 2012, as amended by Addendum No. 1 dated December 20, 2012, Addendum No. 2 dated January 4, 2013, and Addendum No. 3 dated January 8, 2013.

Procurement Department
2 Montgomery Street, 3rd Floor
Jersey City, NJ 07302
T: 201 395 3405

THE PORT AUTHORITY OF NY & NJ

If you are in agreement with the above, please indicate such agreement by signing both copies of this letter at the lower left and returning both signed copies to the attention of Jeanette Anderson, Procurement Department, Two Montgomery Street, 3rd Floor Jersey City, N.J. 07302. One fully executed original of this letter will be returned to you following execution by the Port Authority. If you have any questions, Ms. Anderson can be reached at (201) 395-3430. The contract administrator and project manager for this contract is Mr. Adeel Yousuf who can be reached at (212) 435-3784

Sincerely,

THE PORT AUTHORITY OF NY & NJ

By: Lucia D. Valenti
Director, Procurement Department

Date: June 28, 2013

AGREED: Bruel & Kjaer EMS, Inc.

By: _____
(signature)

By: ROBERT BRODECKY
(print)

Title: VICE PRESIDENT

Date: 6. 27. 2013

Procurement Department
2 Montgomery Street, 3rd Floor
Jersey City, NJ 07302
T: 201 395 3405

JPMorgan Chase Bank, N.A.
Global Trade Services
131 South Dearborn, 5th Floor
M[illegible] Code: IL1-0236
C[illegible]go, IL 60603-5506

JUN 26, 2013
OUR L/C NO.: TFTS-400264

CLEAN IRREVOCABLE STANDBY LETTER OF CREDIT NO. TFTS-400264

BENEFICIARY:
THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY
ATTN: CREDIT MANAGER
225 PARK AVENUE SOUTH, 12TH FLOOR
NEW YORK, NY 10003

APPLICANT:
BRUEL AND KJAER EMS INC.
1050 FULTON AVE., SUITE 213
SACRAMENTO, CA 95825

AT THE REQUEST OF BRUEL AND KJAER EMS INC., WE, JPMORGAN CHASE BANK, N.A., HEREBY OPEN THIS CLEAN IRREVOCABLE LETTER OF CREDIT NO. TFTS-400264 IN YOUR FAVOR UP TO AN AGGREGATE OF USD180,000.00 (ONE HUNDRED EIGHTY THOUSAND AND 00/100 UNITED STATES DOLLARS), AVAILABLE BY YOUR DRAFT(S) ON [illegible] AT SIGHT.

WE WARRANT TO YOU THAT ALL YOUR DRAFTS UNDER THIS CLEAN IRREVOCABLE LETTER OF CREDIT WILL BE DULY HONORED UPON PRESENTATION OF YOUR DRAFT(S) DRAWN ON US AND PRESENTED TO US AT JPMORGAN CHASE BANK, N.A., C/O JPMORGAN TREASURY SERVICES, 10420 HIGHLAND MANOR DR., 4TH FLOOR, TAMPA, FLORIDA 33610, ATTN: STANDBY LC UNIT ON OR BEFORE THE EXPIRATION DATE SET FORTH BELOW OR FUTURE EXPIRATION DATE AS INDICATED BELOW.

OUR OBLIGATION UNDER THIS LETTER OF CREDIT IS THE INDIVIDUAL OBLIGATION OF THE BANK, IN NO WAY CONTINGENT UPON REIMBURSEMENT THERETO, OR UPON OUR ABILITY TO PERFECT ANY LIEN OR SECURITY INTEREST.

ALL DRAFTS MUST BE MARKED ''DRAWN UNDER JPMORGAN CHASE BANK, N.A. LETTER OF CREDIT NO. TFTS-400264 DATED JUNE 26, 2013''.

PARTIAL DRAWINGS UNDER THIS LETTER OF CREDIT ARE PERMITTED.

THIS CLEAN IRREVOCABLE LETTER OF CREDIT EXPIRES AT THE CLOSE OF BUSINESS ON MAY 8, 2014.

174307 Arelis Rivera

JPMorgan Chase Bank, N.A.
Global Trade Services
131 South Dearborn, 5th Floor
Code: IL1-0236
go, IL 60603-5506

JUN 26, 2013
OUR L/C NO.: TFTS-400264

THIS CLEAN IRREVOCABLE LETTER OF CREDIT SHALL BE AUTOMATICALLY EXTENDED WITHOUT AMENDMENT FOR ADDITIONAL PERIODS OF ONE (1) YEAR FROM THE PRESENT OR EACH FUTURE EXPIRATION DATE UNLESS WE HAVE SENT NOTICE TO YOU IN WRITING NOT LESS THAN SIXTY (60) DAYS BEFORE SUCH DATE THAT WE ELECT NOT TO EXTEND THE LETTER OF CREDIT FOR SUCH ADDITIONAL PERIOD, SUCH NOTICE TO BE SENT BY REGISTERED OR CERTIFIED MAIL OR COURIER TO YOU AT THE ADDRESS HEREIN. UPON RECEIPT BY YOU OF SUCH NOTICE YOU MAY DRAW ON US AT SIGHT FOR THE BALANCE REMAINING IN THIS LETTER OF CREDIT WITHIN THE THEN APPLICABLE EXPIRATION DATE, NO STATEMENT REQUIRED.

EXCEPT AS OTHERWISE EXPRESSLY PROVIDED HEREIN, THIS LETTER OF CREDIT IS SUBJECT TO THE UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS (2007 REVISION) INTERNATIONAL CHAMBER OF COMMERCE PUBLICATION NO. 600.

PLEASE ADDRESS ALL CORRESPONDENCE REGARDING THIS LETTER OF CREDIT TO JPMORGAN CHASE BANK, N.A., C/O JPMORGAN TREASURY SERVICES, 10420 HIGHLAND MANOR DR., 4TH FLOOR, TAMPA, FLORIDA 33610, ATTN: STANDBY LC UNIT, INCLUDING THE LETTER OF CREDIT NUMBER MENTIONED ABOVE. FOR TELEPHONE ASSISTANCE, PLEASE CONTACT THE STANDBY CLIENT SERVICE UNIT AT 1-800-634-1969, SELECT OPTION 1, OR 1-312-385-7910, AND HAVE THIS LETTER OF CREDIT NUMBER AVAILABLE.

AUTHORIZED SIGNATURE

174307 Arelis Rivera

ATTACHMENT B

GENERAL CONTRACT PROVISIONS

32. INDEMNIFICATION AND RISKS ASSUMED BY THE CONTRACTOR

To the extent permitted by law, the Contractor shall indemnify and hold harmless the Port Authority, its Commissioners, officers, representatives and employees from and against all claims and demands, just or unjust, of third persons (including employees, officers, and agents of the Port Authority) arising out of or in any way connected or alleged to arise out of or alleged to be in any way connected with the Contract and all other services and activities of the Contractor under this Contract and for all expenses incurred by it and by them in the defense, settlement or satisfaction thereof, including without limitation thereto, claims and demands for death, for personal injury or for property damage, direct or whether they arise from the acts or omissions of the Contractor, of the Port Authority, of third persons, or from the acts of God or the public enemy, or otherwise, including claims and demands of any local jurisdiction against the Port Authority in connection with this Contract.

The Contractor assumes the following risks, whether such risks arise from acts or omissions (negligent or not) of the Contractor, the Port Authority or third persons or from any other cause, excepting only risks occasioned by affirmative willful acts of the Port Authority done subsequent to the opening of proposals on this Contract, and shall to the extent permitted by law indemnify the Port Authority for all loss or damage incurred in connection with such risks:

The risk of any and all loss or damage to Port Authority property, equipment (including but not limited to automotive and/or mobile equipment), materials and possessions, on or off the premises, the loss or damage of which shall arise out of the Contractor's operations hereunder. The Contractor shall if so directed by the Port Authority, repair, replace or rebuild to the satisfaction of the Port Authority, any and all parts of the premises or the Facility which may be damaged or destroyed by the acts or omissions of the Contractor, its officers, agents, or employees and if the Contractor shall fail so to repair, replace, or rebuild with due diligence the Port Authority may, at its option, perform any of the foregoing work and the Contractor shall pay to the Port Authority the cost thereof.

The risk of any and all loss or damage of the Contractor's property, equipment (including but not limited to automotive and/or mobile equipment) materials and possessions on the Facility.

The risk of claim, whether made against the Contractor or the Port Authority, for any and all loss or damages occurring to any property, equipment (including but not limited to automotive and/or mobile equipment), materials and possessions of the Contractor's agents, employees, materialmen and others performing work hereunder.

The risk of claims for injuries, damage or loss of any kind just or unjust of third persons arising or alleged to arise out of the performance of work hereunder, whether such claims are made against the Contractor or the Port Authority.

If so directed, the Contractor shall at its own expense defend any suit based upon any such claim or demand, even if such suit, claim or demand is groundless, false or fraudulent, and in handling such shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provision of any statutes respecting suits against the Port Authority.

Neither the requirements of the Port Authority under this Contract, nor the approval by the Port Authority of the methods of performance hereunder nor the failure of the Port Authority to call attention to improper or inadequate methods or to require a change in the method of performance hereunder nor the failure of the Port Authority to direct the Contractor to take any particular precaution or other action or to refrain from doing any particular thing shall relieve the Contractor of its liability for injuries to persons or damage to property or environmental impairment arising out of its operations.

The provisions of this numbered clause shall also be for the benefit of the Commissioners, officers, agents, and employees of the Authority, so that they shall have all the rights which they would have under this numbered clause if they were named at each place above at which the Authority is named, including a direct right of action against the Contractor to enforce the foregoing indemnity, except, however, that the Authority acting through its Commissioners may at any time in its sole discretion and without liability on its part cancel the benefit conferred on any of them by this numbered clause, whether or not the occasion for invoking such benefit has already arisen at the time of such cancellation.

Neither the Authority's acceptance of the performance by the Contractor in part or in whole, nor the making of a payment shall release the Contractor from its obligations under this numbered clause.

Moreover, neither the enumeration in this numbered clause nor the enumeration elsewhere in this Contract of particular risks assumed by the Contractor or of particular claims for which it is responsible shall be deemed (a) to limit the effect of the provisions of this numbered clause or of any other clause of this Contract relating to such risks or claims, (b) to imply that it assumes or is responsible for risks or claims only of the type enumerated in this numbered clause or in any other clause of this Contract, or (c) to limit the risks which it would assume or the claims for which it would be responsible in the absence of such enumerations.

From: Jaime Locquiao [mailto:Jaime.Locquiao@bksv.com]
Sent: Friday, June 21, 2013 8:04 PM
To: Yousuf, Adeel
Cc: Nicole Eib; Robert Brodecky
Subject: Services Agreement Review

Adeel,

Here is the Services Agreement which Nicole provided to me. We have responded with our comments. Please review and advise.

Feel free to contact me if you have any additional questions.

Regards,

Jaime

Jaime M Locquiao
Operations Manager - Americas

Brüel & Kjær EMS Inc.
1050 Fulton Avenue, Suite 213
Sacramento, CA 95825
Office: 866 240 8307
Direct: 916 265 7709
Cell: 209 814 4949
Fax: 916 265 7719

Jaime.Locquiao@bksv.com
www.bksv.com/EMS

This e-mail is confidential and may be read, copied and used only by the intended recipient. If you have received it in error, please contact the sender immediately by return e-mail. Please then delete the e-mail and do not disclose its contents to any other person.

APPENDIX A

NOISEOFFICE SERVICES

FOR

THE PORT AUTHORITY OF NEW YORK & NEW JERSEY

FOR

JOHN F. KENNEDY INTERNATIONAL (JFK)
LAGUARDIA (LGA)
NEWARK LIBERTY INTERNATIONAL (EWR)
STEWART INTERNATIONAL (SWF) AND
TETERBORO (TEB)
AIRPORTS

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1 Preamble

These services will be provided by **Brüel & Kjær EMS Inc** (hereinafter called "Supplier") for **The Port Authority of New York & New Jersey** (hereinafter called "Customer").

Subject to the terms and conditions set forth in the Agreement and its schedules and attachments, Supplier and Customer agree that Supplier will provide to Customer the Services described herein:

2 Definitions

Term	Definition
Agreement	this Noise Office Services Agreement.
Effective Date	the date that this Agreement comes into effect as specified in Clause 1.
Customer Country	USA
Hosted Systems	the Customer equipment and applications listed in the table "System Hosting Services" in Schedule D.3.
NMT	Noise Monitoring Terminal
Prescribed Terms	terms and conditions and warranties implied by law in contracts for the supply of goods or services.
Reference Data	the list of reference information shown Schedule C.6
Responsible Party	the person(s) or organisation responsible to address a specific issue of fault with the System. This could be a Customer contact or, depending on the scope of the Services, it could be a Supplier contact or a third party contact.
SDM	Service Delivery Manager - the Supplier-appointed person assigned to act as a single point of contact for matters relating to the provision of the Services.
Service Fees	the fees specified in Schedule F:
Service Levels	the performance levels defined in Schedule E:
Services	the services provided by Supplier including subcontractors under this Agreement.
Special Clauses	the obligations and liabilities defined in Schedule G:
Specifications	the manuals, system descriptions or other published documentation describing the functionality and performance of the Supplier Hardware, Supplier Software, Subscribed Applications, or Subscribed Data.
Subcontractor	third party engaged by the Supplier to provide all or part of the Services
Subscribed Applications	the list of applications listed in Schedule C.5
Subscribed Data	the list of data services listed in Schedule C.4
Supplier Software	software listed in Schedule C.3 as having Brüel & Kjær as the author.
Supplier Spare Parts	the list of System components shown in Schedule C.2
Support Request	a request in writing from Customer to Supplier for work to be performed under this Agreement as defined and in the form described in Clause 4.2
System	the hardware, software, on site spares, subscribed applications and subscribed data listed in Schedule C:
System Component	one of the items comprising the System.
System Upgrade	once off hardware and software upgrade of the System
Termination Services	the services described in Schedule F.1.
Third Party Software	software listed in Schedule C.3 as having an author other than Brüel & Kjær.

Term	Definition
User Forum	user group meeting, which Supplier may organize from time to time, to discuss technical issues related to airport noise and the use of Supplier products and services.
Working Day	Monday through Friday inclusive, excluding local public holidays in the main place of business of Customer.
Working Hours	between 8:30am and 5:30pm local time in the main place of business of Customer on any Working Day.

3 Scope of Work

a The Services shall be provided according to the applicable Service Levels.

b The Services apply only to the System. Correct operation of the System may depend on correct operation of other systems (including data feeds, power supplies, and communication links), which are the responsibilities of Customer. Supplier's obligations under this Agreement shall be excused if, and to the extent that, the System does not work correctly as a result of the failure of these other systems.

c When Customer becomes aware of an interruption to a system or service which is likely to cause interruption to the System or Services which are the subject of this Agreement, Customer shall notify Supplier where reasonably practical to do so:

(i) Seven (7) calendar days in advance of any planned outage; and

(ii) Within four (4) working hours of an unplanned outage.

d Supplier's obligations under this Agreement shall be excused if, and to the extent that, Customer fails to deliver the obligations listed in Clause 12, below.

4 Service Management

4.1 Service Reporting:

a Supplier shall assign an SDM and shall advise Customer of the name of the assigned SDM.

b Supplier shall provide a quarterly report on the utilization of the Services provided under this Agreement and the performance against the Service Levels.

4.2 System Support

a Supplier shall provide support in the form of advice by telephone or email in response to a telephone call or email from Customer in relation to the operation of the System.

b Supplier's telephone/email support services shall operate during Working Hours.

c Support requests shall be advised to Supplier by email to the contact details for Customer Support listed in Schedule B:. When advising requests, the following information shall be provided:

(i) Request title, which will be used as the "Title" of the request for subsequent tracking.

(ii) Customer reference number (if any)

(iii) Customer contact details, including email address, phone number etc.

(iv) The Airport and location of items which are the subject of the request

(v) Date and time of the request

(vi) A description of the request including, as attachments, any screenshots, error logs, etc. as may be useful to assist in Supplier response.

(vii) An indication of the urgency or severity of the request; for example; 1= Urgent – Data Loss,

2= Major Loss of Function, 3= Loss of Function, 4= Minor Anomaly, 5=Request for Assistance.

d Supplier will enter this information into the Supplier's ticket management system and a reply will be sent acknowledging the request and identifying the unique ticket number that is to be used in all future communication concerning this request.

4.3 *Customer Visits*

a The SDM or a delegated alternate shall meet with Customer at least as often as specified in Schedule D.1. Such meetings shall be at a location and have an agenda and duration mutually agreed upon and predetermined by Customer and Supplier. Each day of such meetings shall be for a maximum of eight (8) hours per day.

4.4 *User Forum*

a On request from Customer, Supplier will provide the number of tickets specified in Schedule D.2 each year of this Agreement to any User Forum.

b Customer shall be responsible for the travel expenses (transportation, lodging etc.) and meal expenses (except for meals provided as part of the official User Forum activities) of its attendees at User Forums.

5 Maintenance Services

5.1 *Fault Management*

a Supplier will rectify faults in the System during the term of this Agreement and as required to return the System to operating within substantial conformity with the Specifications.

b Not used.

c All faults shall be advised to Supplier by email or by fax to the contact details for Customer Support listed in Schedule B: and in the form described in Clause 4.2 above.

d Supplier will enter this information into the Supplier's ticket management system and a reply will be sent identifying the unique ticket number that is to be used in all future communication concerning this fault report.

e Customer shall assist Supplier in diagnosing the fault by, if requested, supplying evidence of the fault such as listings of output, photographs, or other data. Such evidence may also include information about and from equipment other than the System.

f If requested, Customer shall explain how the fault prevents substantial conformity of the System with the Specifications.

g Supplier shall carry out remedial work either remotely or on Customer locations at Supplier's discretion and in line with the Service Levels.

h Supplier will use best efforts to resolve all faults and requests in a fast and efficient manner with a minimum disruption to Customer's operation.

i Supplier will not be required to carry out remedial work or to carry out remedial work in accordance with the Service Levels if:

(i) It has not received a Support Request;

(ii) Customer has changed the configuration of the System and this has caused, or contributed to the cause of, the fault;

(iii) The fault is caused by incorrect Customer operation of the System or by a failure in consumable equipment.

5.2 *Software Upgrades and Patches*

a Customer shall be entitled, at no additional license fee, to patches and upgrades to the Supplier Software that Supplier shall, from time to time, develop and make available where such patches and upgrades relate to features of the Supplier Software currently supplied and/or licensed to Customer.

b Supplier shall notify Customer of upgrades to Supplier Software when they are made available for general distribution. Customer may or may not choose to install the upgrade.

c When an upgrade to Supplier Software requires an upgrade to Third Party Software, Supplier will advise Customer accordingly.

d Customer acknowledges that an upgrade or new version of Third Party Software during the term of this Agreement, may require new or upgraded hardware and any additional cost of new hardware or software to support the upgrade is not included in this Agreement.

e Customer acknowledges that the application of an upgrade to Supplier Software or Third Party Software may require engineering effort, additional hardware, travel expenses, or end user training and that, unless specified elsewhere in this Agreement, costs associated with the provision of these items are not included in the scope of this Agreement.

f On request from Customer, Supplier shall provide a quotation for the works described in Clause 5.2.e and the rates applicable for that work shall be as defined in Schedule F.3.

g Supplier may declare a particular upgrade or set of upgrades to Supplier Software to be a new general release of the Supplier Software. Supplier reserves the right to cease supporting versions of Supplier Software that are more than two general releases older than the current general release or only to offer such support at increased service fees.

h Nothing in this Clause 5.2 shall imply that Customer is entitled to any software except the Supplier Software. In particular, Supplier may provide additional functionality as a new, and separately licensable, module of the Supplier Software, in which case the new module may be offered to Customer as defined in Clause 10

5.3 *Hardware Repair*

a The System hardware as defined in Schedule C.1 requiring physical repair will be repaired by return of the items to Supplier for repair unless explicitly stated otherwise.

b Supplier shall determine whether, in order to deliver the Services, it is necessary to return a System Component or part(s) of a System Component.

c If requested by Supplier, Customer shall securely and safely pack and dispatch such item(s) to the depot nominated by Supplier for repair or replacement and shall pay for freight and insurance to the nominated depot premises.

d Supplier shall repair or replace the item(s) according to the Service Levels and shall return the item(s) to Customer at Supplier's expense.

e Unless otherwise specified in this Agreement, Customer shall be responsible for re-installing the item(s) according the instructions from Supplier.

5.4 *Specific Exclusions*

a The following faults are not included in the scope of this Agreement and will not be rectified by Supplier

(i) Faults in power connections to equipment, except Hosted Systems.

(ii) Faults in communications between components of the System, e.g. telephone lines, network connections etc.;

(iii) Faults caused by abnormal events e.g. vandalism, lightning strikes, damage outside of

Supplier's control.

6 System Management Services

6.1 *System Monitoring*

a Supplier shall monitor the System for abnormal conditions, including incomplete data downloads and out-of-band calibration results, and shall advise the Responsible Party of any detected abnormal conditions.

b Customer shall advise Supplier of the Responsible Party for various abnormal conditions where Supplier will not be the Responsible Party.

6.2 *System Administration*

a Supplier shall provide system administration services as defined in, and at the frequency stated in, Schedule D.4 System Administration Services.

b Supplier may carry out system administration services at any time during the normal business hours of Customer. Supplier may carry out system administration tasks outside of those hours by mutual agreement.

6.3 *Periodic Hardware Services*

a Supplier shall provide hardware services as defined in, and at the frequency stated in, Schedule D.5 Periodic Hardware Services.

b At the completion of each periodic hardware service, Supplier shall present a report to Customer on the status of the units, and any issues needing to be addressed.

6.4 *Supplier Spares*

a Supplier shall provide the Supplier Spare Parts at Suppliers expense, to be located on Customer premises and available to be used in fault rectification as required.

b Supplier shall inspect the Supplier Spare Parts during visits to Customer site to ensure that they can be utilized when required. Supplier shall repair or replace any Supplier Spare Parts found to be faulty.

c On termination of this Agreement, Customer shall return the Supplier Spare Parts.

6.5 *System Hosting*

a Supplier shall, in its own facilities, maintain, administer, and operate the Hosted Systems consistent with the applicable Service Levels.

b Supplier shall report performance against the Service Levels according to Clause 4.1 and shall also make recommendations on any actions or upgrades which might be necessary to improve or secure performance of the Hosted Systems.

6.6 *Backup and Restoration*

a The responsibility and frequency of system backup is stated in Schedule D.8. System Backup.

b In the event of complete system failure, Supplier will restore the System from the latest available system backup.

7 Information Management Services

7.1 *Data Processing Services*

a Supplier shall provide data processing services as defined in, and at the frequency stated in, Schedule D.6 Data Processing Services.

b Supplier will maintain a log of data processing services tasks undertaken and make that log available to Customer as part of regular service reporting.

7.2 *Report Production Services*

a Supplier shall provide report production services as defined in, and at the frequency stated in, Schedule D.7 Report Production Services.

8 Subscription Services

8.1 *Application Subscription*

a Supplier will provide the Subscribed Applications to Customer according to the Specifications and according to the Service Levels.

b For the term of this Agreement, Customer will have a non-exclusive right to use the Subscribed Applications subject to any limitation on user numbers or locations specified in Schedule C.5 Application Subscriptions.

c Subscribed Applications remain the exclusive property of Supplier.

d Customer will not use, or cause others to use, the Subscribed Applications or the information derived from the Subscribed Applications for the real-time control or navigation of aircraft, or for any purpose related to the real-time control or navigation of aircraft.

e The information contained within the Subscribed Application is a combination of data from a variety of sources, and may include information derived from Customer and from third party sources. Supplier does not warrant the accuracy or availability of the information within the Subscribed Applications.

f Supplier and Customer agree to abide by the terms of any third party data agreements that are required in order to provide the Subscribed Applications.

g Due to the highly visual nature of the user interfaces, Subscribed Applications may not be accessible to individuals with certain disabilities. Customer hereby indemnifies Supplier against any liability or additional expense arising directly or indirectly from a complaint, allegation or claim by a third party (including employees of the Customer) alleging that a Subscribed Application discriminates against an individual on the grounds of that individual's disability.

8.2 *Data Subscription*

a Supplier will provide the Subscribed Data to Customer according to the Specifications and according to the Service Levels.

b For the term of this Agreement, Customer will have a non-exclusive right to use the Subscribed Data subject to any limitation on use specified in Schedule C.4.

c Subscribed Data remains the exclusive property of Supplier.

d Customer will not use, or cause others to use, the Subscribed Data or information derived from the Subscribed Data for the real-time control or navigation of aircraft, or for any purpose related to the real-time control or navigation of aircraft.

e Supplier and Customer agree to abide by the terms of any third party data agreements that are

required in order to provide the Subscribed Data.

8.3 Reference Data

a Supplier shall provide updates to the Reference Data at the frequency as shown in Schedule C.6.

9 Professional Services

a No additional services shall be performed unless Supplier provides a written quotation, which is approved in writing by Customer prior to Supplier providing such services.

b On request from Customer for additional services, Supplier shall provide a quotation for the additional services. Where applicable, the quotation shall be based on the rates shown in Schedule F.3.

10 New Modules

a Supplier shall notify Customer of new module(s) applicable to the System when they are made available for general distribution along with the applicable additional license fees, installation fees, and/or additional Service Fees applicable to such new module(s).

b The installation fees and/or any increase in Service Fees applicable to the new module(s) shall, where applicable, be based on the rates shown in Schedule F.3.

c The new module(s) will only be made available to Customer following Customer's written acceptance of the additional license fees, installation fees, and or additional Service Fees applicable to the new module(s).

11 Obsolescence

a Supplier may undertake a review of the System 3 years after the Effective Date of this Agreement and annually thereafter and may recommend the replacement of obsolete Customer-owned equipment or Customer-owned equipment not meeting specifications. Any such replacement recommendation shall be reasonable and justified.

b If Customer does not accept the recommendations within 6 months, Supplier may cease to provide Services for the System or may only offer such support at increased service fees.

12 Customer Obligations

12.1 Compliance with License terms

a Customer's use of the System shall, at all times, be consistent with any license terms which apply to the System or any System Component.

b Supplier Software is licensed to Customer under the standard Brüel & Kjær End User License Agreement.

12.2 Storage of Equipment

a Not used

b Not used

12.3 Physical and Electronic Access:

a Customer shall maintain a continuous connection to the internet for the system and capable of establishing a secure virtual private network between the system and Supplier's Operations Centre. Supplier shall assist with information where necessary to establish this link.

b On request from Supplier and in a timely manner, Customer shall provide all user IDs and passwords to Supplier prior as shall be reasonably required by Supplier to perform the Services.

c Customer shall provide Supplier's service,personnel with full and safe access to the System, and to spare parts storage areas, at all reasonable times for the purpose of providing the services required by this Agreement. Customer shall also provide suitable vehicle parking areas.

d The access shall include unhampered working facilities, adequate light, heating, cooling, ventilation, suitable electrical outlets and computer network connections to enable Supplier to meet its obligations under this Agreement.

e Customer shall provide Supplier's service personnel with all information, facilities, services and accessories reasonably required by Supplier to meet its obligations under this Agreement.

f Customer shall provide, on request, a suitably qualified or informed representative to accompany Supplier's service personnel and to advise Supplier on access or any other matter within Customer's knowledge or control that will assist Supplier in meeting its obligations under this Agreement.

12.4 Precedence and Severability

a The Schedules are fully incorporated into this Agreement and, in case of any conflict between the Schedules and the rest of this Agreement, the provisions of the Schedules shall prevail.

b The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement.

Schedule A: Summary Of Services Provided

The following table lists the service line items to be provided under this Agreement.

The Services are defined in the body of this Agreement, and apply to specify System Elements and Service Elements.

Service Line Item	Clause	Schedule	Status
Service Management			
• Service Reporting	4.1	B	Included
• System Support	4.2	B	Included
• Customer Visits	4.3	D.1	Included
• User Forum	4.4	D.2	Included
Maintenance Services			
• Fault management	5.1	E.1	Included
• Software upgrades and patches	5.2	C.3	Included
• Hardware Repair	5.3	C.1	Included
Technology Management Services			
• System Monitoring	6.1		Included
• System Administration	6.2	D.4	Included
• Periodic Hardware Service	6.3	D.5	Included
• Supplier Spares	6.4	C.2	Not Included
• System Hosting	6.5	D.3	Included
• Backup and Restoration	6.6	D.8	Included
Information Management Services			
• Data Processing	7.1	D.6	Not Included
• Report Production	7.2	D.7	Not Included
Subscription Services			
• Application Subscription	8.1	C.5	Included
• Data Subscription	8.2	C.4	Included
• Reference Data	8.3	C.6	Included
Professional Services			
• Professional Services	9		Included

Schedule B: Contacts

Supplier Contacts		
Formal Notices	Name	Brüel & Kjær EMS Inc
	Address	1050 Fulton Ave, Suite 213 Sacramento, CA 95825
	Telephone	1-916-265-7700
	Fax	+1 916 265 7719
	eMail	cms@bksv.com
Routine and operational communications	Name	Robert DeFranzo
	Address	1050 Fulton Avenue, Suite 213 Sacramento, CA 95825
	Telephone	+1 916 265 7700
	Fax	+1 916 265 7719
	eMail	cms@bksv.com
Suppliers Bank Account	Account Name	Brüel & Kjaer EMS Inc.
	Account Number	921258885
	Bank	JPMorgan Chase Bank N.A
	Bank Address	Chicago, IL (No Street Address needed) Routing Number 071000013
Customer Support Centre	Telephone	+1 866 583 0280 +61 3 9508 4930
	Address	Level 14, 409 St Kilda Road Melbourne VIC 3004 Australia
	Fax	+61 3 9500 1197
	Email Support Requests	cms@bksv.com

Customer Contacts		
Formal Notices	Name	Manager, Environmental Programs Edward C. Knoesel
	Address	233 Park Avenue South, New York, NY 10003
	Telephone	212 435 3747
	Fax	
	eMail	eknoesel@panynj.gov; ayousuf@panynj.gov
Routine and operational communications	Name	Airport Environmental Specialist Adeel Yousuf
	Address	233 Park Avenue South, New York, NY 10003
	Telephone	212 435 3784
	Fax	
	eMail	ayousuf@panynj.gov, whernand@panynj.gov,

		gandino@teb.com
Address for Invoices	Name	Adeel Yousuf
	Address	233 Park Avenue South
	Telephone	212 435 3784
	Fax	
	eMail	ayousuf@panynj.gov, whernand@panynj.gov

Schedule C: System Elements

Update for

C.1. Hardware

Type	Description	Manufacturer	Model	Serial #	Location	Repair Type
EXAMPLE DATA	{Replace with customer specific hardware}					

C.2. Supplier Spares Parts

Type	Description	Manufacturer	Model	Serial#	Location
None					

C.3. Software

Item	Author	Licence Number	Users
{Replace with customer specific software}			

C.4. Data Subscriptions

Type	Description of Data	Restrictions
EXAMPLE	{Replace with customer specific information}	
Flight Data Feed – PASSUR	Aircraft position data derived from interface to radar data, fused and tracked as required, and correlated with plan data and, where possible, SkyTrak Mode S information not available from radar sources.	Data may be used as input to ANOMS and WebTrak applications.

C.5. Application Subscriptions

Type	Description	Restrictions
WebTrak	Web-based application providing the public and/or other stakeholders with access to noise and track information for historic and near-real-time operations.	Unlimited users

C.6. Reference Data

Description	Author	Frequency
D-ATIS	ARINC Incorporated	Monthly
Street Map Data	TeleAtlas North America	Annual

Satellite Imagery	TerraNOVA	None
FAA Aircraft Register	FAA	Quarterly

Schedule D: Service Elements

D.1. Mandatory Customer Support Visits

Number of Visits per Year: 4

D.2. User Forum Attendees

Number of included User Forum Attendees per year: 5

D.3. System Hosting Services

Hosted Item	Task Description
ANOMS Application	Provision of Customer's ANOMS from Supplier data centre, hosted on Supplier servers.

D.4. System Administration Services

Applies To	Task Description		Frequency
ANOMS, Rover	(i)	Apply operating system patches	As updates are available and required. Such upgrades to be agreed by Customer in writing in advance.
	(ii)	Apply upgrades and releases to the application software	
	(iii)	Install updated Reference Data.	
ANOMS, Rover	(i)	Perform System recovery in the event of a failure	On demand from Customer
ANOMS Servers	(i)	Perform Oracle database administration tasks including archiving and tuning as required.	Monthly

D.5. Periodic Hardware Services

Applies To	Task Description		Frequency
All Installed NMTs	(i)	Perform visual inspection for problems / corrosion.	Annually
	(ii)	Check operation on site.	
	(iii)	Calibration of the unit.	
	(iv)	Update of NMT firmware if necessary	
	(v)	Download and update of the configuration files	
	(vi)	Check of batteries (Note that replacement cost of NMT batteries is not included in this check)	
	(vii)	Replacement of bird spikes and windshields as required	
	(viii)	Microphone silica gel desiccant to be replaced at each visit	
	(ix)	Replacement of batteries – during standard battery warranty period, Supplier will replace faulty batteries. After standard battery warranty period, Supplier will replace faulty batteries supplied by Customer	
All Server	(i)	Visual inspection and preventative maintenance as	Annually

Applies To	Task Description	Frequency
Hardware	suggested by the manufacturer of the hardware	

D.6. Data Processing Services

Task	Task Description	Frequency
Data Completeness Processing	(i) Check status of downloads from NMTs and re-initiate downloads as necessary. (ii) Check completeness of radar/plan information from overnight processing and re-initiate as necessary. (iii) Re-initiate batch processing as required based on data downloads.	Business days

D.7. Report Production Services

Task	Task Description	Frequency
None		

D.8. System Backup

Task	Task Description Responsible	Frequency
Backup of system software	Supplier	Weekly

Schedule E: Service Levels

E.1. Service Requests and Fault Resolution

Category	Description	Response (Working Hrs)	Resolution Time	Target Achievement
1: Major Fault	• Loss of collection of time perishable data. • Faults that may lead to data loss or data corruption. • Unable to start the system • Loss of unrecoverable data	4 hours	2 working days, except rebuild of deployed server 5 working days for the rebuild of the deployed server	95% of all tickets to meet target response times 85% of all tickets to meet target resolution times.
2: Major Fault	• Key function inoperable • Noise monitor calibration error	4 hours	5 days	
3: Minor Fault	• Reproducible loss of functionality	2 days	31 days	
4: Minor Fault	• Minor software issues that do not affect day to day operation of NOMS	2 days	31 days – fixes agreed within scope of a future software upgrade	
5: Minor Fault	• Non-reproducible abnormalities	2 days	Ticket closed within 31 days if abnormality not reproduced	
Request	• "How do I?" questions.	1 day	31 days to answer	

Response and resolution times to be determined from the time that Supplier is notified of the request or fault.

E.2. WebTrak Subscribed Application Service

Area	Service Definition	Measurement (Monthly)	Target Achievement
Availability	Application is available if it can be loaded and the map displayed from a working internet connection which is remote from the data centre where the application is hosted.	Available hours / Expected hours Expected Hours are 24hrs x days per month – Planned Outages). Planned outage must have 7 days notice and be less than 4 hours.	96.0%
Reliability	The number of times application is unavailable in any month.	Number of failures where the application is unavailable for greater than fifteen minutes,	2

E.3. Radar Subscribed Data Service

Area	Service Definition	Measurement (Monthly)	Target Achievement
Availability	Radar is available if data is being provided to the target system (eg. ANOMS, WebTrak)	Available hours / Expected Hours Expected Hours are 24hrs x days per month – Radar Downtime Radar Downtime are the periods when no source data is being provided to SRG from the radar system.	95.0%
Reliability	The number of times data unavailable in any month.	Number of failures where the data is unavailable for greater than fifteen minutes,	1

E.4. SkyTrak Subscribed Data Service (Not Used)

Area	Service Definition	Measurement (Monthly)	Target Achievement
Availability	SkyTrak data service is available if data is being provided to the target system (eg. ANOMS, WebTrak)	Available hours / Expected Hours Expected Hours are 24hrs x days per month – Radar Downtime Radar Downtime are the periods when no source data is being provided to SkyTrak from the radar system.	96.0%
Reliability	The number of times data unavailable in any month.	Number of failures where the data is unavailable for greater than fifteen minutes,	1

Schedule F: Term, Termination, and Service Fees

F.1. Termination Services

None

F.2. Service Fee Increases

Not used

F.3. Additional Service Fee Basis

Item	Amount (GBP)
Third Party Software and hardware costs	At Cost plus 15%
Travel, accommodation, meals, disbursements and other expenses.	At Cost plus 15%
New Modules added to The System:	Annual Maintenance Fee:
Hardware	12% of Hardware Price
Software	12% of Module Licence Fee

Schedule G: Special Clauses

In this Schedule, Contractor should be read as Supplier, and Authority should be read as Customer.

G.1. Maintenance Requirements

Upon certification by the Authority that the System has satisfactorily completed Inspection and Test and that the Contractor has completed all work as specified in the Detailed Project Plan (except for warranty and maintenance), the Contractor shall then provide the maintenance required for the System to perform in accordance with, but not limited to, the following requirements:

G.1.1 Maintenance and Warranty Period

Customer Requirement	Supplier Response
The maintenance & support tasks identified in this section must be performed: • *Under the warranty period for the system which extends Twelve (12) months from the successful completion of the System Inspection and Test.* • *Under the maintenance provisions which starts one (1) day after the one (1) year warranty period.* • *Under the warranty period for the new NMTs installed, which start after the successful installation of each new NMT deemed satisfactory by the Port Authority's Contract Manager.*	Complies Supplier will meet this requirement using the Services described in this Agreement.

G.1.2 Maintenance and Support Tasks

Customer Requirement	Supplier Response
Maintenance and support tasks shall include all expenses (parts, labor, tools, equipment, software, travel, signage, shipping costs, etc.), without additional cost to the Authority, required to perform (but not limited to) the following: *a. Host, operate and maintain the System in a secure and protected environment in order to meet the functional, performance and availability requirements as defined herein.*	Complies Clause 6.5 System Hosting
b. On-call remedial and scheduled preventive maintenance in order to meet the availability requirements stated herein.	Complies Clauses 5.1 Fault Management and 6.3 Periodic Hardware Services
c. Provide on-site repair of NMT and associated equipment (existing or new) that cannot be repaired remotely by the Contractor. The Contractor shall dispatch its own technician(s) for any on-site troubleshooting or repair needed to have the NMT in working condition.	Complies Clause 5.3 Hardware Repair

Customer Requirement	Supplier Response
d. On-Call Help Desk Support by telephone during weekdays between 9:00 AM to 5:00PM (EST) is required, except during holidays observed by the Contractor. *Note: Help Desk Support is intended for User questions on the use of the application and is independent of any notifications made to report errors or maintenance issues with the System or application.*	Complies Clause 4.2 System Support
e. Resolve any problems with telecommunication connection for NMTs by directly contacting the Service provider. The Contractor shall arrange a vendor meet with its own technician if needed for repair to telecommunication connection(s).	Complies
f. Correct defects in the furnished applications software.	Clause 5.2. Software Upgrades and Patches
g. Validate and correct (when necessary) the applications software furnished by the Contractor to ensure that it performs in accordance with the specifications of the Contract within ten (10) days after Microsoft and other software providers release patches and updates to the operating system, database and other third party software that is furnished or used in the System;	Partially compliant Supplier will partly meet this requirement through Clause 5.2. Software Upgrades and Patches. Updates from third party software providers will be applied quarterly.
h. User support to administer the application;	Complies Clause 4.2 System Support
i. System Administration (See Exhibit 6 for the System Administration Requirements);	
j. Update and Test disaster recovery plan on an annual basis.	
k. Provide maintenance and support services for all existing NMT and associated hardware listed in Exhibit 1 until each is replaced.	Complies Clauses 5.1 Fault Management, 6.3 Periodic Hardware Services and Clause 5.3 Hardware Repair
l. Provide maintenance support services for all new NMTs and associated hardware installed under this Contract.	Complies Clauses 5.1 Fault Management, 6.3 Periodic Hardware Services and Clause 5.3 Hardware Repair
m. Establish spare components and parts levels necessary to maintain optimum level of reliability for the existing NMTs as well as for newly installed NMTs and associated hardware.	Complies Clauses 5.1 Fault Management, 6.3 Periodic Hardware Services and Clause 5.3 Hardware Repair
n. Provide parts and labor necessary to keep the existing and newly installed NMTs and associated equipment in good operating condition. Replacement part shall be new or reconditioned parts that meet the original functional requirements, and, upon installation, become the property of the Port Authority. While the replaced parts removed from the equipment will	Complies Clauses 5.1 Fault Management, 6.3 Periodic Hardware Services and Clause 5.3 Hardware Repair

Customer Requirement	Supplier Response
become the property of the contractor.	
o. Monitor the System and its components and effect all repairs to maintain the System and Services identified herein in accordance with Section IX.A.3 Operational Availability.	Complies Clauses 6.1 System Monitoring and 5.1 Fault Management
p. Provide on-site manual calibration of each NMT unit once per year. All the necessary equipment and tools, including ladders and 40 ft boom bucket truck, shall be supplied by the Contractor.	Complies Clause 6.3
Note: The Contractor, may, with prior approval from the Authority, elect to subcontract maintenance and support services from qualified third-party service vendors. All subcontractors must be approved by the Authority.	Complies

G.1.3 Operational Availability

Customer Requirement	Supplier Response
The Operational Availability of the System and Services shall meet the percentages stipulated below each calendar month for the term of this Contract: *System Hardware (NMTs) 98%* *System Software and Database 99%* *As used in this numbered Clause (and in this clause only) "Operational Availability" means the time during any twenty-four (24) hour period the System Software and Hardware is Available to Airport Staff. "Available" means that during any twenty- four (24) hour period, the furnished and installed software applications and any Contractor furnished equipment perform according to the manufacturer's specifications.* *In the event that Operational Availability fails to meet the percentage stipulated herein, and is not responded to or repaired within the Service Level Agreement time requirements, damage amounts for unavailability for operation are as specified herein.*	Complies The Operational Availability of the System and Services will meet the percentages stipulated each calendar month for the term of this Contract: The system is only guaranteed during working hours and availability is taken over a monthly period.

G.1.4 Maintenance Work

Customer Requirement	Supplier Response
The Contractor shall perform complete scheduled preventive maintenance and on- call remedial maintenance so that the System meets the Operational Availability (Section IX.A.3). The maintenance program shall be performed with all reasonable care to keep the System in a proper, safe, and efficient operating condition capable of correct operation and reporting. The	Complies

Customer Requirement	Supplier Response
Contractor shall furnish all labor, travel, materials, supplies, parts, equipment, warning signs, other safety devices, and all other things necessary or proper for, or incidental to, such maintenance.	
The Contractor, at its option, shall repair or replace System components maintaining all original specified performance requirements, within the time(s) stipulated in Section IX.C, Time to Repair, for any part, component, equipment item, software or firmware of the System that become unsuitable for continued use. Replacement parts or components shall be identical to the original, or equal, as approved by the Authority's Contract Manager.	Complies
The maintenance performed by the Contractor shall include, but not be limited to, scheduled preventive maintenance, error correction, hardware, software and firmware diagnostics and corrections, validation that the applications software continues to work (in accordance with the Contract requirements) with manufacturer-released patches to third-party software and engineering updates of the System as described below.	Complies
The Contractor shall submit to the Authority's Contract Manager for review a schedule of preventive maintenance activities and a description of preventive maintenance procedures no less than 30 days prior to the Warranty Start Date and each anniversary thereof. The Authority's Contract Manager will review the submission, and make comments, within ten (10) working days.	Complies
In order to make replacements and repairs as expeditiously as possible, the Contractor shall stock, keep and maintain a sufficient supply of parts and materials, tools or other equipment as may be necessary to make such replacements and repairs.	Complies
In order to meet the requirements stipulated in Section IX.C, Time to Repair, in this contract, the Contractor shall maintain an adequate number of qualified staff to provide the required technical support.	Complies.

G.1.5 Maintenance Description

Customer Requirement	Supplier Response
All maintenance shall be performed in accordance with the equipment and component manufacturers' recommendations. The results from all inspections, tests, diagnostics, equipment repairs, calibrations, and corrective actions shall be reported to the Authority's Contract Manager. *The maintenance performed by the Contractor shall include, but not be limited to on-site maintenance of NMTs, error correction, and software and firmware diagnostics and corrections of the System as described herein.*	Complies

On-Site Maintenance

Customer Requirement	Supplier Response
On-Site maintenance includes the following:	
1. One annual trip for manual calibration of each NMT that is deployed in the community. During this annual visit, the Contractor shall inspect each NMT and associated component and must replace any part or equipment in need of replacement. The Contractor shall provide all the necessary tools and vehicles required for the calibrations. The schedule and plan for annual calibration must be submitted to the Authority's Contract Manager thirty (30) days prior to the actual calibration date.	Complies
2. The Contractor shall be responsible for on-site repair work pursuant to On-Call Remedial Maintenance Requirements in accordance with Section IX.C, Time to Repair. Note: The Contractor shall be responsible for notifying the Authority about malfunction of telecommunication lines and the Authority will coordinate the repair of telecommunication lines through third party provider/vendor.	Complies

Scheduled Preventive Maintenance

Customer Requirement	Supplier Response
Scheduled preventive maintenance shall consist of all actions necessary to inspect, test, diagnose, repair equipment failures, correct System malfunctions and restore System operation to perform in accordance with the manufacturer's stated specification, performance and tolerances. Scheduled preventive maintenance shall include, but not be limited to adjustment, repairs, the replacement of field installable parts that are approaching unserviceable status, all actions necessary to prevent System failures and extend the System's useful life, verify adequate empty disk space available for program usage (i.e., temporary files, logs, etc.,), verify log files are saved to removable media and log files are purged on a regular basis, review reports on communications throughput and errors and perform communications diagnostics on each communications channel to identify equipment or cabling problems.	Complies

On-call remedial maintenance

Customer Requirement	Supplier Response
On call remedial maintenance shall consist of all unscheduled actions necessary to obtain the Operational Availability (Section IX.A.3), diagnose and correct all System malfunctions and failures and restore the equipment	Complies

Customer Requirement	Supplier Response
in accordance with the manufacturer's stated specification, performance and tolerances and the System to perform in accordance with the Contract requirements. The Contractor shall provide a specified telephone number and FAX number and email address at no additional cost to the Authority, which shall be in operation twenty four (24) hours a day and seven (7) days per week and staffed only during regular business hours (9:00AM to 6:00 PM EST, Monday through Friday), to enable the Users to report System errors and malfunctions. *Within twenty four (24) hours of each reported on call remedial maintenance problem, the Contractor shall provide written documentation of the reported problem and all actions performed related to the maintenance call in a computer readable format to Authority's Contract Manager*	

G.1.6 Loss of Service

Customer Requirement	Supplier Response
The Users will notify the Contractor via the 24-hour telephone or fax number or email, described above, when the System does not perform in accordance with the Contract requirements due to a loss of service. The Contractor shall provide support to diagnose, debug, repair, replace and correct all malfunctions or restore lost services required for the System to perform in accordance with the Contract requirements within the time(s) stipulated in Section IX.C, Time to Repair.	Complies

G.1.7 Error Correction

Customer Requirement	Supplier Response
The Users will notify the Contractor via the 24-hour telephone, fax number or email, described above, when the System does not perform in accordance with the Specifications stipulated in the Contract due to error in the applications software (including firmware) or any modifications thereto. Hardcopy documentation of the error condition will be mailed, faxed or emailed to the Contractor. The Contractor shall correct any such error in the System as identified by the Authority or through the Contractor's investigation of the reported error(s). Errors shall include, but not be limited to, flaws in operations and errors due to flaws in the design and coding of the System.	Complies
The Contractor shall diagnose, debug, repair, replace and correct all malfunctions required for the System to perform in accordance with the	Partly complies

Customer Requirement	Supplier Response
Contract requirements within the time(s) stipulated in this Maintenance Section IX.C, Time to Repair. The Contractor shall provide documentation in machine-readable format, if any, relating to the error correction. The Contractor in an off-line test environment shall test the corrected software. The Contractor shall then prepare a test report and submit it to the Authority for review and approval before the corrected software is installed into the System. Such corrections to the software shall be provided at no additional cost to the Authority.	Once the correction has been tested, Supplier will apply the correction.
The Contractor shall repair all software malfunctions maintaining all original specified performance requirements, within the time(s) stipulated in Attachment C, Section IX.C, Time to Repair.	Complies

G.2. Time to Respond

Customer Requirement	Supplier Response
In response to a call for maintenance by the Authority, the Contractor shall acknowledge the receipt of such inquiry within eight (8) hours of the initial notification via an email or a phone call to the Authority's Contract Manager. The acknowledgement shall provide the time expected for a response or resolution to the problem.	Complies

G.3. Time to Repair

G.3.1 On-Call Remedial Maintenance

Customer Requirement	Supplier Response
The Contractor shall reply back with a resolution to the problem or status update if more time is needed for a resolution within twenty four (24) hours of the time the loss of service or maintenance request was submitted by the Authority's Staff. If an on-site troubleshooting or repair is needed, the Contractor shall dispatch its own technician to troubleshoot or repair the NMT site within seven (7) business days of the time the original trouble ticket was submitted. Failure to provide on-site repair service within seven (7) business days will result in liquidated damages as described in the Attachment B - General Contract Provisions- 10. Liquidated Damages.	Complies

G.3.2 Validate and Correct Applications Software with Patches and Updates to Third Party Software

Customer Requirement	Supplier Response
The Contractor shall complete performance of such testing, validation and correction to ensure that the software furnished by the Contractor performs in accordance with the Contract requirements with the released patches and updates within ten (10) business days from the date that Microsoft and other software providers used in the System release patches and updates to fix software defects or security vulnerabilities to the operating system, database and other third-party software that are furnished or used in the System.	Complies

G.3.3 Error Correction

Customer Requirement	Supplier Response
The Contractor shall investigate System errors to diagnose, debug, test, repair, replace and correct all malfunctions required for the System to perform in accordance with the Specifications stipulated in the Contract within ten (10) business days from the date of notification of System malfunction.	Complies

G.4. Upgrades and Enhancements

Customer Requirement	Supplier Response
The Contractor shall notify the Authority's Contract Manager whenever upgrades and/or enhancements to operating system, the software provided under the Contract or third party software become available and provide a proposal for the proposed enhancement and upgrade. The proposal shall describe the work to be performed, contain a detailed estimate of the labor involved by labor category, a lump sum price and a proposed schedule for the work, if applicable. The Contractor shall also provide the Authority's Contract Manager with an analysis of the potential effects of such upgrades/enhancements on the System. This analysis shall include, at a minimum, the following: • *Compatibility of the application software with the new operating system or third-party software* • *Potential increases or decreases in System performance* • *The availability of product support for the current (older) version of the operating system or third party software*	Complies

Customer Requirement	Supplier Response
• *The testing required ensuring that the upgrade will perform as expected* • *The cost of the software upgrade, including testing and any other tasks which may be associated with the upgrade* *The Authority's Contract Manager will then determine whether to order the upgrade. If the Authority's Contract Manager selects the upgrade, the Contractor shall perform the recommended testing. The testing shall be conducted at the Contractor's facility in an environment designed to support the Authority's site implementation. If there is an incremental cost involved with the System upgrade then this work shall be completed under the Supplemental Work provision of the Contract.*	

G.5. Supplemental Work

Customer Requirement	Supplier Response
The Authority's Contract Manager will notify the Contractor whenever Supplemental Work is requested. In response to the request, the Authority's Contract Manager shall submit a proposal that describes the work to be performed, contain a detailed estimate of the labor involved by labor category, a lump sum price and a proposed schedule for the work. The Contractor shall also provide the Authority's Contract Manager with an analysis of the potential effects of the requested supplemental work on the System. Supplemental work may include, but not limited to, design, development and implementation of custom reports, development of new enhanced features to the System, installation of new permanent NMT unit, purchase of new NMT unit(s), etc. *In response to the Authority's Directive, the Authority's Contract Manager shall submit a written proposal that describes the work to be performed, contain a detailed breakdown of the labor involved by labor category, and state a firm lump sum price and a proposed schedule for the Work. The Work expended to prepare proposals is not a reimbursable expense. Labor costs to perform the work shall reflect the unit cost for labor itemized in the Attachment B, Part II - Cost Proposal Tables, accepted by the Authority and made a part of the Contract, for Unit Costs for Supplemental Work. Prior to performance of any Supplemental Work, the Authority's Contract Manager shall approve any such Work in writing prior to execution.*	Complies

G.6. Hours of Scheduled Maintenance

Customer Requirement	Supplier Response

Customer Requirement	Supplier Response
Scheduled preventive maintenance of System components shall be conducted between the hours of 8:00 PM and 5:00AM EST.	Complies

G.7. System Administration

Customer Requirement	Supplier Response
The Contractor shall perform all system administration tasks and functions in accordance with the Contract and best industry Information Technology IT Standards, Guidelines and practices. The Contractor shall be responsible for routine operation of the system, management of the hardware configuration, files and data, diagnosing and effecting correction of all problems that impact system operations. The Contractor shall perform all tasks necessary to assure functioning of the system at the required standards of performance and availability defined herein and in Section IX.A.3 "Operational Availability".	Complies

G.8. Disaster Recovery Plan

Customer Requirement	Supplier Response
The Contractor shall create, review and test the Disaster Recovery Plan in accordance with the requirements stated in Exhibit 5. In the event a catastrophic event causes damage to the System or a portion of the System's components, the Contractor shall restore the System and its operation in accordance with the approved Disaster Recovery Plan.	Complies

The application services are hosted in the Data Centre facilities located on Sacramento CA. The systems are fully duplicated to an alternative Data Centre in Australia. Data is replicated between the two sites to allow either site to be the primary site.

In the event of a catastrophe the Disaster Recovery Plan will be initiated and the relevant connections will be redirected to the secondary site. The systems are designed to automatically recover any gaps in data that may occur during the switchover.

Brüel & Kjær

Response to Request for Clarifications of May 2, 2013 for Airport Noise & Operations Management System Contract for John F. Kennedy (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports

RFP # 31644

May 3, 2013

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PANYNJ: BAFO-17.	Fixed NMT mounts

Introduction

This document contains responses to the additional questions and clarifications requested by The Port Authority of New York and New Jersey ("Port Authority") from Brüel & Kjær EMS Inc, in the letter dated May 2, 2013.

This document should be read in conjunction with the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports, clarifications provided by Brüel & Kjær dated April 29, April 2, March 13, and February 25, 2013 and the presentation delivered on February 25, 2013.

Clarifications

PANYNJ: BAFO-12. Supplier Spares and Storage

Schedule A on page 12 of 3 1 lists Supplier Spares as "Not Included" which is in conflict with what is stated in Clause 6.4 on page 8 of 3 1. In addition, Clause 6.4(b) states the Spares will be located or stored at Customer premises, however Clause 12.2 (Storage of Equipment) states, "not used". Please confirm if Spares are supplied by B&K and whether the storage space at PA facility would be required or not.

Brüel & Kjær will provide spare parts for the purpose of delivering the maintenance services described in Appendix A NoiseOffice Services (Draft).

Storage space at a Port Authority facility is not required.

Appendix A is structured such that Schedule A enables or disables the services described in body of the document. In this case, the line for Supplier Spares in Schedule A disables Clause 6.4, since it is marked as "Not Included".

PANYNJ: BAFO-13. Detail of Phase A Project Implementation including Testing (One Time)

Please provide justification for charging $376,950 for Phase A Project Implementation including Testing (One Time). The price is excessive and should be considered for reduction.

The Phase A Project Implementation pricing presented is inclusive of the work required to set up all five airports in both the ANOMS and WebTrak systems.

For the purpose of clarity, Brüel & Kjær provides the following indicative breakdown of the cost and effort associated with major deliverables during Phase A Project Implementation.

MAJOR DELIVERABLES AND TASKS	APPROX. ROUNDED FEE
Project management	$94,000
System design	$8,000
Infrastructure creation	$8,000

MAJOR DELIVERABLES AND TASKS	APPROX. ROUNDED FEE
Documentation	$8,000
ANOMS and WebTrak installation, configuration and customization	$124,000
Historical data conversion	$30,000
HMMH Real Contours™ setup	$61,100
Buchair and AMSTAT registries	$6,200
Report design and configuration for all airports	$11,000
Onsite Training	$7,000
Site Acceptance Testing	$11,650
Preparation for Noise Monitor Installation	$8,000
Total (excluding rounding)	**$376,950**

The Phase A Implementation Project Fee is split into milestone payments in F.2.09 Brüel & Kjær Detailed Implementation Plan, Table 2 (and updated in the clarifications document of April 24, 2013). The milestones chosen connect with tangible major deliverables, and were selected as they are clear to both parties when successfully completed. Each milestone may be associated with several deliverables and tasks listed in the table above. Some deliverables and tasks are split across multiple milestones.

Each major deliverable and task is described further below.

Project Management to meet the requirements of the Port Authority

To ensure the needs of the Port Authority are met, Brüel & Kjær has presented our premium Project Management option, with dedicated resources following a formal structured process for deployment ensuring transparency and clear communications.

In order to meet the levels of service required by the Port Authority, Brüel & Kjær has proposed a multi-layer integrated project team that will work together throughout deployment. Significant effort is required to deliver the system on time and on quality.

The Project Management process to be followed is detailed in F.2.09 – Detailed Implementation Plan and subsequent clarifications.

System design

Although ANOMS is a COTS product, the integration of the system into the Port Authority's infrastructure and overall system design is customized to meet the requirements of the Port Authority's IT department and the needs of the users.

System design is an iterative process between Brüel & Kjær and the Port Authority, in order to provide a high quality system that meets the agreed requirements.

Documentation and training materials will be created and updated to reflect the specific design of the Port Authority system.

Infrastructure creation

System and infrastructure design will be implemented in accordance with the requirements of the Port Authority as outlined in the agreed Project Management Plan and Solution Definition.

Importantly, this includes creation of the system virtual private network (VPN) and consideration of the IT security requirements of the Port Authority. Meeting these requirements takes careful consideration and planning.

Documentation to meet the requirements of the Port Authority

The Port Authority has provided detailed specifications for documentation of the System to be supplied with the implementation project.

Brüel & Kjær applies significant attention to make sure that the system documentation is correct and complete for clear operation of the system, and smooth transition to live service.

ANOMS and WebTrak installation, configuration and customization

The configuration of ANOMS will follow the agreed Solution Definition and will involve tuning all the data feeds, including noise, radar, plan, weather and complaints.

This will optimize the quality of the data presented at all five airports in the system.

The configuration of WebTrak will be completed as per the ANOMS configuration ensuring consistency between the public access to the system and the Port Authority's ANOMS user interfaces. Consistency across the systems is important for timely understanding and response to the customer inquiry.

This task is the largest single work package in the project and involves numerous skilled engineers and technical experts over the course of the deployment project. It includes integration of the voice recorded complaints, integration to the radar interface and implementation of D-weighting measurements.

Historical data conversion

A conversion of 10 years of data for each of the airports will be performed, including an assessment of the legacy data, highlighting identified risks issues and options for mitigation.

This attention to detail is intended to simplify inclusion of the legacy data into analysis and reports generated by the new system. The final outcome is dependent on the quality of the legacy data.

A final report on the statistics of the conversion will be delivered on completion of this activity.

This fee includes significant third party costs for the tools for conversion.

HMMH Real Contours™ setup

The Port Authority has selected the HMMH Real Contours™ option to meet the requirement for noise contour calculation.

The setup of this service, including any required integration elements with ANOMS is included in the Phase A Implementation.

This is a fixed third party cost.

Buchair and AMSTAT registries

The Port Authority has selected to include the Buchair and AMSTAT registries in the system.

Procurement of these registries and their integration to the system is included in the Phase A Implementation.

This is a fixed third party cost.

Report design and configuration for all airports

The Port Authority has required a number of distinct reports to be available in the system for each of the five airports.

A key project activity will be to agree to a specification for producing these reports from ANOMS, including the calculations used and formatting applied, followed by deployment of these reports to the system.

Reports are the compliance and regulatory outcomes of the system, and Brüel & Kjær commits significant effort to ensure that these meet the agreed specification for the business and operational needs of the Port Authority.

Onsite Training

Onsite Training will be conducted to an agreed Training Plan.

This item also allows for the Port Authority's requirement for all training materials to be provided in digital form with a written disclosure and copyright waiver.

Site Acceptance Testing to meet the requirements of the Port Authority

The Site Acceptance Testing will be conducted onsite by Brüel & Kjær with Port Authority resources' active participation. Where custom features have been introduced – such as the reports – tests will be designed and agreed for application during this phase.

Once the functional capability of the ANOMS system has been demonstrated using one of the airport sites, Brüel & Kjær will submit for the remaining four airports, the Quality Assurance Certificates confirming the "airport specific" elements of the system configuration are correct.

For more information, please refer to F.2.09 – Detailed Implementation Plan.

Preparation for Noise Monitor Installation

Phase A Implementation also includes the setup of the infrastructure required for Phase B to ensure the replacement of the Noise Monitors is performed with minimal interruption to the current system.

PANYNJ: BAFO-14. ATC Transmission Recording Subsystem Design and Pricing

The proposed 10 Bearcast Scanners are acceptable since this is what TEB uses currently with no issues. What is the function of 16 channel loggers (priced at $20,182.50)? At this time, we are not sure whether TEB currently uses a 16-channel logger. We suggest that the proposed task of site survey and frequency analysis (priced @$5,232.50) in Table 1D should be conducted first to assess what type of system is needed and what components or parts (such as antennas and cables) that can be re-used for the new system. We suggest that the final pricing for the TEB system be determined after the survey is conducted but not to exceed the amounts provided in Tables 1C and 1D.

The function of the 16-channel logger is to record and time-stamp air traffic control tower audio. The logger converts the audio feed from the Bearcat scanner into a format that can be stored and made available to the ANOMS system.

Loggers are available in 8-, 16- and 24-channel units, according to the number of scanner feeds. Since there are 10 Bearcats, a 16-channel logger is required to capture all the audio feeds.

Brüel & Kjær agrees to the proposed approach to conduct the site survey and frequency analysis to determine the final price for the air traffic control transmission recording system.

Brüel & Kjær will commit to the final price of the ATC Transmission Recording System to not exceed the fees in table 1C and 1D, provided the caveats listed in the Assumptions section of the Attachment B Part II Cost Proposal included in the Brüel & Kjær clarifications response dated April 24, 2013, are met.

PANYNJ: BAFO-15. Service Support by DLI Technicians

Table 1D list "On-site Service Support by DLI technicians" priced at $2,460.30. Is this the fee for one time support? How are on-site or remote support covered in life of the contract? Please confirm that the on-site remedial maintenance support shall also be included for the TEB ATC recording system.

This fee is for one-time support during the project implementation phase.

During the life of the contract, at the conclusion of the implementation phase, remote and on-site remedial maintenance support of the ATC transmission recording system is included in Table 3 "System Maintenance & Repair (Hardware & Software)" and "System Support (On Site Troubleshooting Support)" of Attachment B Part II Cost Proposal.

PANYNJ: BAFO-16. Installation of Portable NMTs

.... the 5 portable NMTS will be stored at Port Authority facility and it is our understanding that B&K will honor installation of those 5 monitors anytime in the future during the life of the contract since the pricing for portable NMT includes total of 11 installations. Please confirm.

Brüel & Kjær will honor pricing of the installation of the 5 portable monitors in storage any time during the base 3 year term of the contract.

PANYNJ: BAFO-17. Fixed NMT mounts

Second bullet under assumptions states that "Fixed NMTs will be installed on existing mounts" however, the fourth bullet states that the "equipment installation cost is inclusive of retro-fitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet." It is our understanding that permanents NMTS will be installed on existing mounts and conduits if they are deemed in good working condition. If not in good working condition, the mounts or conduits will be retrofitted or repaired as needed per the fourth bullet under assumptions. Please confirm.

Brüel & Kjær will install the fixed NMTs on existing mounts, but as noted on page 44 of F.2 Brüel & Kjær Technical Proposal for ANOMS, Brüel & Kjær has various secure mast

designs that allow the microphone to be lowered for maintenance avoiding the need for a bucket truck in many cases. Brüel & Kjær may choose to modify sites to avoid the use of the bucket truck.

designs that allow the microphone to be lowered for maintenance avoiding the need for a bucket truck in many cases. Brüel & Kjær may choose to modify sites to avoid the use of the bucket truck.

May 2, 2013

Email: Nicole.Eib@bksv.com
Robert.Brodecky@bksv.com

Bruel & Kjaer
1050 Fulton Ave, Suite 213
Sacramento, CA 95825

Attn: Ms. Nicole Eib, Account Manager
Attn: Mr. Robert Brodecky, Vice President Americas

RE: **AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS, COLLECTIVE #31644 – CLARIFICATIONS**

Dear Ms. Eib and Mr. Brodecky:

The Port Authority of New York and New Jersey ("Port Authority") has received your Bruel & Kjaer's Best and Final Offer ("BAFO") response for the above referenced proposal.

At this time, the Port Authority requires further clarification on the following:

PANYNJ: BAFO-09

Appendix A, NOISEOFFICE SERVICES (DRAFT) is acceptable except following items:

- Schedule A on page 12 of 31 lists Supplier Spares as "Not Included" which is in conflict with what is stated in Clause 6.4 on page 8 of 31. In addition, Clause 6.4(b) states the Spares will be located or stored at Customer premises, however Clause 12.2 (Storage of Equipment) states, "not used". Please confirm if Spares are supplied by B&K and whether the storage space at PA facility would be required or not.

PANYNJ: BAFO-10

- Breakdown provided for maintenance is acceptable, as PA will need all the services listed as part of the NMT installation.

- Cost Proposal Form:

  Please provide justification for charging $376,950 for Phase A Project Implementation including Testing (One Time). The price is excessive and should be considered for reduction.

- Tables 1C and 1D

  The proposed 10 Bearcast Scanners are acceptable since this is what TEB uses currently with no issues. What is the function of 16 channel loggers (priced at $20,182.50)? At this time, we are not sure whether TEB currently uses a 16-channel logger. We suggest that the proposed task of site survey and frequency analysis (priced @$5,232.50) in Table 1D should be conducted first to assess what type of system is needed and what components or parts (such as antennas and cables) that can be re-used for the new system. We suggest that the final pricing for the TEB system be determined after the survey is conducted but not to exceed the amounts provided in Tables 1C and 1D.

  Table 1D list "On-site Service Support by DLI technicians" priced at $2,460.30. Is this the fee for one time support? How are on-site or remote support covered in life of the contract? Please confirm that the on-site remedial maintenance support shall also be included for the TEB ATC recording system.

- All cost proposal assumptions are acceptable except the following:

  There are currently 5 portable NMTS for JFK that will need to replaced in Q2/Q3 of 2014

  There are currently two (2) portable NMTS for LGA that will need to be replaced in Q2/Q3 of 2014.

  There are currently no portable NMTS for EWR airport. The rest of the 5 portable NMTS will be stored at Port Authority facility and it is our understanding that B&K will honor installation of those 5 monitors anytime in the future during the life of the contract since the pricing for portable NMT includes total of 11 installations. Please confirm.

  Second bullet under assumptions states that "Fixed NMTs will be installed on existing mounts" however, the fourth bullet states that the "equipment installation cost is inclusive of retro-fitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet." It is our understanding that permanents NMTS will be installed on existing mounts and conduits if they are deemed in good working condition. If not in good working condition, the mounts or conduits will be retrofitted or repaired as needed per the fourth bullet under assumptions. Please confirm.

Please email your response to jeanette.anderson@panynj.gov by **2:00 p.m. Friday, May 3, 2013.**
If you have any questions, I can be reached at 201 395-3430.

Sincerely,

Jeanette Anderson

Jeanette Anderson
Procurement Contracts Manager
Procurement Department

Anderson, Jeanette

From: Nicole Eib [Nicole.Eib@bksv.com]
Sent: Monday, April 29, 2013 2:02 PM
To: BAFO Response
Cc: Robert Brodecky
Subject: RFP 31644 Split Number 2 - Final
Attachments: H 1 Appendix A BK NoiseOffice Services.pdf

Importance: High

On behalf of Brüel & Kjaer EMS Inc., please accept this Best and Final Offer for the Airport Noise & Operations Management System Contract for John F. Kennedy (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports, collective #31644- "Best and Final Offer"- Clarifications dated April 24, 2013. (Split #2)

We look forward to hearing from The Port Authority of New York New Jersey and should there be any further clarifications, do not hesitate to let us know.

Respectfully,
Nicole Eib

Nicole Eib, Account Manager- Americas

Brüel & Kjær EMS Inc.

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Brüel & Kjær

Response to Request for Best and Final Offer Clarifications of April 24, 2013 for Airport Noise & Operations Management System Contract for John F. Kennedy (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports

RFP # 31644

April 29, 2013

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ATTACHMENT B PART II – Cost Proposal Form **8**
Hardware Services
Software Services
Contract Services
Total Cost
Hourly Rates
Assumptions

Introduction

This document contains responses to the additional questions and clarifications requested by The Port Authority of New York and New Jersey ("Port Authority") from Brüel & Kjær EMS Inc., in the letter dated April 24, 2013.

This document includes revision to F.1 Cost Proposal to include amendments and updates requested in discussion between Brüel & Kjær and the Port Authority.

This document should be read in conjunction with the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports, clarifications provided by Brüel & Kjær dated April 2, March 13, and February 25, 2013 and the presentation delivered on February 25, 2013.

Attachments

- Appendix A Brüel & Kjær NoiseOffice Services (revision to document H.1 in the January RFP response)
- Attachment B Part II Cost Proposal

Best and Final Offer Clarifications

PANYNJ: BAFO-09. Schedule H.1 NoiseOffice Services

Section H.1 in the original proposal contains the NoiseOffice Services (Draft).

The Authority understands that this is a draft version but we wanted to confirm the following:

Is Appendix A in B&K's proposal submission in Section H.1 intended to be B&K's proposed Maintenance Plan as requested in the original RFP document, Section F, Subsection 2, "Technical Proposal" page 18? If yes, please resubmit a revised Maintenance Plan including the requirements outlined in the original RFP document, Attachment C, Scope of Work, Section IX, Maintenance of the System, page 37. If the Appendix A is not the proposed maintenance plan, B&K is hereby requested to remove Appendix A in its entirety and submit a Maintenance Plan as requested in the original RFP document.

Appendix A is Brüel & Kjær's proposed Maintenance Plan, in response to Section F Subsection 2 "Technical Proposal".

Brüel & Kjær has attached a revised Appendix A NoiseOffice Services (Draft) for Port Authority of New York & New Jersey, including:

- alterations requested and described in Brüel & Kjær clarifications of 2 April 2013
- addition of Schedule G, including response to Port Authority requirements from Attachment C, Scope of Work, Section IX, Maintenance of the System

PANYNJ: BAFO-10. Cost Proposal Form

Attachment B, "Part III (A) - Cost Proposal Form related to related to Table ID, Hardware Installation and Table 3, Contract Requirements seems excessive. Please consider a reduction in cost.

Brüel & Kjær has attached a revised Cost Proposal.

Please note that significant costs are associated with direct costs of permitting requirements, such as police supervision, lane closure and bucket-truck rental. For the benefit of the Port Authority, we have provided a break-down of the direct costs for permanent and portable NMT installation.

Direct Expenses Related to Permanent NMT Installation			
Description	Unit Cost	Quantity	Amount
Electrician to Provide Electrical Wiring Services for NMTs (with trucking, daily rate)	$1,500	1	$1,500
General Contractor for permanent NMT removal (daily rate)	$560	1	$560
Boom Lift Rental, incl. trucking fee, fuel, damage insurance (daily rate)	$550	1	$550
Boom Lift Driver (hourly rate)	$95	8	$760
Boom Lift Training (1 time fee of $150/per person, divided by 11 removals)	$14	2	$28
Lane Closure + Boom Truck Permit (daily rate)	$1,500	1	$1,500
Police Officer (daily rate)	$700	1	$700
Total Costs			**$5,598**

Direct Expenses Related to Portable NMT Installation			
Description	Unit Cost	Quantity	Amount
Electrician to Provide Electrical Wiring Services for NMTs (without trucking, daily rate)	$1,300	1	$1,300
General Contractor for permanent NMT removal (daily rate)	$560	1	$560
General Contractor for NMT frame construction (per NMT rate)	$280	1	$280
Obtain Electrical Residential Permit (per NMT rate)	$250	1	$250
Total Costs			**$2,390**

If the Port Authority was able to supply such services directly, then Brüel & Kjær will be able to lower the costs of Hardware Installation further.

With respect to the ATC recording system for Teterboro Airport, Brüel & Kjær is now offering to replace the existing scanners with new Bearcat scanners rather than the radios originally proposed. Although radios are our standard solution, Teterboro used scanners for this purpose for some years. Please note that replacement does not guarantee the same or better level of reception, and an upgrade to make the recording system fit for purpose may require additional funding from the Port Authority.

With respect to Contract Requirements, in earlier iterations, Brüel & Kjær had assumed that costs will increase by 3% per annum and built this into the pricing. Brüel & Kjær has now updated the pricing to assume that any increases in input costs will be negligible relative to cost savings that are implemented during the term of the agreement.

PANYNJ: BAFO-11. Exceptions

Attached is the Port Authority's response to Brüel & Kjær's exceptions submitted in your original response dated January 29,20 13.

Brüel & Kjær has updated the exceptions as follows:

Item	Clause	Agreed revision	Notes
A	9. Payments	In clause A, the following text "Payment for hardware will be made within thirty (30) days after operational acceptance of each hardware unit." is replaced with the following text: "Payment for hardware will be made within thirty (30) days after delivery of each hardware unit, with the one year warranty for hardware not commencing until the equipment has been installed."	
B	9. Payments	In clause A, append the following text: "Project Services are one-time services delivered during the Phase A and Phase B Implementation Periods, and will be paid according to defined Project Services Payment Milestones defined in the Cost Proposal."	Please see the updated Table 2 from F.2.09 Detailed Implementation Plan below.
C	20. Default, Revocation and Suspension of Contract	Change clause C.2 to replace "five (5) days" with "ten (10) business days"	
D	24. Insurance Procured by the Contractor	The exception for paragraph 4 is rescinded.	
E	24. Insurance Procured by the Contractor	The exception for paragraph 6 is rescinded.	
F	24. Insurance Procured by the Contractor	The exception for paragraph 8 is rescinded.	
G	32. Indemnification and Risks Assumed by the Contractor	The exception for clause 32 is rescinded, but Brüel & Kjær accepts the Port Authority's offer to discuss further.	
H	37. Authority Access to Records	Delete "All Contractor records shall be kept in the Port District (as defined in McKinney's Unconsolidated Laws §6403)." Add "Contractor is responsible for all costs incurred to ship and return records to location."	Paper copies of records will be stored in the offices of Brüel & Kjær EMS Inc., located in Sacramento California.
	New Appendix to the General Contract Provisions	This exception is rescinded. However the Maintenance Plan described in Appendix A. Brüel & Kjær NoiseOffice Services is to be included in the contract.	

As requested, in F.2.09 Brüel & Kjær Detailed Implementation Plan, Table 2 is replaced with the following:

Port Authority – Replacement of NOMS Milestone		Quantity	Unit ($USD)	Total ($USD)	Notes
Phase A – Software Replacement					
A.1	VPN Connection Configured	1	$ 7,539	$ 7,539	2% of Table 3 Phase A Project Implementation
A.2	ANOMS SW Deployment Completed	1	$ 169,628	$ 169,628	45% of Table 3 Phase A Project Implementation
A.3	Historical Data Converted	1	$ 56,543	$ 56,543	15% of Table 3 Phase A Project Implementation
A.4	WebTrak Application Available	1	$ 11,309	$ 11,309	3% of Table 3 Phase A Project Implementation
A.5	Training Delivery Completed	1	$ 18,848	$ 18,848	5% of Table 3 Phase A Project Implementation
A.6	Site Acceptance Test Completed	1	$ 75,390	$ 75,390	20% of Table 3 Phase A Project Implementation
A.7	Operational Period Completed	1	$ 37,695	$ 37,695	10% of Table 3 Phase A Project Implementation
			Phase A Total	**$ 376,952**	100% of Table 3 Phase A Project Implementation
Phase B – Hardware					
BH.1	Permanent NMT [3G/4G]	11	$ 20,216	$ 222,376	Table 1A
BH.2	Portable NMT [3G/4G]	11	$ 20,816	$ 228,976	Table 1A
BH.3	Handheld Sound Level Meter / Calibrator	2	$ 10,100	$ 20,200	Table 1B
BH.4	Handheld Pistonphone Calibrator	2	$ 4,050	$ 8,100	Table 1B
BH.5	ATCT Recorder Hardware	1	$ 29,450	$ 29,450	Table 1C
Phase B – Hardware Installation					
BI.1	Installation of Permanent NMT	11	$ 11,991	$ 131,900	Table 1D
BI.2	Installation of Portable NMT	11	$ 7,336	$ 80,700	Table 1D
BI.3	Installation of ATC Recorder	1	$ 27,000	$ 27,000	Table 1D
			Phase B Total	**$ 748,702**	
			Total Upgrade Fee	**$ 1,125,652**	

ATTACHMENT B PART II – Cost Proposal Form

This section is the update to Brüel & Kjær document F.1 Cost Proposal for PANYNJ RFP 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

Updates to the cost proposal include considerations for:

a) Table 1C Computer Equipment

b) Table 1D Hardware Installation
Please note that hardware installation requires significant direct costs for Brüel & Kjær and our subcontractor since these are fixed poles and a bucket truck, permitting, police officer, road closure and extra staff required to be available.

c) Table 3 Contract Requirements

d) Table 5 Hourly Rates for Support Work

e) Reduction for each Option Year Maintenance price

Vendor's pricing shall be "all inclusive" and firm for the term of the agreement. The prices shall include, but not be limited to, all delivery, installation, removal, equipment, labor, training, maintenance & support, insurance, project management and administrative services that the company provides in order to delivers Services that meet or exceed the requirements set forth in the Scope of Work of this RFP.

Entry of Prices:

1. The prices quoted shall be written in figures, in ink, preferably in black ink where required in the spaces provided on the Cost Proposal Form attached hereto and made a part hereof.

2. All Proposers are asked to ensure that all charges quoted for similar operations in the Contract are consistent.

3. Prices must be submitted for each Item required on the Cost Proposal Form.

4. All Proposers are asked to ensure that all figures are inserted as required, and that all computations made have been verified for accuracy.

5. The request for Hourly Rates apply to work associated with the Supplemental Work provision of the contract, which the Port Authority may or may not implement at its sole discretion.

6. Proposers shall identify any underlying cost-related assumptions in the section named "Assumptions", in the Cost Proposal Form.

Hardware Services

TABLE 1A - PERMANENT AND PORTABLE NOISE MONITORING TERMINAL UNITS

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)	Not available	$19,561	$20,216
Total Cost for Eleven (11) Units	Not available	$215,171	$222,376
Portable NMT (Per Unit)	Not available	$20,161	$20,816
Total Cost for Eleven (11) Units	Not available	$221,771	$228,976
Grand Total($):	Not available	$436,942	$451,352

Note: Cost for Permanent and Portable NMT is inclusive of all accessories and peripherals including housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – HANDHELD SOUND LEVEL METERS

Equipment	**Cost ($)**
Handheld Sound Level Meter (Per Unit)	$10,100
Total Cost for Two (2) Units	$20,200
Handheld Calibrator (Per Unit)	$4,050
Total Cost for Two (2) Units	$8,100
Grand Total ($):	$28,300

Note: Cost for handheld sound level meters and handheld calibrators unit include the carrying case for each unit.

TABLE 1C – COMPUTER HARDWARE

Equipment	Cost ($)
One (1) Computer/Server for TEB to Record ATC Transmissions	$ 29,450
16 channel logger $20,182.50 2-U Control Server [quad core processor, KVM] SAS/SATA disk controller, 2TB boot drive SATA Software RAID via Three 2TB $5,306.10 10 Bearcat Scanners [no filters included] $1,000.00 Multi-coupler $546.30 Roof mount Non-penetrating antenna mount and mast $1,265.00 Omnidirectional Antenna $1,782.50 **TOTAL $29,450**	
Grand Total($):	$ 29,450

Note: Computer Systems for TEB facility include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

TABLE 1D – HARDWARE INSTALLATION

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/ Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit	Included	Included	Included	11	$131,900
Installation of Portable NMT Unit	Included	Included	Included	11	$80,700
Computer/Server for TEB to Record ATC Transmissions Shipping and Insurance certificates [naming TEB as additional insured] $1,453.60 Site Survey and Frequency Analysis [travel and accommodation included] $5,232.50 Installation [SW and HW] [travel and accommodation included] $8,912.50 On-site Training [up to 8 hours] $2,228.10 1 - year Warranty $3,801.30 Off-site secure back up of all recordings [Web accessible] and 24x7 proactive monitoring $480.10 Component Replacement as required $2,400.70	Included	$27,000	Included	1	$27,000

	On-site Service Support by DLI technicians [travel and accommodation included]	$2,460.30					
	TOTAL	$27,000					
						Grand Total:	$239,600

Notes:

1. Equipment installation cost is inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost is inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

Software Services

TABLE 2 – SOFTWARE SERVICES

Task	Cost ($)			
	Base 3 Years	**First 2 Yr. Option**	**Second – 2 Yr. Option**	**Third – 2 Yr. Option**
Transfer of 10 Year Historical Data	Included in Phase A Project	Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information	$13,400	$8,900	$8,900	$8,900
NOMS Software (8 User Licenses)	$287,700	$191,800	$191,800	$191,800
Web Based Software (Public Web Portal)	$29,700	$19,800	$19,800	$19,800
Web Site Hosting for General Noise Information	Included	Included	Included	Included
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)	$12,300	$8,200	$8,200	$8,200
Voice To Data Transcription Service for Noise Complaints	Included	Included	Included	Included
INM Noise Contour Calculation	$203,400	$135,600	$135,600	$135,600
Noise Calculation at a Certain Chosen Location on a GIS Map	Included	Included	Included	Included
Software Upgrades	Included	Included	Included	Included
Total Cost ($)	$546,500 *for 3 years of services*	$364,300 *for 2 years of services*	$364,300 *for 2 years of services*	$364,300 *for 2 years of services*
Additional User License	$10,900	$10,900	$10,900	$10,900

Note: Cost for each term of the contract is inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

Contract Services

TABLE 3 – CONTRACT REQUIREMENTS

Task	Cost ($)			
	Base 3 Years	**First 2 Yr. Option**	**Second – 2 Yr. Option**	**Third – 2 Yr. Option**
Contract Management and Administrative Services	$119,700	$79,800	$79,800	$79,800
Phase A Project Implementation including Testing (One Time)	$376,950	Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation	Included in Phase A Project	Included	Included	Included
Ongoing Training	Not included	Not included	Not included	Not included
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals -Training Manuals	Included	Not Applicable	Not Applicable	Not Applicable
System Maintenance & Repair (Hardware & Software)	$284,700	$189,800	$189,800	$189,800
System Support (On Site Troubleshooting Support)	$194,700	$129,800	$129,800	$129,800
Hardware and Software Warranty	Included	Included	Included	Included
Total Cost ($)	$976,050 *for 3 years of services including one-time services*	$399,400 *for 2 years of services*	$399,400 *for 2 years of services*	$399,400 *for 2 years of services*

Note: Cost for each term of the contract is inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

Total Cost

TABLE 4 - ESTIMATED TOTAL CONTRACT COSTS

		Total Costs ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	$451,352
TABLE 1B	Handheld Sound Level Meters	$28,300
TABLE 1C	Computer Hardware	$29,450
TABLE 1D	Hardware Installation	$239,600
TABLE 2	Software Services (9 years of services)	$1,639,400
TABLE 3	Contract Requirements (9 years of services including one time services)	$2,174,250
	GRAND TOTAL	$4,562,352

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

Hourly Rates

TABLE 5 – HOURLY RATES FOR SUPPLEMENTAL WORK – STRAIGHT TIME

	Hourly Rates ($)			
Resource	**Base (3 Yrs.)**	**First Option (2 Yrs.)**	**Second Option (2 Yrs.)**	**Third Option (2 Yrs.)**
Contract Manager	$175	$175	$175	$175
Project Manager	$175	$175	$175	$175
Software Developer/Engineer	$175	$175	$175	$175
Trainer	$175	$175	$175	$175
Report Writer	$175	$175	$175	$175
Installation Technician	$145	$145	$145	$145
Technical Support (Hardware/ Software)	$175	$175	$175	$175

Note: Straight time is defined as normal business hours between 8:00AM and 5:00PM EST

TABLE 6 – HOURLY RATES FOR SUPPLEMENTAL WORK – OVERTIME

	Hourly Rates ($)			
Resource	**Base (3 Yrs.)**	**First Option (2 Yrs.)**	**Second Option (2 Yrs.)**	**Third Option (2 Yrs.)**
Contract Manager	$228	$228	$228	$228
Project Manager	$228	$228	$228	$228
Software Developer/Engineer	$228	$228	$228	$228
Trainer	$228	$228	$228	$228
Report Writer	$228	$228	$228	$228
Installation Technician	$194	$194	$194	$194
Technical Support (Hardware/ Software)	$228	$228	$228	$228

Note: Over time is defined as time between 5:01PM and 7.59AM EST

Assumptions

In preparing this cost proposal the following assumptions were made:

- Table 1D are Project Services that are payable by Project Milestones defined F.2.09 Detailed Implementation Plan.
- Fixed NMTs will be installed on existing mounts.
- Installation of NMTs will be in two phases as follows:
  - 2013 Q3/Q4
    - ☐ 6 Permanent NMTs will be installed at JFK over the span of 2 days
    - ☐ 2 Permanent NMTs will be installed at LGA over the span of 1 day
    - ☐ 3 Permanent NMTs will be installed at EWR over the span of 1 day
  - 2014 Q2/Q3
    - ☐ 4 Portable NMTs will be installed at JFK over the span of 1 day
    - ☐ 4 Portable NMTs will be installed at LGA over the span of 1 day
  - 3 Portable NMTs will be installed at EWR over the span of 1 day
- Equipment installation cost is inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.
- In Table 2, row "Additional User License" is the one-time cost of a single additional user license purchased during the Base, Option 1, Option 2 or Option 3 period. It is not a recurring fee.
- In Table 3, "Phase A Project Implementation including Testing (One Time)" is a Project Service that is payable by Project Milestones defined in F.2.09 Detailed Implementation Plan.
- Table 5 includes fees for nine years of services, including one time Phase A and Phase B project fees.
- For Supplemental Work, third party hardware, software and services will be charged at cost plus 15%.
- For Supplemental Work, travel expenses (if required) including fares and accommodation, will be charged at cost plus 15%.
- Tables 2, 3, 5 and 6 assume that increases in cost inflation are negligible relative to cost savings that Brüel & Kjær is able to implement over the term of the agreement.
- In Table 1C:
  - price assumes the existing scanners will be replaced with Bearcat scanners. Please note that replacement does not guarantee the same or better reception. If the system

implemented does not meet requirements, then Brüel & Kjær will provide a contract variation to upgrade the system to the higher standard using radios.

- assumes that Brüel & Kjær will re-use the existing antenna/s and cabling (from antenna to scanners), multicoupler (if required) and rack space
- assumes the Port Authority will provide adequate rack space, power (3A from one L-15 circuit) and ventilation, fixed IP address for server, access to remote maintenance channel via secure VPN, and 1000BT port with minimum 100BT bandwidth to clients. Customer IT support may be necessary to interface with LAN.
- Warranty only covers servers, logger and antennae provided by Brüel & Kjær, with any customer-provided items excluded
- assumes a single visit to TEB site

- In Table 5 and 6, Brüel & Kjær will provide a 5% fee discount for Supplemental Work delivered over full days.

April 24, 2013

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1A - Permanent and Portable Noise Monitoring Terminal Units

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)	N/A	$ 19,561.	$ 20,216.
Total Cost for Eleven (11) Units	N/A	$ 215,171.	$ 222,376.
Portable NMT (Per Unit)	N/A	$ 20,161.	$ 20,816.
Total Cost for Eleven (11) Units	N/A	$ 221,771.	$ 228,976.
Grand Total ($):	N/A	$ 436,942.	$ 451,352.

Note: Cost for Permanent and Portable NMT shall be inclusive of all accessories and peripherals including but not limited to housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – Handheld South Level Meters

Equipment	**Cost ($)**
Handheld Sound Level Meter (Per Unit)	$ 10,100.
Total Cost for Two (2) Units	$ 20,200.
Handheld Calibrator (Per Unit)	$ 4,050.
Total Cost for Two (2) Units	$ 8,100.
Grand Total ($):	$ 28,300.

Note: Cost for handheld sound level meters and handheld calibrators unit shall include the carrying case for each unit.

April 24, 2013

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1C - Computer Hardware

Equipment	Cost ($)
One (1) Computer/Server for TEB to Record ATC Transmissions	$29,450.
Grand Total ($):	$29,450.

Note: Computer Systems for both TEB facility shall include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

April 24, 2013

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE ID – Hardware Installation

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit	Included	Included	Included	11	$131,900.
Installation of Portable NMT Unit	Included	Included	Included	11	$ 80,700.
Computer/Server for TEB to Record ATC Transmissions	Included	$27,000.	Included	1	$ 27,000.
				Grand Total:	$239,600.

Notes: 1. Equipment installation cost shall be inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost shall be inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

April 24, 2013

COST PROPOSAL FORM

SOFTWARE SERVICES

TABLE 2 - Software Services

Task	Cost ($)			
	Base 3 Years	First - 2 Yr Option	Second - 2 Yr Option	Third - 2 Yr Option
Transfer of 10 Year Historical Data	Included in Phase A Project	Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information	$ 13,400.	$ 8,900.	$ 8,900.	$ 8,900.
NOMS Software (8 User Licenses)	$287,700.	$ 191,800.	$ 191,800.	$ 191,800.
Web Based Software (Public Web Portal)	$ 29,700.	$ 19,800.	$ 19,800.	$ 19,800.
Web Site Hosting for General Noise Information	Included	Included	Included	Included
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)	$ 12,300.	$ 8,200.	$ 8,200.	$ 8,200.
Voice To Data Transcription Service for Noise Complaints	Included	Included	Included	Included
INM Noise Contour Calculation	$203,400.	$ 135,600.	$ 135,600.	$ 135,600.
Noise Calculation at a Certain Chosen Location on a GIS Map	Included	Included	Included	Included
Software Upgrades	Included	Included	Included	Included
Additional User License	$ 10,900.	$ 10900.	$ 10900.	$ 10,900.
Total Cost ($):	$546,500.	$ 364,300.	$364,300.	$ 364,300.

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

* Additional User License is not included in Total Cost as it is an option and unknown amount of additional licenses at time of this response.

April 24, 2013

COST PROPOSAL FORM

CONTRACT SERVICES

TABLE 3 - Contract Requirements

Task	Cost ($)			
	Base 3 Years	First - 2 Yr Option	Second - 2 Yr Option	Third - 2 Yr Option
Contract Management and Administrative Services	$ 119,700.	$ 79,800.	$ 79,800.	$ 79,800.
System Testing Requirements	$ 376,950.	Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation	Included in Phase A Project	Not Applicable	Not Applicable	Not Applicable
Ongoing Training	Included	Included	Included	Included
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals - Training Manuals	Included	N/A	N/A	N/A
System Maintenance & Repair (Hardware & Software)	$ 284,700.	$ 189,800.	$ 189,800.	$ 189,800.
System Support (On-Site Troubleshooting Support)	$ 194,700.	$ 129,800.	$ 129,800.	$ 129,800.
Hardware and Software Warranty	Included	Included	Included	Included
Total Cost ($):	$ 976,050.	$ 399,400.	$ 399,400.	$ 399,400.

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

April 24, 2013

COST PROPOSAL FORM

TOTAL COST

TABLE 4 - Estimated Total Contract Costs

		Total Cost ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	$ 451,352.
TABLE 1B	Handheld Sound Level Meters	$ 28,300.
TABLE 1C	Computer Hardware	$ 89,450.
TABLE 1D	Hardware Installation	$ 239,400.
TABLE 2	Software Services	$ 1,639,400.
TABLE 3	Contract Requirements	$ 2,174,250.
	Grand Total:	$ 4,562,352.

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

April 24, 2013

COST PROPOSAL FORM

HOURLY RATES

Table 5 - Hourly Rates for Supplemental Work – Straight Time

Resource	Hourly Rate ($) Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager	$175.	$175.	$175	$175.
Project Manager	$175.	$175.	$175.	$175.
Software Developer/Engineer	$175.	$175.	$175.	$175.
Trainer	$175.	$175.	$175.	$175.
Report Writer	$175.	$175.	$175.	$175.
Installation Technician	$145.	$145.	$145.	$145.
Technical Support (Hardware/Software)	$175.	$175.	$175.	$175.

Note: Straight time is defined as normal business hours between 8:00 AM and 5:00 PM EST

Table 6 - Hourly Rates for Supplemental Work – Overtime

Resource	Hourly Rate ($) Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager	$228.	$228.	$228.	$228.
Project Manager	$228.	$228.	$228.	$228.
Software Developer/Engineer	$228.	$228.	$228.	$228.
Trainer	$228.	$228.	$228.	$228.
Report Writer	$228.	$228.	$228	$228
Installation Technician	$194.	$194.	$194.	$194.
Technical Support (Hardware/Software)	$228.	$228.	$228.	$228.

Note: Overtime is defined as time between 5:01 PM and 7:59 AM EST

April 24, 2013

COST PROPOSAL FORM

ASSUMPTIONS

Proposers should identify any underlying cost-related assumptions in this in the space below or on additional sheets if the space provide below is insufficient.

Anderson, Jeanette

From: Nicole Eib [Nicole.Eib@bksv.com]
Sent: Monday, April 29, 2013 2:02 PM
To: BAFO Response
Cc: Robert Brodecky
Subject: RFP 31644 Split Number 2 - Final
Attachments: H 1 Appendix A BK NoiseOffice Services.pdf

Importance: High

On behalf of Brüel & Kjaer EMS Inc., please accept this Best and Final Offer for the Airport Noise & Operations Management System Contract for John F. Kennedy (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports, collective #31644- "Best and Final Offer"- Clarifications dated April 24, 2013. (Split #2)

We look forward to hearing from The Port Authority of New York New Jersey and should there be any further clarifications, do not hesitate to let us know.

Respectfully,
Nicole Eib

Nicole Eib, Account Manager- Americas

Brüel & Kjær EMS Inc.

1050 Fulton Avenue, Suite 213

Sacramento, CA 95825

Office: 866 240 8307 ext. 7703

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This e-mail is confidential and may be read, copied and used only by the intended recipient. If you have received it in error, please contact the sender immediately by return e-mail. Please then delete the e-mail and do not disclose its contents to any other person.

APPENDIX A

NOISEOFFICE SERVICES (DRAFT)

FOR

THE PORT AUTHORITY OF NEW YORK & NEW JERSEY

FOR

JOHN F. KENNEDY INTERNATIONAL (JFK)
LAGUARDIA (LGA)
NEWARK LIBERTY INTERNATIONAL (EWR)
STEWART INTERNATIONAL (SWF) AND
TETERBORO TEB
AIRPORTS

DRAFT

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DRAFT

1 Preamble

These services will be provided by **Brüel & Kjær EMS Inc** (hereinafter called "Supplier") for **The Port Authority of New York & New Jersey** (hereinafter called "Customer").

Subject to the terms and conditions set forth in the Agreement and its schedules and attachments, Supplier and Customer agree that Supplier will provide to Customer the Services described herein:

2 Definitions

Term	Definition
Agreement	this Noise Office Services Agreement.
Effective Date	the date that this Agreement comes into effect as specified in Clause 1.
Customer Country	USA
Hosted Systems	the Customer equipment and applications listed in the table "System Hosting Services" in Schedule D.3.
NMT	Noise Monitoring Terminal
Prescribed Terms	terms and conditions and warranties implied by law in contracts for the supply of goods or services.
Reference Data	the list of reference information shown Schedule C.6
Responsible Party	the person(s) or organisation responsible to address a specific issue of fault with the System. This could be a Customer contact or, depending on the scope of the Services, it could be a Supplier contact or a third party contact.
SDM	Service Delivery Manager - the Supplier-appointed person assigned to act as a single point of contact for matters relating to the provision of the Services.
Service Fees	the fees specified in Schedule F:
Service Levels	the performance levels defined in Schedule E:
Services	the services provided by Supplier including subcontractors under this Agreement.
Special Clauses	the obligations and liabilities defined in Schedule G:
Specifications	the manuals, system descriptions or other published documentation describing the functionality and performance of the Supplier Hardware, Supplier Software, Subscribed Applications, or Subscribed Data.
Subcontractor	third party engaged by the Supplier to provide all or part of the Services
Subscribed Applications	the list of applications listed in Schedule C.5
Subscribed Data	the list of data services listed in Schedule C.4
Supplier Software	software listed in Schedule C.3 as having Brüel & Kjær as the author.
Supplier Spare Parts	the list of System components shown in Schedule C.2
Support Request	a request in writing from Customer to Supplier for work to be performed under this Agreement as defined and in the form described in Clause 4.2
System	the hardware, software, on site spares, subscribed applications and subscribed data listed in Schedule C:
System Component	one of the items comprising the System.
System Upgrade	once off hardware and software upgrade of the System
Termination Services	the services described in Schedule F.1.
Third Party Software	software listed in Schedule C.3 as having an author other than Brüel & Kjær.

Term	Definition
User Forum	user group meeting, which Supplier may organize from time to time, to discuss technical issues related to airport noise and the use of Supplier products and services.
Working Day	Monday through Friday inclusive, excluding local public holidays in the main place of business of Customer.
Working Hours	between 8:30am and 5:30pm local time in the main place of business of Customer on any Working Day.

3 Scope of Work

a The Services shall be provided according to the applicable Service Levels.

b The Services apply only to the System. Correct operation of the System may depend on correct operation of other systems (including data feeds, power supplies, and communication links), which are the responsibilities of Customer. Supplier's obligations under this Agreement shall be excused if, and to the extent that, the System does not work correctly as a result of the failure of these other systems.

c When Customer becomes aware of an interruption to a system or service which is likely to cause interruption to the System or Services which are the subject of this Agreement, Customer shall notify Supplier where reasonably practical to do so:

(i) Seven (7) calendar days in advance of any planned outage; and

(ii) Within four (4) working hours of an unplanned outage.

d Supplier's obligations under this Agreement shall be excused if, and to the extent that, Customer fails to deliver the obligations listed in Clause 12, below.

4 Service Management

4.1 Service Reporting:

a Supplier shall assign an SDM and shall advise Customer of the name of the assigned SDM.

b Supplier shall provide a quarterly report on the utilization of the Services provided under this Agreement and the performance against the Service Levels.

4.2 System Support

a Supplier shall provide support in the form of advice by telephone or email in response to a telephone call or email from Customer in relation to the operation of the System.

b Supplier's telephone/email support services shall operate during Working Hours.

c Support requests shall be advised to Supplier by email to the contact details for Customer Support listed in Schedule B:. When advising requests, the following information shall be provided:

(i) Request title, which will be used as the "Title" of the request for subsequent tracking.

(ii) Customer reference number (if any)

(iii) Customer contact details, including email address, phone number etc.

(iv) The Airport and location of items which are the subject of the request

(v) Date and time of the request

(vi) A description of the request including, as attachments, any screenshots, error logs, etc. as may be useful to assist in Supplier response.

(vii) An indication of the urgency or severity of the request; for example; 1= Urgent – Data Loss,

2= Major Loss of Function, 3= Loss of Function, 4= Minor Anomaly, 5=Request for Assistance.

d Supplier will enter this information into the Supplier's ticket management system and a reply will be sent acknowledging the request and identifying the unique ticket number that is to be used in all future communication concerning this request.

4.3 Customer Visits

a The SDM or a delegated alternate shall meet with Customer at least as often as specified in Schedule D.1. Such meetings shall be at a location and have an agenda and duration mutually agreed upon and predetermined by Customer and Supplier. Each day of such meetings shall be for a maximum of eight (8) hours per day.

4.4 User Forum

a On request from Customer, Supplier will provide the number of tickets specified in Schedule D.2 each year of this Agreement to any User Forum.

b Customer shall be responsible for the travel expenses (transportation, lodging etc.) and meal expenses (except for meals provided as part of the official User Forum activities) of its attendees at User Forums.

5 Maintenance Services

5.1 Fault Management

a Supplier will rectify faults in the System during the term of this Agreement and as required to return the System to operating within substantial conformity with the Specifications.

b Not used.

c All faults shall be advised to Supplier by email or by fax to the contact details for Customer Support listed in Schedule B: and in the form described in Clause 4.2 above.

d Supplier will enter this information into the Supplier's ticket management system and a reply will be sent identifying the unique ticket number that is to be used in all future communication concerning this fault report.

e Customer shall assist Supplier in diagnosing the fault by, if requested, supplying evidence of the fault such as listings of output, photographs, or other data. Such evidence may also include information about and from equipment other than the System.

f If requested, Customer shall explain how the fault prevents substantial conformity of the System with the Specifications.

g Supplier shall carry out remedial work either remotely or on Customer locations at Supplier's discretion and in line with the Service Levels.

h Supplier will use best efforts to resolve all faults and requests in a fast and efficient manner with a minimum disruption to Customer's operation.

i Supplier will not be required to carry out remedial work or to carry out remedial work in accordance with the Service Levels if:

(i) It has not received a Support Request;

(ii) Customer has changed the configuration of the System and this has caused, or contributed to the cause of, the fault;

(iii) The fault is caused by incorrect Customer operation of the System or by a failure in consumable equipment.

5.2 *Software Upgrades and Patches*

a Customer shall be entitled, at no additional license fee, to patches and upgrades to the Supplier Software that Supplier shall, from time to time, develop and make available where such patches and upgrades relate to features of the Supplier Software currently supplied and/or licensed to Customer.

b Supplier shall notify Customer of upgrades to Supplier Software when they are made available for general distribution. Customer may or may not choose to install the upgrade.

c When an upgrade to Supplier Software requires an upgrade to Third Party Software, Supplier will advise Customer accordingly.

d Customer acknowledges that an upgrade or new version of Third Party Software during the term of this Agreement, may require new or upgraded hardware and any additional cost of new hardware or software to support the upgrade is not included in this Agreement.

e Customer acknowledges that the application of an upgrade to Supplier Software or Third Party Software may require engineering effort, additional hardware, travel expenses, or end user training and that, unless specified elsewhere in this Agreement, costs associated with the provision of these items are not included in the scope of this Agreement.

f On request from Customer, Supplier shall provide a quotation for the works described in Clause 5.2.e and the rates applicable for that work shall be as defined in Schedule F.3.

g Supplier may declare a particular upgrade or set of upgrades to Supplier Software to be a new general release of the Supplier Software. Supplier reserves the right to cease supporting versions of Supplier Software that are more than two general releases older than the current general release or only to offer such support at increased service fees.

h Nothing in this Clause 5.2 shall imply that Customer is entitled to any software except the Supplier Software. In particular, Supplier may provide additional functionality as a new, and separately licensable, module of the Supplier Software, in which case the new module may be offered to Customer as defined in Clause 10

5.3 *Hardware Repair*

a The System hardware as defined in Schedule C.1 requiring physical repair will be repaired by return of the items to Supplier for repair unless explicitly stated otherwise.

b Supplier shall determine whether, in order to deliver the Services, it is necessary to return a System Component or part(s) of a System Component.

c If requested by Supplier, Customer shall securely and safely pack and dispatch such item(s) to the depot nominated by Supplier for repair or replacement and shall pay for freight and insurance to the nominated depot premises.

d Supplier shall repair or replace the item(s) according to the Service Levels and shall return the item(s) to Customer at Supplier's expense.

e Unless otherwise specified in this Agreement, Customer shall be responsible for re-installing the item(s) according the instructions from Supplier.

5.4 *Specific Exclusions*

a The following faults are not included in the scope of this Agreement and will not be rectified by Supplier

(i) Faults in power connections to equipment, except Hosted Systems.

(ii) Faults in communications between components of the System, e.g. telephone lines, network connections etc.;

(iii) Faults caused by abnormal events e.g. vandalism, lightning strikes, damage outside of

Supplier's control.

6 System Management Services

6.1 *System Monitoring*

a Supplier shall monitor the System for abnormal conditions, including incomplete data downloads and out-of-band calibration results, and shall advise the Responsible Party of any detected abnormal conditions.

b Customer shall advise Supplier of the Responsible Party for various abnormal conditions where Supplier will not be the Responsible Party.

6.2 *System Administration*

a Supplier shall provide system administration services as defined in, and at the frequency stated in, Schedule D.4 System Administration Services.

b Supplier may carry out system administration services at any time during the normal business hours of Customer. Supplier may carry out system administration tasks outside of those hours by mutual agreement.

6.3 *Periodic Hardware Services*

a Supplier shall provide hardware services as defined in, and at the frequency stated in, Schedule D.5 Periodic Hardware Services.

b At the completion of each periodic hardware service, Supplier shall present a report to Customer on the status of the units, and any issues needing to be addressed.

6.4 *Supplier Spares*

a Supplier shall provide the Supplier Spare Parts at Suppliers expense, to be located on Customer premises and available to be used in fault rectification as required.

b Supplier shall inspect the Supplier Spare Parts during visits to Customer site to ensure that they can be utilized when required. Supplier shall repair or replace any Supplier Spare Parts found to be faulty.

c On termination of this Agreement, Customer shall return the Supplier Spare Parts.

6.5 *System Hosting*

a Supplier shall, in its own facilities, maintain, administer, and operate the Hosted Systems consistent with the applicable Service Levels.

b Supplier shall report performance against the Service Levels according to Clause 4.1 and shall also make recommendations on any actions or upgrades which might be necessary to improve or secure performance of the Hosted Systems.

6.6 *Backup and Restoration*

a The responsibility and frequency of system backup is stated in Schedule D.8. System Backup.

b In the event of complete system failure, Supplier will restore the System from the latest available system backup.

7 Information Management Services

7.1 Data Processing Services

a Supplier shall provide data processing services as defined in, and at the frequency stated in, Schedule D.6 Data Processing Services.

b Supplier will maintain a log of data processing services tasks undertaken and make that log available to Customer as part of regular service reporting.

7.2 Report Production Services

a Supplier shall provide report production services as defined in, and at the frequency stated in, Schedule D.7 Report Production Services.

8 Subscription Services

8.1 Application Subscription

a Supplier will provide the Subscribed Applications to Customer according to the Specifications and according to the Service Levels.

b For the term of this Agreement, Customer will have a non-exclusive right to use the Subscribed Applications subject to any limitation on user numbers or locations specified in Schedule C.5 Application Subscriptions.

c Subscribed Applications remain the exclusive property of Supplier.

d Customer will not use, or cause others to use, the Subscribed Applications or the information derived from the Subscribed Applications for the real-time control or navigation of aircraft, or for any purpose related to the real-time control or navigation of aircraft.

e The information contained within the Subscribed Application is a combination of data from a variety of sources, and may include information derived from Customer and from third party sources. Supplier does not warrant the accuracy or availability of the information within the Subscribed Applications.

f Supplier and Customer agree to abide by the terms of any third party data agreements that are required in order to provide the Subscribed Applications.

g Due to the highly visual nature of the user interfaces, Subscribed Applications may not be accessible to individuals with certain disabilities. Customer hereby indemnifies Supplier against any liability or additional expense arising directly or indirectly from a complaint, allegation or claim by a third party (including employees of the Customer) alleging that a Subscribed Application discriminates against an individual on the grounds of that individual's disability.

8.2 Data Subscription

a Supplier will provide the Subscribed Data to Customer according to the Specifications and according to the Service Levels.

b For the term of this Agreement, Customer will have a non-exclusive right to use the Subscribed Data subject to any limitation on use specified in Schedule C.4.

c Subscribed Data remains the exclusive property of Supplier.

d Customer will not use, or cause others to use, the Subscribed Data or information derived from the Subscribed Data for the real-time control or navigation of aircraft, or for any purpose related to the real-time control or navigation of aircraft.

e Supplier and Customer agree to abide by the terms of any third party data agreements that are

required in order to provide the Subscribed Data.

8.3 Reference Data

a Supplier shall provide updates to the Reference Data at the frequency as shown in Schedule C.6.

9 Professional Services

a No additional services shall be performed unless Supplier provides a written quotation, which is approved in writing by Customer prior to Supplier providing such services.

b On request from Customer for additional services, Supplier shall provide a quotation for the additional services. Where applicable, the quotation shall be based on the rates shown in Schedule F.3.

10 New Modules

a Supplier shall notify Customer of new module(s) applicable to the System when they are made available for general distribution along with the applicable additional license fees, installation fees, and/or additional Service Fees applicable to such new module(s).

b The installation fees and/or any increase in Service Fees applicable to the new module(s) shall, where applicable, be based on the rates shown in Schedule F.3..

c The new module(s) will only be made available to Customer following Customer's written acceptance of the additional license fees, installation fees, and or additional Service Fees applicable to the new module(s).

11 Obsolescence

a Supplier may undertake a review of the System 3 years after the Effective Date of this Agreement and annually thereafter and may recommend the replacement of obsolete Customer-owned equipment or Customer-owned equipment not meeting specifications. Any such replacement recommendation shall be reasonable and justified.

b If Customer does not accept the recommendations within 6 months, Supplier may cease to provide Services for the System or may only offer such support at increased service fees.

12 Customer Obligations

12.1 Compliance with License terms

a Customer's use of the System shall, at all times, be consistent with any license terms which apply to the System or any System Component.

b Supplier Software is licensed to Customer under the standard Brüel & Kjær End User License Agreement.

12.2 Storage of Equipment

a Not used

b Not used

12.3 Physical and Electronic Access:

a Customer shall maintain a continuous connection to the internet for the system and capable of establishing a secure virtual private network between the system and Supplier's Operations Centre. Supplier shall assist with information where necessary to establish this link.

b On request from Supplier and in a timely manner, Customer shall provide all user IDs and passwords to Supplier prior as shall be reasonably required by Supplier to perform the Services.

c Customer shall provide Supplier's service personnel with full and safe access to the System, and to spare parts storage areas, at all reasonable times for the purpose of providing the services required by this Agreement. Customer shall also provide suitable vehicle parking areas.

d The access shall include unhampered working facilities, adequate light, heating, cooling, ventilation, suitable electrical outlets and computer network connections to enable Supplier to meet its obligations under this Agreement.

e Customer shall provide Supplier's service personnel with all information, facilities, services and accessories reasonably required by Supplier to meet its obligations under this Agreement.

f Customer shall provide, on request, a suitably qualified or informed representative to accompany Supplier's service personnel and to advise Supplier on access or any other matter within Customer's knowledge or control that will assist Supplier in meeting its obligations under this Agreement.

12.4 Precedence and Severability

a The Schedules are fully incorporated into this Agreement and, in case of any conflict between the Schedules and the rest of this Agreement, the provisions of the Schedules shall prevail.

b The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement.

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Schedule A: Summary Of Services Provided

The following table lists the service line items to be provided under this Agreement.

The Services are defined in the body of this Agreement, and apply to specify System Elements and Service Elements.

Service Line Item	Clause	Schedule	Status
Service Management			
• Service Reporting	4.1	B	Included
• System Support	4.2	B	Included
• Customer Visits	4.3	D.1	Included
• User Forum	4.4	D.2	Included
Maintenance Services			
• Fault management	5.1	E.1	Included
• Software upgrades and patches	5.2	C.3	Included
• Hardware Repair	5.3	C.1	Included
Technology Management Services			
• System Monitoring	6.1		Included
• System Administration	6.2	D.4	Included
• Periodic Hardware Service	6.3	D.5	Included
• Supplier Spares	6.4	C.2	Not Included
• System Hosting	6.5	D.3	Included
• Backup and Restoration	6.6	D.8	Included
Information Management Services			
• Data Processing	7.1	D.6	Not Included
• Report Production	7.2	D.7	Not Included
Subscription Services			
• Application Subscription	8.1	C.5	Included
• Data Subscription	8.2	C.4	Included
• Reference Data	8.3	C.6	Included
Professional Services			
• Professional Services	9		Included

Schedule B: Contacts

Supplier Contacts		
Formal Notices	Name	Brüel & Kjær EMS Inc
	Address	1050 Fulton Ave, Suite 213 Sacramento, CA 95825
	Telephone	1-916-265-7700
	Fax	+1 916 265 7719
	eMail	cms@bksv.com
Routine and operational communications	Name	Service Delivery Manager
	Address	1050 Fulton Avenue, Suite 213 Sacramento, CA 95825
	Telephone	+1 916 265 7700
	Fax	+1 916 265 7719
	eMail	cms@bksv.com
Suppliers Bank Account	Account Name	Brüel & Kjaer EMS Inc.
	Account Number	921258885
	Bank	JPMorgan Chase Bank N.A
	Bank Address	Chicago, IL (No Street Address needed) Routing Number 071000013
Customer Support Centre	Telephone	+1 866 583 0280 +61 3 9508 4930
	Address	Level 14, 409 St Kilda Road Melbourne VIC 3004 Australia
	Fax	+61 3 9500 1197
	Email Support Requests	cms@bksv.com

Customer Contacts		
Formal Notices	Name	{Customer contact title} {Customer contact name}
	Address	{Customer contact address}
	Telephone	{Customer contact telephone number}
	Fax	
	eMail	{Customer contact email}
Routine and operational communications	Name	{Customer contact title} {Customer contact name}
	Address	{Customer contact address}
	Telephone	{Customer contact telephone number}
	Fax	
	eMail	{Customer contact email}

Address for Invoices	Name	Accounts Payable
	Address	{Customer invoice address}
	Telephone	{Customer telephone number accounts payable}
	Fax	
	eMail	{ Customer contact email for invoices}

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Schedule C: System Elements

Update for

C.1. Hardware

Type	Description	Manufacturer	Model	Serial #	Location	Repair Type
EXAMPLE DATA	{Replace with customer specific hardware}					

C.2. Supplier Spares Parts

Type	Description	Manufacturer	Model	Serial#	Location
None					

C.3. Software

Item	Author	Licence Number	Users
{Replace with customer specific software}			

C.4. Data Subscriptions

Type	Description of Data	Restrictions
EXAMPLE	{Replace with customer specific information}	
Flight Data Feed – PASSUR	Aircraft position data derived from interface to radar data, fused and tracked as required, and correlated with plan data and, where possible, SkyTrak Mode S information not available from radar sources.	Data may be used as input to ANOMS and WebTrak applications.

C.5. Application Subscriptions

Type	Description	Restrictions
WebTrak	Web-based application providing the public and/or other stakeholders with access to noise and track information for historic and near-real-time operations.	Unlimited users

C.6. Reference Data

Description	Author	Frequency
D-ATIS	ARINC Incorporated	Monthly
Street Map Data	TeleAtlas North America	Annual
Satellite Imagery	TerraNOVA	None

FAA Aircraft Register	FAA	Quarterly

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Schedule D: Service Elements

D.1. Mandatory Customer Support Visits

Number of Visits per Year: 4

D.2. User Forum Attendees

Number of included User Forum Attendees per year: 5

D.3. System Hosting Services

Hosted Item	Task Description
ANOMS Application	Provision of Customer's ANOMS from Supplier data centre, hosted on Supplier servers.

D.4. System Administration Services

Applies To	Task Description		Frequency
ANOMS, Rover	(i)	Apply operating system patches	As updates are available and required. Such upgrades to be agreed by Customer in writing in advance.
	(ii)	Apply upgrades and releases to the application software	
	(iii)	Install updated Reference Data.	
ANOMS, Rover	(i)	Perform System recovery in the event of a failure	On demand from Customer
ANOMS Servers	(i)	Perform Oracle database administration tasks including archiving and tuning as required.	Monthly

D.5. Periodic Hardware Services

Applies To	Task Description		Frequency
All Installed NMTs	(i)	Perform visual inspection for problems / corrosion.	Annually
	(ii)	Check operation on site.	
	(iii)	Calibration of the unit.	
	(iv)	Update of NMT firmware if necessary	
	(v)	Download and update of the configuration files	
	(vi)	Check of batteries (Note that replacement cost of NMT batteries is not included in this check)	
	(vii)	Replacement of bird spikes and windshields as required	
	(viii)	Microphone silica gel desiccant to be replaced at each visit	
	(ix)	Replacement of batteries – during standard battery warranty period, Supplier will replace faulty batteries. After standard battery warranty period, Supplier will replace faulty batteries supplied by Customer	
All Server Hardware	(i)	Visual inspection and preventative maintenance as suggested by the manufacturer of the hardware	Annually

D.6. Data Processing Services

Task	Task Description	Frequency
Data Completeness Processing	(i) Check status of downloads from NMTs and re-initiate downloads as necessary. (ii) Check completeness of radar/plan information from overnight processing and re-initiate as necessary. (iii) Re-initiate batch processing as required based on data downloads.	Business days

D.7. Report Production Services

Task	Task Description	Frequency
None		

D.8. System Backup

Task	Task Description Responsible	Frequency
Backup of system software	Supplier	Weekly

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Schedule E: Service Levels

E.1. Service Requests and Fault Resolution

Category	Description	Response (Working Hrs)	Resolution Time	Target Achievement
1: Major Fault	• Loss of collection of time perishable data. • Faults that may lead to data loss or data corruption. • Unable to start the system • Loss of unrecoverable data	4 hours	2 working days, except rebuild of deployed server 5 working days for the rebuild of the deployed server	95% of all tickets to meet target response times 85% of all tickets to meet target resolution times.
2: Major Fault	• Key function inoperable • Noise monitor calibration error	4 hours	5 days	
3: Minor Fault	• Reproducible loss of functionality	2 days	31 days	
4: Minor Fault	• Minor software issues that do not affect day to day operation of NOMS	2 days	31 days – fixes agreed within scope of a future software upgrade	
5: Minor Fault	• Non-reproducible abnormalities	2 days	Ticket closed within 31 days if abnormality not reproduced	
Request	• "How do I?" questions.	1 day	31 days to answer	

Response and resolution times to be determined from the time that Supplier is notified of the request or fault.

E.2. WebTrak Subscribed Application Service

Area	Service Definition	Measurement (Monthly)	Target Achievement
Availability	Application is available if it can be loaded and the map displayed from a working internet connection which is remote from the data centre where the application is hosted.	Available hours / Expected hours Expected Hours are 24hrs x days per month – Planned Outages). Planned outage must have 7 days notice and be less than 4 hours.	96.0%
Reliability	The number of times application is unavailable in any month.	Number of failures where the application is unavailable for greater than fifteen minutes,	2

E.3. SRG Subscribed Data Service

Area	Service Definition	Measurement (Monthly)	Target Achievement
Availability	SRG is available if data is being provided to the target system (eg. ANOMS, WebTrak)	Available hours / Expected Hours Expected Hours are 24hrs x days per month – Radar Downtime Radar Downtime are the periods when no source data is being provided to SRG from the radar system.	96.0%
Reliability	The number of times data unavailable in any month.	Number of failures where the data is unavailable for greater than fifteen minutes,	1

E.4. SkyTrak Subscribed Data Service

Area	Service Definition	Measurement (Monthly)	Target Achievement
Availability	SkyTrak data service is available if data is being provided to the target system (eg. ANOMS, WebTrak)	Available hours / Expected Hours Expected Hours are 24hrs x days per month – Radar Downtime Radar Downtime are the periods when no source data is being provided to SkyTrak from the radar system.	96.0%
Reliability	The number of times data unavailable in any month.	Number of failures where the data is unavailable for greater than fifteen minutes,	1

Schedule F: Term, Termination, and Service Fees

F.1. Termination Services

None

F.2. Service Fee Increases

Not used

F.3. Additional Service Fee Basis

Item	Amount (GBP)
Third Party Software and hardware costs	At Cost plus 15%
Travel, accommodation, meals, disbursements and other expenses.	At Cost plus 15%
New Modules added to The System:	Annual Maintenance Fee:
Hardware	12% of Hardware Price
Software	12% of Module Licence Fee

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Schedule G: Special Clauses

In this Schedule, Contractor should be read as Supplier, and Authority should be read as Customer.

G.1. Maintenance Requirements

Upon certification by the Authority that the System has satisfactorily completed Inspection and Test and that the Contractor has completed all work as specified in the Detailed Project Plan (except for warranty and maintenance), the Contractor shall then provide the maintenance required for the System to perform in accordance with, but not limited to, the following requirements:

G.1.1 Maintenance and Warranty Period

Customer Requirement	Supplier Response
The maintenance & support tasks identified in this section must be performed: *• Under the warranty period for the system which extends Twelve (12) months from the successful completion of the System Inspection and Test.* *• Under the maintenance provisions which starts one (1) day after the one (1) year warranty period.* *• Under the warranty period for the new NMTs installed, which start after the successful installation of each new NMT deemed satisfactory by the Port Authority's Contract Manager.*	Complies Supplier will meet this requirement using the Services described in this Agreement.

G.1.2 Maintenance and Support Tasks

Customer Requirement	Supplier Response
Maintenance and support tasks shall include all expenses (parts, labor, tools, equipment, software, travel, signage, shipping costs, etc.), without additional cost to the Authority, required to perform (but not limited to) the following: *a. Host, operate and maintain the System in a secure and protected environment in order to meet the functional, performance and availability requirements as defined herein.*	Complies Clause 6.5 System Hosting
b. On-call remedial and scheduled preventive maintenance in order to meet the availability requirements stated herein.	Complies Clauses 5.1 Fault Management and 6.3 Periodic Hardware Services
c. Provide on-site repair of NMT and associated equipment (existing or new) that cannot be repaired remotely by the Contractor. The Contractor shall dispatch its own technician(s) for any on-site troubleshooting or repair needed to have the NMT in working condition.	Complies Clause 5.3 Hardware Repair

Customer Requirement	Supplier Response
d. On-Call Help Desk Support by telephone during weekdays between 9:00 AM to 5:00PM (EST) is required, except during holidays observed by the Contractor. *Note: Help Desk Support is intended for User questions on the use of the application and is independent of any notifications made to report errors or maintenance Issues with the System or application.*	Complies Clause 4.2 System Support
e. Resolve any problems with telecommunication connection for NMTs by directly contacting the Service provider. The Contractor shall arrange a vendor meet with its own technician if needed for repair to telecommunication connection(s).	Complies
f. Correct defects in the furnished applications software.	Clause 5.2. Software Upgrades and Patches
g. Validate and correct (when necessary) the applications software furnished by the Contractor to ensure that it performs in accordance with the specifications of the Contract within ten (10) days after Microsoft and other software providers release patches and updates to the operating system, database and other third party software that is furnished or used in the System;	Partially compliant Supplier will partly meet this requirement through Clause 5.2. Software Upgrades and Patches. Updates from third party software providers will be applied quarterly.
h. User support to administer the application;	Complies Clause 4.2 System Support
i. System Administration (See Exhibit 6 for the System Administration Requirements);	
j. Update and Test disaster recovery plan on an annual basis.	
k. Provide maintenance and support services for all existing NMT and associated hardware listed in Exhibit 1 until each is replaced.	Complies Clauses 5.1 Fault Management, 6.3 Periodic Hardware Services and Clause 5.3 Hardware Repair
l. Provide maintenance support services for all new NMTs and associated hardware installed under this Contract.	Complies Clauses 5.1 Fault Management, 6.3 Periodic Hardware Services and Clause 5.3 Hardware Repair
m. Establish spare components and parts levels necessary to maintain optimum level of reliability for the existing NMTs as well as for newly installed NMTs and associated hardware.	Complies Clauses 5.1 Fault Management, 6.3 Periodic Hardware Services and Clause 5.3 Hardware Repair
n. Provide parts and labor necessary to keep the existing and newly installed NMTs and associated equipment in good operating condition. Replacement part shall be new or reconditioned parts that meet the original functional requirements, and, upon installation, become the property of the Port Authority. While the replaced parts removed from the equipment will become	Complies Clauses 5.1 Fault Management, 6.3 Periodic Hardware Services and Clause 5.3 Hardware Repair

Customer Requirement	Supplier Response
the property of the contractor.	
o. Monitor the System and its components and affect all repairs to maintain the System and Services identified herein in accordance, with Section IX.A.3 Operational Availability.	Complies Clauses 6.1 System Monitoring and 5.1 Fault Management
p. Provide on-site manual calibration of each NMT unit once per year. All the necessary equipment and tools, including ladders and 40 ft boom bucket truck, shall be supplied by the Contractor.	Complies Clause 6.3
Note: The Contractor, may, with prior approval from the Authority, elect to subcontract maintenance and support services from qualified third-party service vendors. All subcontractors must be approved by the Authority.	Complies

G.1.3 Operational Availability

Customer Requirement	Supplier Response
The Operational Availability of the System and Services shall meet the percentages stipulated below each calendar month for the term of this Contract: *System Hardware (NMTs) 98%* *System Software and Database 99%* *As used in this numbered Clause (and in this clause only) "Operational Availability" means the time during any twenty-four (24) hour period the System Software and Hardware is Available to Airport Staff. "Available" means that during any twenty- four (24) hour period, the furnished and installed software applications and any Contractor furnished equipment perform according to the manufacturer's specifications.* *In the event that Operational Availability fails to meet the percentage stipulated herein, and is not responded to or repaired within the Service Level Agreement time requirements, damage amounts for unavailability for operation are as specified herein.*	Complies The Operational Availability of the System and Services will meet the percentages stipulated each calendar month for the term of this Contract: The system is only guaranteed during working hours and availability is taken over a monthly period. NMT Hardware is taken over a 24hr period.

G.1.4 Maintenance Work

Customer Requirement	Supplier Response
The Contractor shall perform complete scheduled preventive maintenance and on- call remedial maintenance so that the System meets the Operational Availability (Section IX.A.3). The maintenance program shall be performed with all reasonable care to keep the System in a proper, safe, and efficient operating condition capable of correct operation and reporting. The Contractor shall furnish all labor, travel, materials, supplies, parts,	Complies

Customer Requirement	Supplier Response
equipment, warning signs, other safety devices, and all other things necessary or proper for, or incidental to, such maintenance.	
The Contractor, at its option, shall repair or replace System components maintaining all original specified performance requirements, within the time(s) stipulated in Section IX.C, Time to Repair, for any part, component, equipment item, software or firmware of the System that become unsuitable for continued use. Replacement parts or components shall be identical to the original, or equal, as approved by the Authority's Contract Manager.	Complies
The maintenance performed by the Contractor shall include, but not be limited to, scheduled preventive maintenance, error correction, hardware, software and firmware diagnostics and corrections, validation that the applications software continues to work (in accordance with the Contract requirements) with manufacturer-released patches to third-party software and engineering updates of the System as described below.	Complies
The Contractor shall submit to the Authority's Contract Manager for review a schedule of preventive maintenance activities and a description of preventive maintenance procedures no less than 30 days prior to the Warranty Start Date and each anniversary thereof. The Authority's Contract Manager will review the submission, and make comments, within ten (10) working days.	Complies
In order to make replacements and repairs as expeditiously as possible, the Contractor shall stock, keep and maintain a sufficient supply of parts and materials, tools or other equipment as may be necessary to make such replacements and repairs.	Complies
In order to meet the requirements stipulated in Section IX.C, Time to Repair, in this contract, the Contractor shall maintain an adequate number of qualified staff to provide the required technical support.	Complies.

G.1.5 Maintenance Description

Customer Requirement	Supplier Response
All maintenance shall be performed in accordance with the equipment and component manufacturers' recommendations. The results from all inspections, tests, diagnostics, equipment repairs, calibrations, and corrective actions shall be reported to the Authority's Contract Manager. *The maintenance performed by the Contractor shall include, but not be limited to on-site maintenance of NMTs, error correction, and software and firmware diagnostics and corrections of the System as described herein.*	Complies

On-Site Maintenance

Customer Requirement	Supplier Response
On-Site maintenance includes the following:	
1. One annual trip for manual calibration of each NMT that is deployed in the community. During this annual visit, the Contractor shall inspect each NMT and associated component and must replace any part or equipment in need of replacement. The Contractor shall provide all the necessary tools and vehicles required for the calibrations. The schedule and plan for annual calibration must be submitted to the Authority's Contract Manager thirty (30) days prior to the actual calibration date.	Complies
2. The Contractor shall be responsible for on-site repair work pursuant to On-Call Remedial Maintenance Requirements in accordance with Section IX.C, Time to Repair. Note: The Contractor shall be responsible for notifying the Authority about malfunction of telecommunication lines and the Authority will coordinate the repair of telecommunication lines through third party provider/vendor.	Complies

Scheduled Preventive Maintenance

Customer Requirement	Supplier Response
Scheduled preventive maintenance shall consist of all actions necessary to inspect, test, diagnose, repair equipment failures, correct System malfunctions and restore System operation to perform in accordance with the manufacturer's stated specification, performance and tolerances. Scheduled preventive maintenance shall include, but not be limited to adjustment, repairs, the replacement of field installable parts that are approaching unserviceable status, all actions necessary to prevent System failures and extend the System's useful life, verify adequate empty disk space available for program usage (i.e., temporary files, logs, etc.,), verify log files are saved to removable media and log files are purged on a regular basis, review reports on communications throughput and errors and perform communications diagnostics on each communications channel to identify equipment or cabling problems.	Complies

On-call remedial maintenance

Customer Requirement	Supplier Response
On call remedial maintenance shall consist of all unscheduled actions necessary to obtain the Operational Availability (Section IX.A.3), diagnose and correct all System malfunctions and failures and restore the equipment	Complies

Customer Requirement	Supplier Response
in accordance with the manufacturer's stated specification, performance and tolerances and the System to perform in accordance with the Contract requirements. The Contractor shall provide a specified telephone number and FAX number and email address at no additional cost to the Authority, which shall be in operation twenty four (24) hours a day and seven (7) days per week and staffed only during regular business hours (9:00AM to 6:00 PM EST, Monday through Friday), to enable the Users to report System errors and malfunctions. *Within twenty four (24) hours of each reported on call remedial maintenance problem, the Contractor shall provide written documentation of the reported problem and all actions performed related to the maintenance call in a computer readable format to Authority's Contract Manager*	

G.1.6 Loss of Service

Customer Requirement	Supplier Response
The Users will notify the Contractor via the 24-hour telephone or fax number or email, described above, when the System does not perform in accordance with the Contract requirements due to a loss of service. The Contractor shall provide support to diagnose, debug, repair, replace and correct all malfunctions or restore lost services required for the System to perform in accordance with the Contract requirements within the time(s) stipulated in Section IX.C, Time to Repair.	Complies

G.1.7 Error Correction

Customer Requirement	Supplier Response
The Users will notify the Contractor via the 24-hour telephone, fax number or email, described above, when the System does not perform in accordance with the Specifications stipulated in the Contract due to error in the applications software (including firmware) or any modifications thereto. Hardcopy documentation of the error condition will be mailed, faxed or emailed to the Contractor. The Contractor shall correct any such error in the System as identified by the Authority or through the Contractor's investigation of the reported error(s). Errors shall include, but not be limited to, flaws in operations and errors due to flaws in the design and coding of the System.	Complies
The Contractor shall diagnose, debug, repair, replace and correct all malfunctions required for the System to perform in accordance with the Contract requirements within the time(s) stipulated in this Maintenance	Partly complies

Customer Requirement	Supplier Response
Section IX.C, Time to Repair. The Contractor shall provide documentation in machine-readable format, if any, relating to the error correction. The Contractor in an off-line test environment shall test the corrected software. The Contractor shall then prepare a test report and submit it to the Authority for review and approval before the corrected software is installed into the System. Such corrections to the software shall be provided at no additional cost to the Authority.	Once the correction has been tested, Supplier will apply the correction.
The Contractor shall repair all software malfunctions maintaining all original specified performance requirements, within the time(s) stipulated in Attachment C, Section IX.C, Time to Repair.	Complies

G.2. Time to Respond

Customer Requirement	Supplier Response
In response to a call for maintenance by the Authority, the Contractor shall acknowledge the receipt of such inquiry within eight (8) hours of the initial notification via an email or a phone call to the Authority's Contract Manager. The acknowledgement shall provide the time expected for a response or resolution to the problem.	Complies

G.3. Time to Repair

G.3.1 On-Call Remedial Maintenance

Customer Requirement	Supplier Response
The Contractor shall reply back with a resolution to the problem or status update if more time is needed for a resolution within twenty four (24) hours of the time the loss of service or maintenance request was submitted by the Authority's Staff. If an on-site troubleshooting or repair is needed, the Contractor shall dispatch its own technician to troubleshoot or repair the NMT site within seven (7) business days of the time the original trouble ticket was submitted. Failure to provide on-site repair service within seven (7) business days will result in liquidated damages as described in the Attachment B - General Contract Provisions- 10. Liquidated Damages.	Complies

G.3.2 Validate and Correct Applications Software with Patches and Updates to Third Party Software

Customer Requirement	Supplier Response

Customer Requirement	Supplier Response
The Contractor shall complete performance of such testing, validation and correction to ensure that the software furnished by the Contractor performs in accordance with the Contract requirements with the released patches and updates within ten (10) business days from the date that Microsoft and other software providers used in the System release patches and updates to fix software defects or security vulnerabilities to the operating system, database and other third-party software that are furnished or used in the System.	Complies

G.3.3 Error Correction

Customer Requirement	Supplier Response
The Contractor shall investigate System errors to diagnose, debug, test, repair, replace and correct all malfunctions required for the System to perform in accordance with the Specifications stipulated in the Contract within ten (10) business days from the date of notification of System malfunction.	Complies

G.4. Upgrades and Enhancements

Customer Requirement	Supplier Response
The Contractor shall notify the Authority's Contract Manager whenever upgrades and/or enhancements to operating system, the software provided under the Contract or third party software become available and provide a proposal for the proposed enhancement and upgrade. The proposal shall describe the work to be performed, contain a detailed estimate of the labor involved by labor category, a lump sum price and a proposed schedule for the work, if applicable. The Contractor shall also provide the Authority's Contract Manager with an analysis of the potential effects of such upgrades/enhancements on the System. This analysis shall include, at a minimum, the following: • *Compatibility of the application software with the new operating system or third-party software* • *Potential increases or decreases in System performance* • *The availability of product support for the current (older) version of the operating system or third party software* • *The testing required ensuring that the upgrade will perform as expected* • *The cost of the software upgrade, including testing and any other tasks*	Complies

Customer Requirement	Supplier Response
which may be associated with the upgrade *The Authority's Contract Manager will then determine whether to order the upgrade. If the Authority's Contract Manager selects the upgrade, the Contractor shall perform the recommended testing. The testing shall be conducted at the Contractor's facility in an environment designed to support the Authority's site implementation. If there is an incremental cost involved with the System upgrade then this work shall be completed under the Supplemental Work provision of the Contract.*	

G.5. Supplemental Work

Customer Requirement	Supplier Response
The Authority's Contract Manager will notify the Contractor whenever Supplemental Work is requested. In response to the request, the Authority's Contract Manager shall submit a proposal that describes the work to be performed, contain a detailed estimate of the labor involved by labor category, a lump sum price and a proposed schedule for the work. The Contractor shall also provide the Authority's Contract Manager with an analysis of the potential effects of the requested supplemental work on the System. Supplemental work may include, but not limited to, design, development and implementation of custom reports, development of new enhanced features to the System, installation of new permanent NMT unit, purchase of new NMT unit(s), etc. *In response to the Authority's Directive, the Authority's Contract Manager shall submit a written proposal that describes the work to be performed, contain a detailed breakdown of the labor involved by labor category, and state a firm lump sum price and a proposed schedule for the Work. The Work expended to prepare proposals is not a reimbursable expense. Labor costs to perform the work shall reflect the unit cost for labor itemized in the Attachment B, Part II - Cost Proposal Tables, accepted by the Authority and made a part of the Contract, for Unit Costs for Supplemental Work. Prior to performance of any Supplemental Work, the Authority's Contract Manager shall approve any such Work in writing prior to execution.*	Complies

G.6. Hours of Scheduled Maintenance

Customer Requirement	Supplier Response
Scheduled preventive maintenance of System components shall be conducted between the hours of 8:00 PM and 5:00AM EST.	Complies

G.7. System Administration

Customer Requirement	Supplier Response
The Contractor shall perform all system administration tasks and functions in accordance with the Contract and best industry Information Technology IT Standards, Guidelines and practices. The Contractor shall be responsible for routine operation of the system, management of the hardware configuration, files and data, diagnosing and effecting correction of all problems that impact system operations. The Contractor shall perform all tasks necessary to assure functioning of the system at the required standards of performance and availability defined herein and in Section IX.A.3 "Operational Availability".	Complies

G.8. Disaster Recovery Plan

Customer Requirement	Supplier Response
The Contractor shall create, review and test the Disaster Recovery Plan in accordance with the requirements stated in Exhibit 5. In the event a catastrophic event causes damage to the System or a portion of the System's components, the Contractor shall restore the System and its operation in accordance with the approved Disaster Recovery Plan.	Complies

The application services are hosted in the Data Centre facilities located on Sacramento CA. The systems are fully duplicated to an alternative Data Centre in Australia. Data is replicated between the two sites to allow either site to be the primary site.

In the event of a catastrophe the Disaster Recovery Plan will be initiated and the relevant connections will be redirected to the secondary site. The systems are designed to automatically recover any gaps in data that may occur during the switchover.

THE PORT AUTHORITY OF NY & NJ

April 24, 2013

Email: Nicole.Eib@bksv.com
Robert.Brodecky@bksv.com

Bruel & Kjaer
1050 Fulton Ave, Suite 213
Sacramento, CA 95825

Attn: Ms. Nicole Eib, Account Manager
Attn: Mr. Robert Brodecky, Vice President Americas

RE: **AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS, COLLECTIVE #31644 – REQUEST FOR "BEST AND FINAL OFFER" – CLARIFICATIONS**

Dear Ms. Eib and Mr. Brodecky:

The Port Authority of New York and New Jersey ("Port Authority") is hereby inviting Bruel & Kjaer to submit a Best and Final Offer ("BAFO") response for the above referenced proposal, using the same format as supplied in the solicitation document. This invitation to submit a BAFO shall not be construed as an acceptance of your proposal.

At this time, the Port Authority requires further clarification on the following:

1. Section H.1 in the original proposal contains the NoiseOffice Services (Draft). The Authority understands that this is a draft version but we wanted to confirm the following:
   Is Appendex A in B&K's proposal submission in Section H.1 intended to be B&K's proposed Maintenance Plan as requested in the original RFP document, Section F, Subsection 2, "Technical Proposal" page 18? If yes, please resubmit a revised Maintenance Plan including the requirements outlined in the original RFP document, Attachment C, Scope of Work, Section IX, Maintenance of the System, page 37. If the Appendix A is not the proposed maintenance plan, B&K is hereby requested to remove Appendix A in its entirety and submit a Maintenance Plan as requested in the original RFP document.

2. Attachment B, "Part III (A) – Cost Proposal Form related to related to Table 1D, Hardware Installation and Table 3, Contract Requirements seems excessive. Please consider a reduction in cost.

Procurement Department
2 Montgomery Street, 3rd Floor
Jersey City, NJ 07302
T: 201 395 3405

3. Attached is the Port Authority's response to Bruel & Kjaer's exceptions submitted in your original response dated January 29, 2013.

You are strongly encouraged to reduce your prices without diminishing the quality of the required service in the following areas but not limited to:

- Hardware Installation, Table 1D
- Contract Requirements Table 3
- Hourly Rates, Table 5
- Reduction for each Option Year Maintenance price

Please note that while reducing your prices may have a positive effect on your final ranking, such reduction will not guarantee that your company is awarded the contract, nor will declining to reduce your prices prohibit your company from being awarded the contract. You may elect to submit revised pricing with your response to this letter. Please attach related forms with revised pricing. A blank Cost Proposal Form is attached for your convenience. The Port Authority reserves the right to select the proposal that is in the best interests of the Port Authority.

Your response shall be submitted via e-mail to baforesponse@panynj.gov by **2:00 p.m, Monday, April 29, 2013.**

Due to e-mail file size restrictions, the size of eBAFO responses must be no greater than 9MB. If your response exceeds 9MB, you must split your response into multiple e-mails or the Port Authority may not receive your response. Clearly label each reply by identifying your reply as a split response and include the RFP Number and the number of that response (i.e., Split response for RFP 31644, 1 of 2).

Please **do not** send fax, e-mail or otherwise transmit your response to me. If you have any questions, I can be reached at 201 395-3430.

Sincerely,

Jeanette Anderson

Jeanette Anderson
Procurement Contracts Manager
Procurement Department

Dated: April 24, 2013		
Bruel & Kjaer's (B&K) Exceptions	**B & K Suggested revision**	**Port Authority's Response to Exceptions**
9. Payment	In clause A, the following text, "Payment for hardware will be made within thirty (30) days after operational acceptance of each hardware unit." is **replaced with** the following text: "Payment for hardwre will be made within thirty (30) days after delivery of each hardware unit."	The Port Authority agrees with the "Payment for hardwre will be made within thirty (30) days after delivery of each hardware unit." However, the one year warranty for the hardware shall not commence until equipment has been installed.
9. Payment	In clause A, append the following text: "Project Services are one-time services delivered during the Phase A and Phase B Implementtion Periods, and will be paid according to defined Project Services Payment Milestones defined I the Cost Proposal."	The Port Authority agrees with the payment schedule by Milestone; however, please provide the updated Table 2 under Section F.2.09 (Detailed Implementation Plan) reflecting the BAFO pricing. Additionally, demonstrate that the aggregate cost for Milestones matches the price provided in the Cost Proposal Form.
20. Default Revocation & Suspension of Contract	Change clause C.2 to replace "five (5) days" with "twenty (20) business days.	The Port Authority will agree to ten (10) days rather than five (5).
24. Insurance Procured by the Contractor	In paragraph 4, delete "Moveover, the Commercial General Liability Polcity shall not contain any provisions for exclusions from liability other than provisions for exclusion from liability forming part of the most up-to-date ISO form or its equivalent unendorsed Commercial General Liability Policy."	The Port Authority does not accept the proposed exception. B&K should rescind this exception.
24. Insurance Procured by the Contractor	Delete Paragraph 6 (beginning "The insurer(s) shall not, without obtaining the express advance written permission from the General Counsel...")	The Port Authority does not accept the proposed exception. B&K should rescind this exception.
24. Insurance Procured by the Contractor	In paragraph 8, replace "thrity (30) days' prior written notice" with "reasonable prior written notice."	The Port Authority does not accept the proposed exception. B&K should rescind this exception.
32. Indemnification & Risk Assumed by Contrator	Add the following test to clause 32: "Contractor's maximum aggregate liability under this Contract whether arising in contract, tort (including negligence) or otherwise, shall in no event exceed $5,000,000, SAVE THAT nothing in this Contract shall exclude or limit Supplier's liability to the Authroity, its commissioners, officers, representatives and employees for fraud, death or personal injury caused by the Contractor's neligence or any other liability to the extent that the same may not be excluded or limited as a matter of law."	The Port Authority does not accept the proposed exception. B&K should rescind this exception. However, the Port Authority is willing to discuss further.

Bruel & Kjaer's (B&K) Exceptions	B & K Suggested revision	Port Authority's Response to Exceptions
37. Authority Access to Records	Delete "All Contractor records shall be kept in the Port District (as defined in McKinney's Unconsolidated Laws 6403).	The Port Authority agrees with proposed language. However, Contractor is responsible for cost incurred to ship and return records to location.
New Appendix to General Contract Provisions	Append H.1 Bruel & Kjaer NoiseOffice Services as appendix to General Contract Provisions	The Port Authority does not accept the proposed exception. B&K should rescind this exception.

ATTACHMENT B

PART II - COST PROPOSAL FORM

COMPANY NAME _____

Vendor's pricing shall be "all inclusive" and firm for the term of the agreement. The prices shall include, but not be limited to, all delivery, installation, removal, equipment, labor, training, maintenance & support, insurance, project management and administrative services that the company provides in order to delivers Services that meet or exceed the requirements set forth in the Scope of Work of this RFP.

Entry of Prices:

1. The prices quoted shall be written in figures, in ink, preferably in black ink where required in the spaces provided on the Cost Proposal Form attached hereto and made a part hereof.

2. All Proposers are asked to ensure that all charges quoted for similar operations in the Contract are consistent.

3. Prices must be submitted for each Item required on the Cost Proposal Form.

4. All Proposers are asked to ensure that all figures are inserted as required, and that all computations made have been verified for accuracy.

5. The request for Hourly Rates apply to work associated with the Supplemental Work provision of the contract, which the Port Authority may or may not implement at its sole discretion.

6. Proposers shall identify any underlying cost-related assumptions in the section named "Assumptions", in the Cost Proposal Form.

April 24, 2013

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1A - Permanent and Portable Noise Monitoring Terminal Units

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Portable NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Grand Total ($):			

Note: Cost for Permanent and Portable NMT shall be inclusive of all accessories and peripherals including but not limited to housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – Handheld South Level Meters

Equipment	Cost ($)
Handheld Sound Level Meter (Per Unit)	
Total Cost for Two (2) Units	
Handheld Calibrator (Per Unit)	
Total Cost for Two (2) Units	
Grand Total ($):	

Note: Cost for handheld sound level meters and handheld calibrators unit shall include the carrying case for each unit.

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COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1C - Computer Hardware

Equipment	Cost ($)
One (1) Computer/Server for TEB to Record ATC Transmissions	
Grand Total ($):	

Note: Computer Systems for both TEB facility shall include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

April 24, 2013

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE ID – Hardware Installation

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit				11	
Installation of Portable NMT Unit				11	
Computer/Server for TEB to Record ATC Transmissions				1	
				Grand Total:	

Notes: 1. Equipment installation cost shall be inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost shall be inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

April 24, 2013

COST PROPOSAL FORM

SOFTWARE SERVICES

TABLE 2 - Software Services

Task	Cost ($)			
	Base 3 Years	First - 2 Yr Option	Second - 2 Yr Option	Third - 2 Yr Option
Transfer of 10 Year Historical Data		Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information				
NOMS Software (8 User Licenses)				
Web Based Software (Public Web Portal)				
Web Site Hosting for General Noise Information				
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)				
Voice To Data Transcription Service for Noise Complaints				
INM Noise Contour Calculation				
Noise Calculation at a Certain Chosen Location on a GIS Map				
Software Upgrades				
Additional User License				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

April 24, 2013

COST PROPOSAL FORM

CONTRACT SERVICES

TABLE 3 - Contract Requirements

Task	Cost ($)			
	Base 3 Years	First - 2 Yr Option	Second - 2 Yr Option	Third - 2 Yr Option
Contract Management and Administrative Services				
System Testing Requirements		Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation		Not Applicable	Not Applicable	Not Applicable
Ongoing Training				
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals - Training Manuals				
System Maintenance & Repair (Hardware & Software)				
System Support (On-Site Troubleshooting Support)				
Hardware and Software Warranty				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

April 24, 2013

COST PROPOSAL FORM

TOTAL COST

TABLE 4 - Estimated Total Contract Costs

		Total Cost ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	
TABLE 1B	Handheld Sound Level Meters	
TABLE 1C	Computer Hardware	
TABLE 1D	Hardware Installation	
TABLE 2	Software Services	
TABLE 3	Contract Requirements	
	Grand Total:	

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

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COST PROPOSAL FORM

HOURLY RATES

Table 5 - Hourly Rates for Supplemental Work – Straight Time

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Straight time is defined as normal business hours between 8:00 AM and 5:00 PM EST

Table 6 - Hourly Rates for Supplemental Work – Overtime

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Overtime is defined as time between 5:01 PM and 7:59 AM EST

April 24, 2013

COST PROPOSAL FORM

ASSUMPTIONS

Proposers should identify any underlying cost-related assumptions in this in the space below or on additional sheets if the space provide below is insufficient.

Brüel & Kjær

Responses to Additional Clarifications of March 28, 2013 for Airport Noise & Operations Management System Contract for John F. Kennedy (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports

RFP # 31644

April 2, 2013

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PANYNJ: BAFO2. Responsibility of Individuals
PANYNJ: BAFO3. Role of Subcontractor HMMH
PANYNJ: BAFO4. Project Team Members
PANYNJ: BAFO5. 16-Channel Logger for TEB ATC
PANYNJ: BAFO6. TEB ATC Logger Filters
PANYNJ: BAFO7. Integration of PlaneNoise IVRS
PANYNJ: BAFO8. Draft NoiseOffice Services Contract

ATTACHMENT B PART II – Cost Proposal Form **16**

Hardware Services
Software Services
Contract Services
Total Cost
Hourly Rates
Assumptions

Introduction

This document contains responses to the additional questions and clarifications requested by The Port Authority of New York and New Jersey ("Port Authority") from Brüel & Kjær EMS Inc, in the letter dated March 28, 2013.

This document includes revision to F.1 Cost Proposal to include amendments and updates requested in discussion between Brüel & Kjær and the Port Authority.

This document should be read in conjunction with the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports, clarifications provided by Brüel & Kjær dated March 13, 2013 and February 25, 2013 and the presentation delivered on February 25, 2013.

Best and Final Offer Clarifications

PANYNJ: BAFO1. Video Taping Training

Will Brüel & Kjær have the ability to videotape training and will it be at no additional cost?

Brüel & Kjær will provide recorded training materials to the Port Authority though the FOCUS customer portal. This provides 24x7 access to the latest training materials at no additional cost to the Port Authority.

Brüel & Kjær has no objection to the Port Authority videotaping its specific training sessions in New York, except that distribution and use of the recordings is limited to Port Authority staff.

Alternatively, Brüel & Kjær can arrange for professional videotaping of the New York training sessions. Brüel & Kjær recommends that the parties discuss this option in further detail in order to clarify requirements and create a costed proposal.

PANYNJ: BAFO2. Responsibility of Individuals

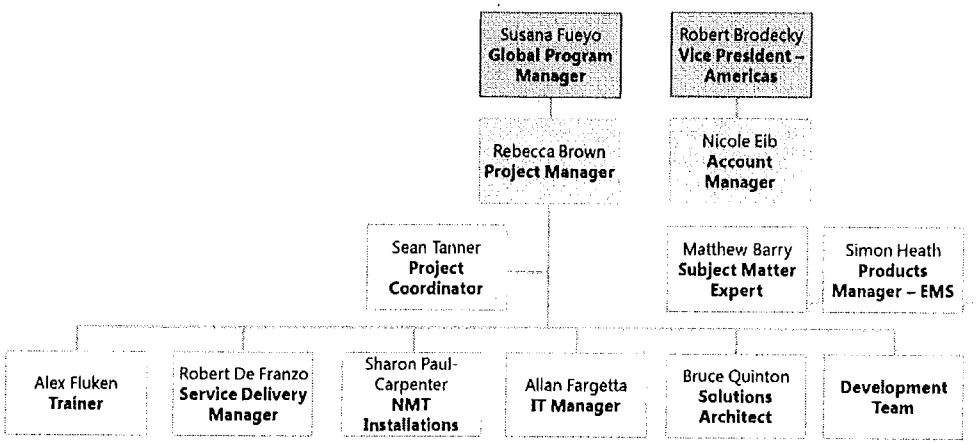
Confirm the responsibility and duration of the individuals as cited in your organization chart and management plan. Briefly explain the roles and responsibility of each individual for the duration of this project.

For the delivery of ANOMS to the Port Authority, Brüel & Kjær will mobilize a dedicated Integrated Project Team (IPT) consisting of the most skilled individuals in our business.

In accordance with Brüel & Kjær standard processes for major projects, on project initiation, IPT members are formally allocated to the project, and their task scope, effort and deliverables (according to the contract scope) are assigned. On agreement from the resource owners, who are also members of the IPT, the resources are formally committed to the delivery of the project until its satisfactory completion. The project status (delivery progress, schedule, resource allocation, dependencies etc.) is then reviewed (both internally and with the Port Authority) no less than weekly to mitigate potential risks and their impact.

During this process, inter-dependencies between the project tasks and team members are identified and the Project Manager is empowered to establish a management system and plan that relates resource allocation to the requirements and execution of the project. The Project Manager has a direct line of contact with the Global Program Manager who has the authority to make decisions on resourcing priorities and allocation.

For the deployment to the Port Authority, the key IPT members, their role and key deliverables have been identified:



Robert Brodecky – Vice President, Americas & Nicole Eib – Account Manager

Responsibilities	*Maintain whole contract oversight* *Project Steering Group member* *Level 1 & 2 Escalation path*
Duration	*Contract Duration*
Deliverables	*Document sign off & approval*

The Vice President, Americas, Robert Brodecky and the Port Authority Account Manager, Nicole Eib, will be a constant presence throughout both the deployment and services phases of the contract.

During the Project phase, Robert and Nicole will maintain oversight of progress through regular contact with Rebecca and Sean, and will actively participate in the Project Steering group and review formal project documents. Robert, as signatory on the contract, will maintain final sign off of all formal and contractual project documents.

Robert and Nicole also provide an escalation path as detailed in the response to Question BAFO4.

Susana Fueyo – Global Program Manager

Responsibilities	*Resource management & allocation* *Maintain oversight of full delivery* *Project Steering Group member* *Level 2 Escalation path*
Duration	*Project Deployment (Phases A and B)*
Deliverables	*Document sign off & approval*

The Global Program Manager, Susana Fueyo, is responsible for overseeing the delivery of the ANOMS system to the Port Authority and is the first escalation point for any issues that arise during the deployment phase.

Susana's role is to also ensure that the project is adequately resourced (all needed project and cross-functional skills) and to authorize the use of any resources, funding or facilities deemed necessary to satisfactorily deliver the project. Susana will be kept informed and involved in all aspects of the project through weekly touch points with Rebecca and Sean, being an active participant in Steering Group meetings, and a signatory on formal project documents, including the monthly project reports.

Rebecca Brown – Project Manager

Responsibilities	*Delivery and execution of the program of work* *Resource management & identification* *Financial management & reporting* *Level 1 Escalation path*
Duration	*Project Deployment (Phases A and B)*
Key Deliverables	*Project Management Plan* *Project Management Reports (inc. schedule revisions etc.)* *Compliance Matrix (construction and sign off)*

The Project Manager, Rebecca Brown, is responsible for the whole program of work and for the successful deployment of the project to schedule and budget. In this position, Rebecca's roles and responsibilities will be to:

a) Manage all financial aspects of the project, including reporting and contract management

b) Ensure all deliverables are completed on time and budget, to the quality expected of Brüel & Kjær EMS systems

c) Internal resourcing control, including ensuring additional resources are applied during critical phases of the project

d) Management and communication of all dependencies and risks

Rebecca will be dedicated to the delivery of ANOMS to the Port Authority as her first priority from commencement to handover to Services.

Sean Tanner – Project Coordinator

Responsibilities	*Oversee all local works and subcontractors* *Provide an in-time zone contact for the Port Authority* *Support the Project Manager*
Duration	*Project Deployment (Phases A and B)*
Key Deliverables	*Input to Project Management Plan* *Input to Project Management Reports (inc. schedule revisions etc.)* *Compliance Matrix (ongoing management)*

Rebecca will be supported locally by Sean Tanner, who will be taking on the position of Project Coordinator. In this position, Sean's roles and responsibilities will be to:

a) Oversee all local works and subcontractors

b) Provide an in-timezone contact for the Port Authority

c) Provide a liaison with the respective IT departments in the Port Authority and Brüel & Kjær to ensure successful integration of the systems

d) Support the Project Manager on all aspects of project deployment and liaise daily with the Project Manager to ensure the project deployment tasks and priorities are understood and agreed.

Sean will be dedicated to the delivery of ANOMS to the Port Authority as his number one priority from commencement to handover to the Brüel & Kjær Services team.

Bruce Quinton – Solutions Architect

Responsibilities	*Detailed design of the system* *Quality Assurance (QA) of the system*
Duration	*Project Deployment (Phase A and B)*
Key Deliverables	*Historical data migration plan* *Solution Definition Document, including system diagrams* *ANOMS SW design and configuration* *ANOMS SW tuning & quality assurance* *Site Acceptance & support through the operational period*

The Solutions Architect, Bruce Quinton, will be heavily involved in the project during the planning phase, completing the detailed design of the system in consultation with the Port Authority. Bruce will then oversee the build of the system including managing the

interfaces between Brüel & Kjær's technical teams and ensuring the final system meets Brüel & Kjær EMS quality standards.

Bruce and his team will directly support the onsite acceptance process.

Matthew Barry – Subject Matter Expert

Responsibilities	*Ensure the delivered system meets technical requirements*
Duration	*Project Deployment (Phases A and B)*
Deliverables	*Input where required to all technical documentation* *Document review where requested*

Brüel & Kjær Airport Products Manager, Matthew Barry will be consulted throughout the project in his role as Subject Matter Expert. Matthew has extensive knowledge of Airport Noise Monitoring and Brüel & Kjær EMS product suite which the Project Team will leverage as required.

Simon Heath – Products Manager & Development Resource Owner

Responsibilities	*Delivery of development tasks for the Port Authority*
Duration	*Project Deployment (Phases A and B)*
Key Deliverables	*Timely allocation of development resources to the required tasks* *Document review where requested*

Brüel & Kjær Products Manager, Simon Heath, will coordinate the resource plan with Susana to ensure all development tasks are scheduled appropriately and are adequately resourced. Simon will liaise weekly with Rebecca to ensure the resource plan is executed as agreed. Simon's active involvement in the IPT will also ensure all of the Port Authority's requirements will be addressed by the delivered system.

Alex Fluken – Trainer

Responsibilities	*Training delivery to the Port Authority*
Duration	*Project Deployment – Training Phase (Month 4 in provided schedule)*
Key Deliverables	*Training Plan* *Training Delivery* *Demonstration of the system during Site Acceptance*

The US Trainer, Alex Fluken, will be part of the IPT from the project commencement with his involvement dramatically increasing during the system tuning and QA in preparation for his leadership of the training program. This best practice approach ensures that he is

intimately familiar with the delivered system and any particular requirements unique to the Port Authority.

Rob De Franzo – Service Delivery Manager

Responsibilities	*Ongoing dedicated Port Authority representative within Brüel & Kjær.*
Duration	*Contract Duration*
Key Deliverables	*Services handover recipient* *Ongoing customer management tasks*

Rob De Franzo is the assigned Service Delivery Manager for the system and is a key member of the Brüel & Kjær Services team for the Port Authority. Rob will be dedicated to the Port Authority and will take the role of their champion within Brüel & Kjær.

Rob will be kept informed of project progress, be a recipient of all project reports and made aware of any escalations or issues encountered. Rob's involvement progressively increases as he takes an active part in the system QA, the training program and the seamless transition from project phase to services. Following handover to the Brüel & Kjær Services team, Rob will become a constant presence in the day to day operation of the Noise Monitoring system as the key point of contact for the Port Authority.

Allan Fargetta – IT Manager

Responsibilities	*Providing appropriate infrastructure to support the system*
Duration	*Project Deployment (Phase A)*
Key Deliverables	*VPN connection* *Accurately sized hardware & connections* *Data Center Management* *Disaster recovery & back plans*

The IT Manager, Allan Fargetta, will be involved in the planning and deployment phases of the project, supporting the Solutions Architect with creating the connections between the Brüel & Kjær data center and the Port Authority's network. Allan and his team will also assist with sizing requirements for the system, ensuring capacity availability in the Data Centers, implementation of the system replication across the data centers, implementation of disaster recovery plan and ongoing IT related support.

Sharon Paul Carpenter – NMT Installations

Responsibilities	*Managing the team of engineers installing the new NMTs*
Duration	*Project Deployment Phase B (Hardware deployment) & Services*

Deliverables	*Installation of the NMTs, including resourcing plans* *Ongoing preventative maintenance of the NMTs*

Sharon Paul Carpenter will lead the installations of the Noise Monitoring Terminals. Rebecca and Sean will work with Sharon in the lead up to the installations to ensure resourcing is available to support the schedule. On commencement of the installations, Sharon will supervise her team, reporting back to Rebecca and Sean on progress. On handover to Services, Sharon's team will support the Port Authority with ongoing preventative maintenance of the Noise Monitoring Terminals.

PANYNJ: BAFO3. Role of Subcontractor HMMH

Briefly explain the roles and responsibility of the subcontractor HMMH for the duration of this project.

HMMH will develop and maintain INM studies and related data needed for all five PANYNJ airports for working with the RealContours™ software.

Brüel & Kjær will provide radar flight track and aircraft identification data to HMMH on a daily basis and HMMH processes will review the data and prepare the data for running with INM.

Daily contours and DNL exposure at virtual noise monitoring sites will be developed and reviewed by HMMH. These will then be made available to Brüel & Kjær for inclusion in the ANOMS system. Daily DNL results can also be developed and provided from any selected location within the modeling area.

HMMH will also develop and provide Monthly, Quarterly and Annual DNL contours as each period completes. These will be reviewed and made available when complete.

HMMH will also work with Brüel & Kjær to provide additional capabilities such as modeling single event contours on a selected track during the contract. HMMH will be responsible for keeping the modeling system up to date including upgrading the modeling as new versions of the INM are released.

PANYNJ: BAFO4. Project Team Members

Based on information provided in previous discussions, it is our understanding that no proposed ANOMS full-time project team member will be working on other projects; however, we understand that some full-time ANOMS project team members may be working on other non-ANOMS related projects. If correct, this represents a level of increased risk for the project and concern for the Authority. Towards this end, please describe your approach to minimize potential conflict and ensure that this project remains a priority. If a problem should develop, please provide your escalation procedures and expected time to remedy.

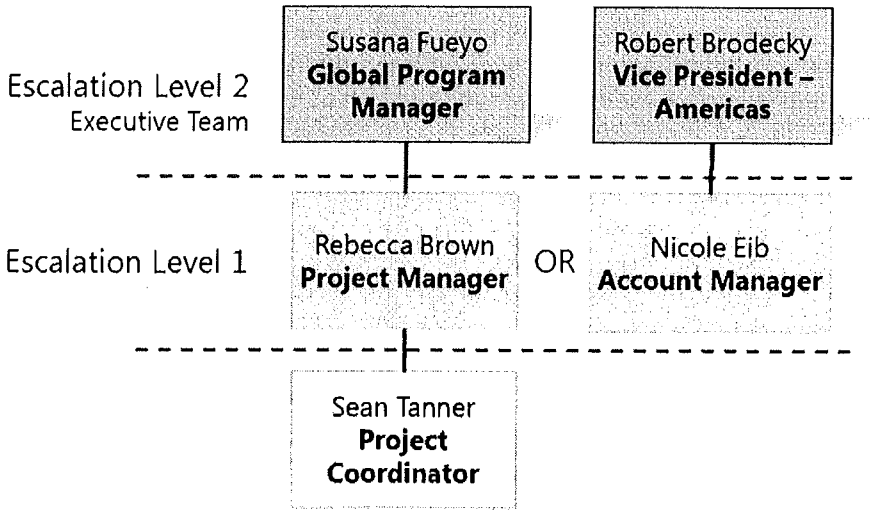
All members of the dedicated Integrated Project Team will have clearly defined tasks and roles in the project, scheduled in advance to minimize the potential for conflict. The risk of conflict arising and resources being unable to complete their work in the time allocated will be managed through weekly resourcing meetings with all key resource owners. Additionally the internal Brüel & Kjær weekly Executive Operational Meeting (attended by Susana, Simon and Robert) reviews the overall resource allocation and establishes plans to mitigate any potential conflicts arising.

For the deployment of ANOMS to the Port Authority, the two key Project Team members are Rebecca Brown and Sean Tanner. Rebecca and Sean will be dedicated to the delivery of the system to the Port Authority as their first priority.

The management of risk and the minimization of potential conflict across competing priorities is an everyday task the Projects team is well versed in. Brüel & Kjær's best practice Project Management methodology requires resource allocation to be based on the contractual scope and schedules agreed within each project. This allocation is formally approved by each of the resource owners at the time of project initiation.

These standard project management practices are based on the key concepts of rigorous planning, clear task allocations, formal agreements from resource owners and ongoing reviews (as per our communication plan) with all stakeholders to ensure agreed deadlines and standards are met.

Should the Port Authority, at any time, perceive that project performance, issues or risks are not being adequately addressed, there are two clear and accessible escalation paths available. Both escalation paths are ultimately owned by members of the Executive Team. It is our commitment to respond to items escalated to this level within one week or less.



PANYNJ: BAFO5. 16-Channel Logger for TEB ATC

The revised cost proposal, dated March 13, 2013, lists the inclusion of 16-channel logger in Table 1C. What is the function of the 16-channel logger for TEB ATC transmission recording system? The current system does not have the 16-channel logger. Please confirm if 16-channel is required for the TEB system.

The 16-channel digital logger is the state of the art recording subsystem that is specifically designed for Brüel & Kjær ANOMS solution.

The logger interface provides fully integrated monitoring and recording of any frequency. The digital logger is able to record ATC radios, NMT audio noise event recordings from microphones as well as recording phone calls.

The Port Authority RFP 31644 requires a minimum of a 10 channel recording system – alternative choices for subsystem sizes are 8- and 24-channels.

PANYNJ: BAFO6. TEB ATC Logger Filters

Table 1C lists "[no filters included]" for 10 "Radios with trays, power supplies and Switch". Please explain what is the function of these filters and why aren't they included? The current system at TEB has no specification on filters.

The filters are used in conjunction with the radios as frequency bleed-over may occur for channels that are grouped closely on the frequency spectrum and their use provide a higher clarity to the radio reception. Since basic Bearcat scanners were used previously we do not believe that the filters are required.

PANYNJ: BAFO7. Integration of PlaneNoise IVRS

Response PANYNJ: 049 (Integration of PlaneNoise IVRS), dated March 13, 2013, indicates that Brüel & Kjær is amenable to use PlaneNoise services for IVRS instead of Twilio. It is our understanding that if the Authority decides to stay with its current contractor (PlaneNoise), then the cost of $13,000 provided in Table 2 of the cost proposal for base 3 year contract will be eliminated and Brüel & Kjær will "absorb up to $5,000 for its integration costs without charge and will lower its current recurrent charges by $150 per month." If the Authority decides to stay with the PlaneNoise then will likely renew its existing contract and payment will be made directly to PlaneNoise as per current arrangement. Based on this setup, it is our understanding that the aforementioned setup and monthly fees will be reimbursed to the Authority for any additional cost charged by PlaneNoise to link with Brüel & Kjær's database. Please confirm if you concur with our understanding, if yes then what would be the mechanism of reimbursing the authority.

If the Authority contracts directly with PlaneNoise and then requires Brüel & Kjær to integrate with PlaneNoise, then cost adjustments are required.

1. Integration costs

Brüel & Kjær will work with the Authority and PlaneNoise to minimize the integration costs for all parties.

The Authority will need to contract with PlaneNoise to deliver an interface for Brüel & Kjær to use in data retrieval. A suitable interface may already exist. If an interface needs to be developed, Brüel & Kjær would expect that PlaneNoise's costs would not be paid by Brüel & Kjær.

Brüel & Kjær has allowed up to $5,000 to complete its part of the integration work. While Brüel & Kjær believes this is an adequate allowance for carrying out the work, it is possible that the interface offered by PlaneNoise will be more complicated than expected or require expensive third party licenses. In this case Brüel & Kjær reserves the right to pass on the costs that are in excess of $5,000. Brüel & Kjær will not rebate the $5,000 if less cost is incurred in developing the interface.

2. Support

The cost proposal was previously adjusted to remove the budget allocated for the ongoing costs of the complaints IVRS, with the assumption that the Port Authority would directly contract with the IVRS provider. Accordingly, substituting PlaneNoise for Twilio does not change the cost of Table 2 line items for "Noise Complaint Hotline with Automated Voice Prompts" and "Voice To Data Transcription Service for Noise Complaints".

PANYNJ: BAFO8. Draft NoiseOffice Services Contract

The NoiseOffice Services Agreement is a standard contract template that is structured such that included services are listed in Schedule A, with excluded services marked "Not Included".

Section H.1 in the original proposal contains the NoiseOffice Services (Draft). The Authority understands that this is a draft version but we wanted to point out the following items which do not conform to the Authority's Scope of Work:

i. Page 6 of 21: Item 5.1(b) states that "fault finding and diagnosis may require Customer staff to travel to remote equipment sites to assess local conditions and to reboot/restart equipment as necessary".

Brüel & Kjær takes full responsibility for meeting the service levels of the agreement, with our subcontractor providing Level 1 on-site services, and so this statement can be removed from the Services Contract.

ii. Page 12 of 21: schedule A states the Supplier Spares are not included however Item 6.4(a) on Page 8 of 21 states that "supplier shall provide the supplier parts at suppliers expense". It is unclear whether spares will be provided by Brüel & Kjær or not.

The Draft Agreement is a standard template. Supplier Spares are not included in the offer to the Port Authority, and are marked in Schedule A as "Not Included". As a requirement of on-site services ready available spares are provided at no additional charge.

iii. Page 10 of 21: Item 12.2 (Storage of Equipment) states that "If requested by Supplier, Customer shall provide source and adequate facilities adjacent to or reasonable proximity to the System for the storage by Supplier of tools, documentation, and other items necessary to provide the Services." The Authority would like to inform Brüel & Kjær that currently all NMT hardware and accessories are stored at TEB airport; however, that may change in the future depending on the location of the Aviation Department's central office. Brüel & Kjær's onsite maintenance contractor shall be prepared to pick up or drop off NMT equipment as needed under the supervision of the Authority's personnel.

There is no requirement to store equipment as we have a local subcontractor providing this service to meet our service levels. This section can be removed.

iv. Page 16 of 21: Schedule D, Item D.2 states that there is only one attendee allowed to attend the annual User Forum. The Authority shall be allowed to send maximum of five (5) attendees to the User Forum to have representation from each Airport.

Brüel & Kjær agrees to increase the number of attendees at the User Forum to a maximum of five (5).

v. Page 16 of 21: Schedule D, Item D.5(vi) states that "replacement of NMT batteries is not included as part of this service". Are the new batteries covered under the standard warranty?

New batteries are covered under Warranty.

Outside of Warranty, the cost of the replacement batteries is not included in the services provided. If replacement batteries are provided by the customer, Brüel & Kjær will replace the batteries free of charge during the annual Preventative Maintenance visit.

vi. Page 18 of 21: Schedule E, item E.1 lists Resolution Time for faults. The Authority believes the 31 day resolution time for 3: Minor Fault and Request (how do I questions) is unreasonably long. Also the days listed represent "calendar days" or "business days"?

Brüel & Kjær's standard resolution target for minor faults and requests is 31 calendar days. We also track our performance on resolution times and resolve over 85% of all issues within 7 days.

vii. Page 20 of 21: Schedule F, Item F.2 states that the "Supplier shall be entitled to increase the Service Fees one-year after the Effective Date and each year thereafter on the anniversary of the Effective Date". The Authority does not agree with this clause since this proposed Contract per the RFP requirements is a firm fixed price Contract with no price escalations.

This can be removed as our bid includes a fixed fee schedule for Services.

March 28, 2013

Email: Nicole.Eib@bksv.com
Robert.Brodecky@bksv.com

Bruel & Kjaer
1050 Fulton Ave, Suite 213
Sacramento, CA 95825

Attn: Ms. Nicole Eib, Account Manager
Attn: Mr. Robert Brodecky, Vice President Americas

RE: **AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS, COLLECTIVE #31644 – "BEST AND FINAL OFFER" – CLARIFICATIONS**

Dear Ms. Eib and Mr. Brodecky:

The Port Authority of New York and New Jersey ("Port Authority") is hereby inviting Bruel & Kjaer to submit a Best and Final Offer ("BAFO") response for the above referenced proposal, using the same format as supplied in the solicitation document. This invitation to submit a BAFO shall not be construed as an acceptance of your proposal.

At this time, the Port Authority requires further clarification on the following:

1. Will Bruel & Kjaer have the ability to videotape training and will it be at no additional cost?

2. Confirm the responsibility and duration of individuals as cited in your organization chart and management plan. Briefly explain the roles and responsibility of each individual for the duration of this project.

3. Briefly explain the roles and responsibility of the subcontractor HMMH for the duration of this project.

4. Based on information provided in previous discussions, it is our understanding that that no proposed ANOMS full-time project team member will be working on other projects; however, we understand that some full-time ANOMS project team members may be working on other non-ANOMS related projects. If correct, this represents a level of increased risk for the project and concern for the Authority. Towards this end, please describe your approach to minimize potential conflict and ensure that this project remains a priority. If a problem should develop, please provide your escalation procedures and expected time to remedy.

Procurement Department
2 Montgomery Street, 3rd Floor
Jersey City, NJ 07302
T: 201 395 3405

5. The revised cost proposal, dated March 13, 2013, lists the inclusion of 16-channel logger in Table 1C. What is the function of 16-channel logger for TEB ATC transmission recording system? The current system does not have the 16-channel logger. Please confirm if 16- channel is required for the TEB system.

6. Table 1C lists "[no filters included]" for 10 "Radios with trays, power supplies and Switch". Please explain what is the function of these filters and why aren't they included. The current system at TEB has no specification on filters.

7. Response PANYNJ: 049 (Integration of PlaneNoise IVRS), dated March 13, 2013, indicates that B&K is amenable to use PlaneNoise services for IVRS instead of Twilio. It is our understanding that if the Authority decides to stay with its current contractor (PlaneNoise), then the cost of $13,000 provided in Table 2 of the cost proposal for base 3-year contract will be eliminated and B&K will "absorb up to $5,000 for its integration costs without charge, and will lower its current recurrent charges by $150 per month." If the Authority decides to stay with the PlaneNoise then will likely renew its existing contract and payment will be made directly to PlaneNoise as per current arrangement. Based on this setup, it is our understanding that the aforementioned setup and monthly fees will be reimbursed to the Authority for any additional cost charged by PlaneNoise to link with B&K's database. Please confirm if you concur with our understanding, if yes then what would be the mechanism of reimbursing the Authority.

8. Section H.1 in the original proposal contains the NoiseOffice Services (Draft). The Authority understands that this is a draft version but we wanted to point out the following items which do not conform to the Authority's Scope of Work:
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   ii. Page 12 of 21: Schedule A states that Supplier Spares are not included however Item 6.4(a) on Page 8 of 21 states that "supplier shall provide the supplier spare parts at suppliers expense". It is unclear whether spares will be provided by B&K or not.
   iii. Page 10 of 21: Item 12.2 (Storage of Equipment) states that "If requested by Supplier, Customer shall provide source and adequate facilities adjacent to or reasonable proximity to the System for the storage by Supplier of tools, documentation, and other items necessary to provide the Services." The Authority would like to inform B&K that currently all NMT hardware and accessories are stored at TEB airport, however, that

may change in the future depending on the location of the Aviation Department's central office. B&K's onsite maintenance contractor shall be prepared to pick up or drop off NMT equipment as needed under the supervision of the Authority's personnel.

iv. Page 16 of 21: Schedule D, Item D.2 states that there is only one attendee allowed to attend the annual User Forum. The Authority shall be allowed to send maximum of five (5) attendees to the User Form to have representation from each Airport.

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vii. Page 20 of 21: Schedule F, Item F.2 states that the "Supplier shall be entitled to increase the Service Fees one-year after the Effective Date and each year thereafter on the anniversary of the Effective Date". The Authority does not agree with this clause since this proposed Contract per the RFP requirements is a firm fixed price Contract with no price escalations.

You are strongly encouraged to reduce your prices without diminishing the quality of the required service in the following areas but not limited to:

ANOMS Cost Proposal - Attachment B

- Table 1A Hardware Service
- Table 1B Handheld Sound Level
- Table 1C Computer Hardware

- Table 1D Hardware Installation
  Note; Your overall installation cost is to high, we strongly encourage a reduction in your price.

- Table 2 Software License
  - Specifically: Noise Complaint Hotline
    - Voice to Data Transcription
    - INM Noise Contour Calculation
    - Additional User License

- Table 3 Contract Requirements
  - Note: Your overall contract requirement in all the sections is too high, we strongly encourage a reduction in your price.

- Table 5 – Hourly Rates for Support Work –
  - Note: Your overall hourly rates for support work is too high, we strongly encourage a reduction in your price.

Please note that while reducing your prices may have a positive effect on your final ranking, such reduction will not guarantee that your company is awarded the contract, nor will declining to reduce your prices prohibit your company from being awarded the contract. Proposer may elect to submit revised pricing with this document. Attach related forms with revised pricing. The Port Authority reserves the right to select the proposal that is in the best interest of the Port Authority. Cost Proposal Form is attached for your convenience.

Your response shall be submitted via e-mail to baforesponse@panynj.gov by **COB, Tuesday, April 2, 2013.**

Due to e-mail file size restrictions, the size of eBAFO responses must be no greater than 9MB. If your response exceeds 9MB, you must split your response into multiple e-mails or the Port Authority may not receive your response. Clearly label each reply by identifying your reply as a split response and include the RFP Number and the number of that response (i.e., Split response for RFP 31644, 1 of 2).

Please **do not** send fax, e-mail or otherwise transmit your response to me. If you have any questions, I can be reached at 201 395-3430.

Sincerely,

Jeanette Anderson

Jeanette Anderson
Procurement Contracts Manager
Procurement Department

ATTACHMENT B

PART III (A) - COST PROPOSAL FORM

COMPANY NAME _____

Vendor's pricing shall be "all inclusive" and firm for the term of the agreement. The prices shall include, but not be limited to, all delivery, installation, removal, equipment, labor, training, maintenance & support, insurance, project management and administrative services that the company provides in order to delivers Services that meet or exceed the requirements set forth in the Scope of Work of this RFP.

Entry of Prices:

1. The prices quoted shall be written in figures, in ink, preferably in black ink where required in the spaces provided on the Cost Proposal Form attached hereto and made a part hereof.

2. All Proposers are asked to ensure that all charges quoted for similar operations in the Contract are consistent.

3. Prices must be submitted for each Item required on the Cost Proposal Form.

4. All Proposers are asked to ensure that all figures are inserted as required, and that all computations made have been verified for accuracy.

5. The request for Hourly Rates apply to work associated with the Supplemental Work provision of the contract, which the Port Authority may or may not implement at its sole discretion.

6. Proposers shall identify any underlying cost-related assumptions in the section named "Assumptions", in the Cost Proposal Form.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1A - Permanent and Portable Noise Monitoring Terminal Units

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Portable NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Grand Total ($):			

Note: Cost for Permanent and Portable NMT shall be inclusive of all accessories and peripherals including but not limited to housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – Handheld South Level Meters

Equipment	Cost ($)
Handheld Sound Level Meter (Per Unit)	
Total Cost for Two (2) Units	
Handheld Calibrator (Per Unit)	
Total Cost for Two (2) Units	
Grand Total ($):	

Note: Cost for handheld sound level meters and handheld calibrators unit shall include the carrying case for each unit.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1C - Computer Hardware

Equipment	Cost ($)
One (1) Computer/Server for NY TRACON to Collect and Transfer Flight Tracking Data	
One (1) Computer/Server for TEB to Record ATC Transmissions	
Grand Total ($):	

Note: Computer Systems for both TEB and NY TRACON facilities shall include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE ID – Hardware Installation

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit				11	
Installation of Portable NMT Unit				11	
Installation of Computer/Server for NY TRACON to Collect and Transfer Flight Tracking Data				1	
Computer/Server for TEB to Record ATC Transmissions				1	
				Grand Total:	

Notes: 1. Equipment installation cost shall be inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost shall be inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

COST PROPOSAL FORM

SOFTWARE SERVICES

TABLE 2 - Software Services

Task	Cost ($)			
	Base 3 Years	**First - 2 Yr Option**	**Second - 2 Yr Option**	**Third - 2 Yr Option**
Transfer of 10 Year Historical Data		Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information				
NOMS Software (8 User Licenses)				
Web Based Software (Public Web Portal)				
Web Site Hosting for General Noise Information				
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)				
Voice To Data Transcription Service for Noise Complaints				
INM Noise Contour Calculation				
Noise Calculation at a Certain Chosen Location on a GIS Map				
Software Upgrades				
Additional User License				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

COST PROPOSAL FORM

CONTRACT SERVICES

TABLE 3 - Contract Requirements

Task	Cost ($)			
	Base 3 Years	**First - 2 Yr Option**	**Second - 2 Yr Option**	**Third - 2 Yr Option**
Contract Management and Administrative Services				
System Testing Requirements		Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation		Not Applicable	Not Applicable	Not Applicable
Ongoing Training				
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals - Training Manuals				
System Maintenance & Repair (Hardware & Software)				
System Support (On-Site Troubleshooting Support)				
Hardware and Software Warranty				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

COST PROPOSAL FORM

TOTAL COST

TABLE 4 - Estimated Total Contract Costs

		Total Cost ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	
TABLE 1B	Handheld Sound Level Meters	
TABLE 1C	Computer Hardware	
TABLE 1D	Hardware Installation	
TABLE 2	Software Services	
TABLE 3	Contract Requirements	
	Grand Total:	

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

COST PROPOSAL FORM

HOURLY RATES

Table 5 - Hourly Rates for Supplemental Work – Straight Time

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Straight time is defined as normal business hours between 8:00 AM and 5:00 PM EST

Table 6 - Hourly Rates for Supplemental Work – Overtime

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Overtime is defined as time between 5:01 PM and 7:59 AM EST

COST PROPOSAL FORM

ASSUMPTIONS

Proposers should identify any underlying cost-related assumptions in this in the space below or on additional sheets if the space provide below is insufficient.

Brüel & Kjær

Responses to Additional Clarifications of March 7, 2013 for Airport Noise & Operations Management System Contract for John F. Kennedy (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports

RFP # 31644

March 13, 2013

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ATTACHMENT B PART II – Cost Proposal Form 15

Hardware Services
Software Services
Contract Services
Total Cost
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Assumptions

Introduction

This document contains responses to the additional questions and clarifications requested by The Port Authority of New York and New Jersey (the Authority) from Brüel & Kjær EMS Inc, in the letter dated March 7, 2013.

These additional clarifications were issued in follow up to the previous responses provided by Brüel & Kjær dated February 25, 2013 and the Presentation held on February 25, 2013.

This document includes revision to F.1 Cost Proposal to include amendments and changes requested in discussion between Brüel & Kjær and the Authority.

This document should be read inconjunction with the Brüel & Kjær response to response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

Additional Clarifications for Post Presentation

PANYNJ: 036. Proposer Prerequisite Contracts

Response GCI-NS:003.
Please provide the contract commencement dates and end dates for the projects Brüel & Kjær provided as to meet the prerequisites, for Section 3 of the RFP document, "Proposer Prerequisites", A and B and Attachment D, entitled: Proposer Reference Form.

Start Year	Customer	Project	End Date
2012	Burbank Glendale Pasadena Airport Authority	Development, project management, installation, contracted ongoing maintenance & support	Closing April 2013
2012	Denver International Airport	Development, project management, installation, contracted ongoing maintenance & support	2012
2012	Martin County – Stuart Airport	Development, project management, installation, contracted ongoing maintenance & support	2012
2011	Lee County Port Authority – Southwest Florida International Airport	Development, project management, installation, contracted ongoing maintenance & support	2013

Start Year	Customer	Project	End Date
2011	Aviation Department of Charlotte North Carolina Charlotte Douglas International Airport	Development, project management, installations, contracted ongoing maintenance & support	2012
2011	Austin Bergstrom International Airport	Development, project management, installation, contracted ongoing maintenance & support	2012
2010	City of Cincinnati – Cincinnati Municipal Lunken Airport	Development, project management, installation, contracted ongoing maintenance & support	2011
2010	City Of Chicago – O'Hare International Airport & Midway International Airport	Installation and upgrade of noise monitoring terminals. Installation and upgrade of software to ANOMS 8. Contracted ongoing maintenance & support services.	2011
2009	County of San Diego – Palomar Airport	Installation and retrofit NMTs, installation of ANOMS 6, then upgrade to ANOMS 8 software. WebTrak services. Contracted ongoing maintenance & support services	2010
2009	Los Angeles World Airports – LAX, ONT & VNY	Development and installation of an aircraft & noise monitoring and management system, including installation of permanent and portable noise monitoring terminals, ARTS direct connection and WebTrak. Contracted ongoing maintenance & support	2011
2008	City of Hayward – Hayward Executive Airport	Development, project management, installation, contracted ongoing maintenance & support	2009

PANYNJ: 037. HMMH Real Contours quality processes

Response GCI-NS: 008.
Please confirm if the contours generated using HMMH Real Contours feature is reviewed by HMMH's consultant for quality control and quality assurance (including both input and final contours)?

The service offered by HMMH includes quality assurance and control on the input and final contours generated by the system.

PANYNJ: 038. A- and D-weighted values in database

Response GCI-NS: 014.a
Brüel & Kjær indicated that an alternative approach for the Authority would be to calculate the D-weighted noise metrics from the 1/3rd Octave values for each noise event. Confirm if using this alternative approach provides the Authority both A and D weighted values in the database for each noise event?

Yes, if this approach is taken instead of modifying the instruments to carry out the D-weight calculation then Brüel & Kjær will make both A-weight and D-weight values available in the database.

There will be some limitations.

a) A slow time weight value for D-Weight will not be available since the 1/3rd octaves are not available with a slow time weighting at the same time as 1/3rd octaves LEQ values. Therefore the maximum level will be the LEQ maximum level and not the slow weight maximum level.

b) For each monitor the default noise event values (SEL, MAXLEVEL etc.) need to be nominated as using either the A-weight set of values or D-weight set of values. The alternative values will be available as additional columns in the database. It will be possible to use these additional columns for reporting or to trigger violations.

c) The NMT threshold levels for event detection will use A-weight values. These may need to be adjusted to get similar results as previously obtained when the D-weight values were used for as the threshold levels.

d) Noise climates (DNL etc.) will be based on the default noise event levels. That is there will not be columns to calculate DNL based on A-weight and D-weight. One or the other will be used as per the event values.

PANYNJ: 039. A- and D-weighted 1/3rd octave setup

Response GCI-NS: 014.b
Is there an additional cost for using the 1/3rd Octave setup to acquire both A and D weighted noise measurements?
If yes, please provide the cost.
For clarification purposes, currently all of Authority's portable NMTs are configured with A weighting while all permanent sites (used for issuing noise violations) measure noise in D weighting.
Therefore, the use of 1/3rd Octave values would be needed only for 11 permanent sites (6 at JFK, 3 at EWR, and 2 and LGA).

There will be no additional charge provided this work is substituted for the calculation of the D-weight values in the NMT. The feature will be available to all new NMTs regardless of whether they are portable or fixed. There is no bid cost implication for supporting additional instruments.

Returning more data may have implications for communications costs depending on the service contract that the Authority negotiates.

Additional Clarifications for Technical Proposal

PANYNJ: 040. Integration of PlaneNoise IVRS

On page 87, of Section F.2, Technical Proposal, Brüel & Kjær indicated, "B&K will be happy to discuss the option of ... Authority to continue using its existing service provider (for noise complaints)". Confirm if Brüel & Kjær amenable to integrate the services provided by PlaneNoise into its ANOMS solution instead of using Twilio Service. If so, what is the cost difference if any?

Brüel & Kjær is amenable to use PlaneNoise services instead of Twilio for the IVRS provision.

Using PlaneNoise, Brüel & Kjær will absorb up to $5000 for its integration costs without charge, and will lower its recurrent charges by the $150 per month.

The Authority is responsible for negotiating the agreement with PlaneNoise and payment of any fees for access to PlaneNoise services.

PANYNJ: 041. Use of ISO:9000

Page 28 of the Section F.2, Technical Proposal states that B&K is ISO:9000 certified company. Confirm whether the disciplinary procedures related to company's employees is covered in ISO:9000 or not? If not, provide information on company's disciplinary procedures? What are the key features of B&K's ISO:9000 certification, which can be associated or applied to this project?

Brüel & Kjær ISO quality processes include continuous improvement but not specifically disciplinary procedures.

A key element of continuous improvement is complaint handling. All customer complaints are reviewed and actions are recommended to address the failure. Should a complaint relate to an individual's performance then this will be recorded as part of their performance evaluation. In severe cases, disciplinary action will be taken.

All Brüel & Kjær employees have a formal Performance Evaluation conducted on an annual basis. When performance is below expected levels the evaluation process allows for short term goal assessments. In these situations, the individual's performance is assessed on a more regular basis until performance improves or alternative actions are taken.

The Brüel & Kjær Sound and Vibration Measurement ISO certification – of which EMS is a part – is for ISO 9001:2008 with the scope "Development, production, sales and servicing of technical equipment for measurement and analysis of sound and vibration".

Brüel & Kjær meets these quality objectives using the following strategies:

- Know your area of responsibility - and meet the required competences
- Manage and improve processes by setting objectives, followed by measuring and evaluating KPIs
- Manage non-conformances through proper remedial actions
- Take appropriate corrective action when planned results are not achieved
- Use structured methods for all improvement activities and problem solving
- Use audits to identify the weak spots in processes
- Prioritize efforts committed to continual improvement of quality and delivery adherence by using the resources in areas where the greatest benefits are gained

To gain full benefits from the strategies the following basic principles are followed:

- Do things right the first time - even if it takes a little longer
- Regard quality management as the responsibility of all as well as of the individual
- Document what we do, do what we have written, and always look for better ways to do our work
- If necessary, adapt to the situation without compromising the principles and without sub-optimizing

Brüel & Kjær's disciplinary procedures are in line with this policy, as is our project management methodology, where the focus is on transparency in all that we do and the quality of the output.

Brüel & Kjær uses industry standards to manage both project delivery and on-going services. Project delivery uses Prince2 which is closely linked with ITIL. Service management processes are based on Information Technology Infrastructure Library (ITIL). ITIL is a set of processes for management of IT infrastructure according to global best practice. Many of our staff are certified ITIL practitioners and Brüel & Kjær uses ITIL-based processes for Incident, Problem, Escalation and Change management.

PANYNJ: 042. Costs of System Support

Please detail all cost associated with the cost for System Support (On-Site Troubleshooting Support) listed as $200,900 in Table 3 for the Base contract. List Brüel & Kjær and assumptions made to arrive at the cost.

The cost of $200,900 is over a three year period.

To simplify the answer the annual fee will be treated as $70,000, which is broken down as follows

Labor ($36,000)

It is estimated there will be 2 failures per NMT per year requiring On-Site Troubleshooting. This will include verification of power and communications.

On-Site call outs

callouts = #nmts X 2 = 44

Labor only estimate – 2 people @ 2hrs x 44 = 176 hrs

On-Site repairs

25% of call outs will require repair works including swap out of parts

Labor only estimate – 2 people @ 4hrs x 11= 88 hrs

On-Site direct costs for Fixed monitors ($19,250)

It is estimated that there will be 5.5 failures per year on fixed monitors that will require the use of boom lift rental and the necessary lane closures with police supervision.

Spares and shipping ($15,000)

It is estimated 2 spare NMTs will be required to minimize downtimes caused by hardware failures, as well as shipping of faulty units for repair.

PANYNJ: 043. Cost of audio-streaming in NMTs

Provide the cost of audio streaming for NMTs. Currently, the Authority is not considering live stream capability but need this information for future.

The audio streamer is the technology that enables live audio streaming. One or more NMTs may optionally be fitted with live audio streaming hardware which will stream, in real time, the audio signal from the noise monitoring location for replay on any PC computer connected to the internet. Live audio streaming occurs in parallel with the normal noise monitor and audio recording capabilities of the standard NMT and does not affect it in any way.

The audio streaming solution is recommended for the fixed NMT sites only and is not available for NMTs with dial-up communications.

Item	Description	Unit Price	Units	Total	Note
AS1	Barix Box	$668	11	$7,348	One-time
AS2	Switch	$67	11	$737	One-time

Item	Description	Unit Price	Units	Total	Note
AS3	Cabling (arbitrary)	$122	11	$1,342	One-time
AS4	Installation*	$696	11	$7,656	One-time
	TOTAL One Time Fees			**$17,083**	One-time
AS5	Annual Support Services Fee (Base)	$171	11	$1,881	Per year
AS6	Annual Support Services Fee (Option 1)	$181	11	$1,991	Per year
AS7	Annual Support Services Fee (Option 2)	$192	11	$2,112	Per year
AS8	Annual Support Services Fee (Option 3)	$204	11	$2,244	Per year

* Fee waived if included in during initial project.

PANYNJ: 044. Role of project coordinator

Please detail the roles and responsibilities of Project Coordinator (Sean Tanner) for this project and the percentage of time dedicated to this Contract.

Both Rebecca Brown and Sean Tanner will be dedicated 100% to this project.

The Project Manager, Rebecca Brown, is responsible for the whole program of work and for the successful deployment of the project to schedule and budget. In this position, Rebecca's roles and responsibilities will be to:

a) Manage all financial aspects of the project, including reporting and contract management

b) Ensure all deliverables are completed on time and budget, to the quality expected of Brüel & Kjær EMS systems

c) Internal resourcing control

d) Management and communication of all dependencies and risks

Rebecca will be supported locally by Sean Tanner, who will be taking on the position of Project Coordinator. In this position, Sean's roles and responsibilities will be to:

a) Oversee all local works and subcontractors

b) Provide an in-timezone contact for the Port Authority

c) Provide a liaison with the respective IT departments in the Port Authority and B&K to ensure successful integration of the systems

d) Support the Project Manager on all aspects of project deployment and liaise daily with the Project Manager to ensure the project deployment tasks and priorities are understood and agreed.

The allocation of all project resources is assigned in accordance with the requirements of the scope of the project. Brüel & Kjær will assign both a Project Manager and Coordinator which will be 100% dedicated to this contract from commencement through

to Acceptance. During critical phases of the project, additional resources will be applied as required.

PANYNJ: 045. Use of Verizon Wireless service

Confirm whether the proposed 3G/4B wireless modems for NMTs will be able to working Verizon Wireless service or not?

Brüel & Kjær's preferred modems for use with the NMTs will work with Verizon Wireless services in 3G and 4G.

PANYNJ: 046. Check of Table 2 and Table 4 in Cost Proposal

Cost listed for each item on Table 2 of the Cost Proposal add up to 1,187,900, however, in Table 4, the total cost is listed as 1,137,800. Please confirm this error and submit the revised Table 4.

The amount of $1,137,800 represents the total costs of Software Services excluding the Additional User License costs. Without knowing how many additional user licenses would be required, it was not possible to include this in the total figure.

The row labeled "Additional User License" is the one-time cost of a single additional user license purchased during the Base, Option 1, Option 2 or Option 3 Period.

PANYNJ: 047. Export of historic flight track data

It is essential for the Authority to retain the historical flight tracking data for future NOMs contract. Will B&K provide the raw flight tracking data in Oracle database file format (saved on a DVD) on a quarterly basis?

B&K recognizes the value of historical data and the advantage of having this data available for any system on which the Port wishes to use this data. The data belongs to the Port and ANOMS allows the ability to easily export data at any time.

B&K will store the flight data for the duration of the contract and can supply this to PANYNJ at any time upon request.

B&K does provide as part of the Services Agreement the ability to request track data in an electronic format. Typically this is done for a month or a quarter.

Track Data will be supplied electronically and will include:

- All flights for the required term
- Each flight will include all flight details including Operation Number

- All track points (x,y,z) with reference to the airport

Brüel & Kjær has included Termination Services as part of the contract, to assist the Port with transition to a new service provider at the cessation of the Brüel & Kjær service agreement. Brüel & Kjær Termination Services includes up to 40 hours of professional services for any termination activity the Port specifies. Any additional work will be treated as ad hoc services.

Additional Clarifications to Cost Proposal

Brüel & Kjær has revised document F.1 Cost Proposal, to include the clarifications and changes requested by the Authority. The revised Cost Proposal is included as Attachment B Part II of this clarifications document.

PANYNJ: 048. Two phase NMT installation

Please provide the revised cost proposal to reflect the following:

i. Revised NMT installation cost to be performed in two phases instead of originally proposed three phases. The revised schedule will consist of delivery and installation of all 11 permanent NMTS in Q3/Q4 of 2013, and installation and/or delivery of 11 portable NMTs in Q2/Q3 of2014. Indicate any cost savings and assumptions based on this approach.

The originally proposed three phase installation of the NMTs was quoted as $233,200. By performing this work in two phases, the cost saving by the Port Authority is $9,300. Payment of these costs will be completed against milestones to be agreed between the Port Authority and Brüel & Kjær.

The breakdown of cost for performing the replacement in two phases is as follows:

Year/Quarter	NMTs	Airport	Install Day	Type	Total Price ($)
2013 Q3/Q4	11	3 Permanent NMTs for JFK	JFK-1	Permanent	$37,400
		3 Permanent NMTs for JFK	JFK-2	Permanent	$37,400
		2 Permanent NMTs for LGA	LGA-1	Permanent	$26,700
		3 Permanent NMTs for EWR	EWR-1	Permanent	$37,400
2014 Q2/Q3	11	4 Portable NMTs for JFK	JFK-3	Portable	$30,700
		4 Portable NMTs for LGA	LGA-2	Portable	$30,700
		3 Portable NMTs for EWR	EWR-2	Portable	$23,600
Grand Total:					$223,900

These costs are based on the assumption that the installation of the NMTs will take no longer than shown in the above table, i.e:

a) 6 Permanent NMTs will be installed at JFK over the span of 2 days in 2013, Q3/Q4

b) 2 Permanent NMTs will be installed at LGA over the span of 1 day in 2013, Q3/Q4

c) 3 Permanent NMTs will be installed at EWR over the span of 1 day in 2013, Q3/Q4

d) 4 Portable NMTs will be installed at JFK over the span of 1 day in 2014, Q2/Q3

e) 4 Portable NMTs will be installed at LGA over the span of 1 day in 2014, Q2/Q3

f) 3 Portable NMTs will be installed at EWR over the span of 1 day in 2014, Q2/Q3

Additional notes and assumptions to the above costs:

a) Equipment installation cost is inclusive of labor and all materials and/or tools necessary for installation.

b) Equipment installation cost is inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

c) Fixed NMT's will be on existing mounts and portable NMT's will be on newly designed mounts, similar to existing design.

PANYNJ: 049. Integration of PlaneNoise IVRS

ii.	*Cost for noise complaint management IF B&K is amenable to integrate ANOMS with PlaneNoise.*

Brüel & Kjær is amenable to use PlaneNoise services instead of Twilio for the IVRS provision.

Using PlaneNoise, Brüel & Kjær will absorb up to $5000 for its integration costs without charge, and will lower its recurrent charges by the $150 per month. The change in recurrent charges is shown in Table 2 as a lower fee for Automated Voice Prompts.

The Authority is responsible for negotiating the agreement with PlaneNoise and payment of any fees for access to PlaneNoise services.

PANYNJ: 050. A- and D-weighting capture configuration

iii.	*Cost for 11 NMTs configured with 1/3rd Octave setup to capture both A and D weighted values and associated database configuration for recording dual values for each noise event.*

On the basis that this feature replaces implementing the D-weight filters in the NMT, there is no change in cost.

PANYNJ: 051. Inclusion of HMMH Real Contours

iv. Include cost for HMMH's Real Contours service.

The fee for HMMH Real Contours One Time Set up cost of $61,000 is included in Table 3 under Phase A Project Implementation including Testing (One Time)

The fee for HMMH Real Contours Annual Support Services of $ 67,800 plus CPI escalation is included in Table 2 under INM Noise Contour Calculation

PANYNJ: 052. Inclusion of Buchair aircraft registry

v. Include cost for Buchair JP Fleets Aircraft Registry.

The fee for Buchair JP Fleets One Time Set Up Cost of $6,200 is included in Table 3 under Phase A Project Implementation including Testing (One Time).

The fee for Buchair JP Fleets Annual Subscription Fee (annual updates) of $4,500 plus CPI Escalation is included in Table 2 under Flight Data and Tracking Information.

Clarifications to Financial Review

Confirm that Brüel & Kjær will comply with the requirements below:

PANYNJ: 053. Letter of Credit

If awarded the contract, Brüel & Kjær EMS Inc ***would be required*** *to provide a Letter of Credit in their name* ***in the amount of $180,000*** *following the standard Port Authority format (see attached) for the successful completion of their proposed services.*

The company ***MUST PROVIDE*** *the security in the form of a Letter of Credit (LIC) that has been reviewed in* ***DRAFT FORMAT*** *by CCAR utilizing the Port Authority standard format. The LIC* ***must*** *be issued by an investment grade rated bank, which resides in the Port Authority's district of operation. If the company uses a bank outside of our district or a bank that is not investment rated or a bank that is unknown, the company must have its bank arrange an advising bank relationship where the advising bank is in our district and either provides for payment or guarantees the LIC.*

Please make sure the tenant or its bank contacts CCAR prior to issuing and sending any final version of the LIC.

Brüel & Kjær confirms that it will comply with this requirement. Our banking institution, JP Morgan Chase, has branches in both New York and New Jersey.

PANYNJ: 054. Signed W-9

The company selected for the contract is also required to provide a signed W-9 to verify their federal tax identification number.

Brüel & Kjær confirms that it will comply with this requirement.

March 7, 2013

Email: Nicole.Eib@bksv.com
Robert.Brodecky@bksv.com

Bruel & Kjaer
1050 Fulton Ave, Suite 213
Sacramento, CA 95825

Attn: Ms. Nicole Eib, Account Manager
Attn: Mr. Robert Brodesky, Vice President Americas

RE: **AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS, COLLECTIVE #31644 – ADDITIONAL CLARIFICATIONS**

Dear Ms. Eib and Mr. Brodecky:

As a follow-up to the responses received by Bruel & Kjaer dated February 25, 2013 and to the Presentation held on February 25, 2013, listed below are additional questions and clarifications requested by the Port Authority. Please submit your response by noon, Wednesday, March 13, 2013. Email your response to jeanette.anderson@panynj.gov followed by (1) original and four (4) copies of your responses to Ms. Jeanette Anderson, at the address listed below. Failure to provide the requested information may result in your proposal being deemed non-responsive.

Post Presentation

1. **Response GCI-NS:003:**
   Please provide the contract commencement dates and end dates for the projects Bruel & Kjaer provided as to meet the prerequisites, for Section 3 of the RFP document, "Proposer Prerequisites", A and B and Attachment D, entitled: Proposer Reference Form.

2. **Response GCI-NS:008:**
   Please confirm if the contours generated using HMMH Real Contours feature is reviewed by HMMH's consultant for quality control and quality assurance (including both input and final contours)?

3. **Response GCI-NS: 014:**
   a. Bruel & Kjaer indicated that an alternative approach for the Authority would be to calculate the D-weighted noise metrics from the 1/3rd Octave values for each noise event. Confirm if using this alternative approach provides the Authority both A and D weighted values in the database for each noise event?

b. Is there an additional cost for using the 1/3rd Octave setup to acquire both A and D weighted noise measurements? If yes, please provide the cost. For clarification purposes, currently all of Authority's portable NMTs are configured with A weighting while all permanent sites (used for issuing noise violations) measure noise in D weighting. Therefore, the use of 1/3rd Octave values would be needed only for 11 permanent sites (6 at JFK, 3 at EWR, and 2 and LGA).

Technical Proposal:

4. On page 87, of Section F.2, Technical Proposal, Bruel & Kjaer indicated, "B&K will be happy to discuss the option of ...Authority to continue using its existing service provider (for noise complaints)". Confirm if Bruel & Kjaer amenable to integrate the services provided by PlaneNoise into its ANOMS solution instead of using Twilio Service. If so, what is the cost difference if any?

5. Page 28 of the Section F.2, Technical Proposal states that B&K is ISO:9000 certified company. Confirm whether the disciplinary procedures related to company's employees is covered in ISO:9000 or not? If not, provide information on company's disciplinary procedures? What are the key features of B&K's ISO:9000 certification, which can be associated or applied to this project?

6. Please detail all cost associated with the cost for System Support (On-Site Troubleshooting Support) listed as $200,900 in Table 3 for the Base contract. List Bruel & Kjaer and assumptions made to arrive at the cost.

7. Provide the cost of audio streaming for NMTs. Currently, the Authority is not considering live stream capability but need this information for future.

8. Please detail the roles and responsibilities of Project Coordinator (Sean Tanner) for this project and the percentage of time dedicated to this Contract.

9. Confirm whether the proposed 3G/4B wireless modems for NMTs will be able to working Verizon Wireless service or not?

10. Cost listed for each item on Table 2 of the Cost Proposal add up to 1,187,900, however, in Table 4, the total cost is listed as 1,137,800. Please confirm this error and submit the revised Table 4.

11. It is essential for the Authority to retain the historical flight tracking data for future NOMs contract. Will B&K provide the raw flight tracking data in Oracle database file format (saved on a DVD) on a quarterly basis?

12. Please provide the revised cost proposal to reflect the following:
    i. Revised NMT installation cost to be performed in two phases instead of originally proposed three phases. The revised schedule will consist of delivery and installation of all 11 permanent NMTS in Q3/Q4 of 2013, and installation and/or delivery of 11 portable NMTs in Q2/Q3 of 2014. Indicate any cost savings and assumptions based on this approach.
    ii. Cost for noise complaint management IF B&K is amenable to integrate ANOMS with PlaneNoise.
    iii. Cost for 11 NMTs configured with 1/3rd Octave setup to capture both A and D weighted values and associated database configuration for recording dual values for each noise event.
    iv. Include cost for HMMH's Real Contours service.
    v. Include cost for Buchair JP Fleets Aircraft Registry.

Financial Review:

Confirm that Bruel & Kjaer will comply with the requirements below:

If awarded the contract, Bruel & Kjaer EMS Inc **would be required** to provide a Letter of Credit in their name **in the amount of $180,000** following the standard Port Authority format (see attached) for the successful completion of their proposed services.

The company **MUST PROVIDE** the security in the form of a Letter of Credit (L/C) that has been reviewed in **DRAFT FORMAT** by CCAR utilizing the Port Authority standard format. The L/C **must** be issued by an investment grade rated bank, which resides in the Port Authority's district of operation. If the company uses a bank outside of our district or a bank that is not investment rated or a bank that is unknown, the company must have its bank arrange an advising bank relationship where the advising bank is in our district and either provides for payment or guarantees the L/C.

Please make sure the tenant or its bank contacts CCAR prior to issuing and sending any final version of the L/C.

The company selected for the contract is also required to provide a signed W-9 to verify their federal tax identification number.

If you have any questions, contact Jeanette Anderson at 201 395-3430.

Sincerely,

Jeanette Anderson

Jeanette Anderson
Procurement Contracts Manager
Procurement Department

The Port Authority of New York & New Jersey
225 Park Avenue South, 12th Floor
Attn: Credit Manager
New York, NY 10003

Date_____

CLEAN IRREVOCABLE STANDBY LETTER OF CREDIT NO. _____(C)_____

At the request of _____(A)_____, we _____(B)_____ hereby open this CLEAN IRREVOCABLE LETTER OF CREDIT NO. _____(C)_____in your favor up to an aggregate of _____(D)_____ U.S. Dollars, available by your draft(s) on us at sight.

We warrant to you that all your drafts under this CLEAN IRREVOCABLE LETTER OF CREDIT WILL BE DULY HONORED UPON PRESENTATION OF YOUR DRAFT(S) drawn on us and presented to us at _____(E)_____ on or before the expiration date set forth below or future expiration date as indicated below. Our obligation under this Letter of Credit is the individual obligation of the Bank, in no way contingent upon reimbursement thereto, or upon our ability to perfect any lien or security interest.

All drafts must be marked "Drawn Under _____(B)_____ Letter of Credit No. ___(C)____ dated _____". Partial drawings under this Letter of Credit are permitted.

This CLEAN IRREVOCABLE LETTER OF CREDIT expires at the close of business on _____(F)_____ This CLEAN IRREVOCABLE LETTER OF CREDIT shall be automatically extended without amendment for additional periods of one (1) year from the present or each future expiration date unless we have notified you in writing not less than sixty (60) days before such date that we elect not to extend the Letter of Credit for such additional period, such notice to be sent by registered or certified mail to you at the address herein. Upon receipt by you of such notice you may draw on us at sight for the balance remaining in this Letter of Credit within the then applicable expiration date, no statement required.

EXCEPT AS OTHERWISE EXPRESSLY PROVIDED HEREIN, THIS LETTER OF CREDIT IS SUBJECT TO THE UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS (2007 REVISION) INTERNATIONAL CHAMBER OF COMMERCE PUBLICATION NO. 600.

_____
BANK OFFICER/REPRESENTATIVE

LEGEND:
A – INSERT APPLICANT NAME, I.E. TENANT OR LESSEE NAME
B – INSERT NAME OF ISSUING BANK
C – INSERT L/C IDENTIFICATION NUMBER
D – INSERT DOLLAR VALUE OF INSTRUMENT
E – INSERT EXACT ADDRESS OF LOCAL BANK BRANCH
F – INSERT EXPIRATION DATE-ONE YEAR FROM ISSUE DATE

*** Please instruct your Bank to have the Letter of Credit issued in the above format in "Draft" form and fax to Michael Mayurnik, Credit Manger, at (212) 435-5846 for approval **PRIOR** to issuance in "Original" form or email a Word file to MMayurni@panynj.gov. **If the draft is not reviewed in advance, the Letter of Credit can be rejected**. If you are in need of further assistance, Mr. Mayurnik can be reached at (212) 435-5838. ****

ATTACHMENT B

PART II - COST PROPOSAL FORM

COMPANY NAME _____

Vendor's pricing shall be "all inclusive" and firm for the term of the agreement. The prices shall include, but not be limited to, all delivery, installation, removal, equipment, labor, training, maintenance & support, insurance, project management and administrative services that the company provides in order to delivers Services that meet or exceed the requirements set forth in the Scope of Work of this RFP.

Entry of Prices:

1. The prices quoted shall be written in figures, in ink, preferably in black ink where required in the spaces provided on the Cost Proposal Form attached hereto and made a part hereof.

2. All Proposers are asked to ensure that all charges quoted for similar operations in the Contract are consistent.

3. Prices must be submitted for each Item required on the Cost Proposal Form.

4. All Proposers are asked to ensure that all figures are inserted as required, and that all computations made have been verified for accuracy.

5. The request for Hourly Rates apply to work associated with the Supplemental Work provision of the contract, which the Port Authority may or may not implement at its sole discretion.

6. Proposers shall identify any underlying cost-related assumptions in the section named "Assumptions", in the Cost Proposal Form.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1A - Permanent and Portable Noise Monitoring Terminal Units

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)			
Total Cost for Eleven (11) Units			
PortableNMT (Per Unit)			
Total Cost for Eleven (11) Units			
Grand Total ($):			

Note: Cost for Permanent and Portable NMT shall be inclusive of all accessories and peripherals including but not limited to housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – Handheld South Level Meters

Equipment	Cost ($)
Handheld Sound Level Meter (Per Unit)	
Total Cost for Two (2) Units	
Handheld Calibrator (Per Unit)	
Total Cost for Two (2) Units	
Grand Total ($):	

Note: Cost for handheld sound level meters and handheld calibrators unit shall include the carrying case for each unit.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1C - Computer Hardware

Equipment	Cost ($)
One (1) Computer/Server for NY TRACON to Collect and Transfer Flight Tracking Data	
One (1) Computer/Server for TEB to Record ATC Transmissions	
Grand Total ($):	

Note: Computer Systems for both TEB and NY TRACON facilities shall include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE ID- Hardware Installation

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit				11	
Installation of Portable NMT Unit				11	
Installation of Computer/Server for NY TRACON to Collect and Transfer Flight Tracking Data				1	
Computer/Server for TEB to Record ATC Transmissions				1	
				Grand Total:	

Notes: 1. Equipment installation cost shall be inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost shall be inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

COST PROPOSAL FORM

SOFTWARE SERVICES

TABLE 2 - Software Services

Task	Cost ($)			
	Base 3 Years	**First - 2 Yr Option**	**Second - 2 Yr Option**	**Third - 2 Yr Option**
Transfer of 10 Year Historical Data		Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information				
NOMS Software (8 User Licenses)				
Web Based Software (Public Web Portal)				
Web Site Hosting for General Noise Information				
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)				
Voice To Data Transcription Service for Noise Complaints				
INM Noise Contour Calculation				
Noise Calculation at a Certain Chosen Location on a GIS Map				
Software Upgrades				
Additional User License				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

COST PROPOSAL FORM

CONTRACT SERVICES

TABLE 3 - Contract Requirements

Task	Cost ($)			
	Base 3 Years	First - 2 Yr Option	Second - 2 Yr Option	Third - 2 Yr Option
Contract Management and Administrative Services				
System Testing Requirements		Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation		Not Applicable	Not Applicable	Not Applicable
Ongoing Training				
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals - Training Manuals				
System Maintenance & Repair (Hardware & Software)				
System Support (On-Site Troubleshooting Support)				
Hardware and Software Warranty				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

COST PROPOSAL FORM

TOTAL COST

TABLE 4 - Estimated Total Contract Costs

		Total Cost ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	
TABLE 1B	Handheld Sound Level Meters	
TABLE 1C	Computer Hardware	
TABLE 1D	Hardware Installation	
TABLE 2	Software Services	
TABLE 3	Contract Requirements	
	Grand Total:	

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

COST PROPOSAL FORM

HOURLY RATES

Table 5 - Hourly Rates for Supplemental Work – Straight Time

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Straight time is defined as normal business hours between 8:00 AM and 5:00 PM EST

Table 6 - Hourly Rates for Supplemental Work – Overtime

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Overtime is defined as time between 5:01 PM and 7:59 AM EST

COST PROPOSAL FORM

ASSUMPTIONS

Proposers should identify any underlying cost-related assumptions in this in the space below or on additional sheets if the space provide below is insufficient.

THE PORT AUTHORITY OF NY & NJ

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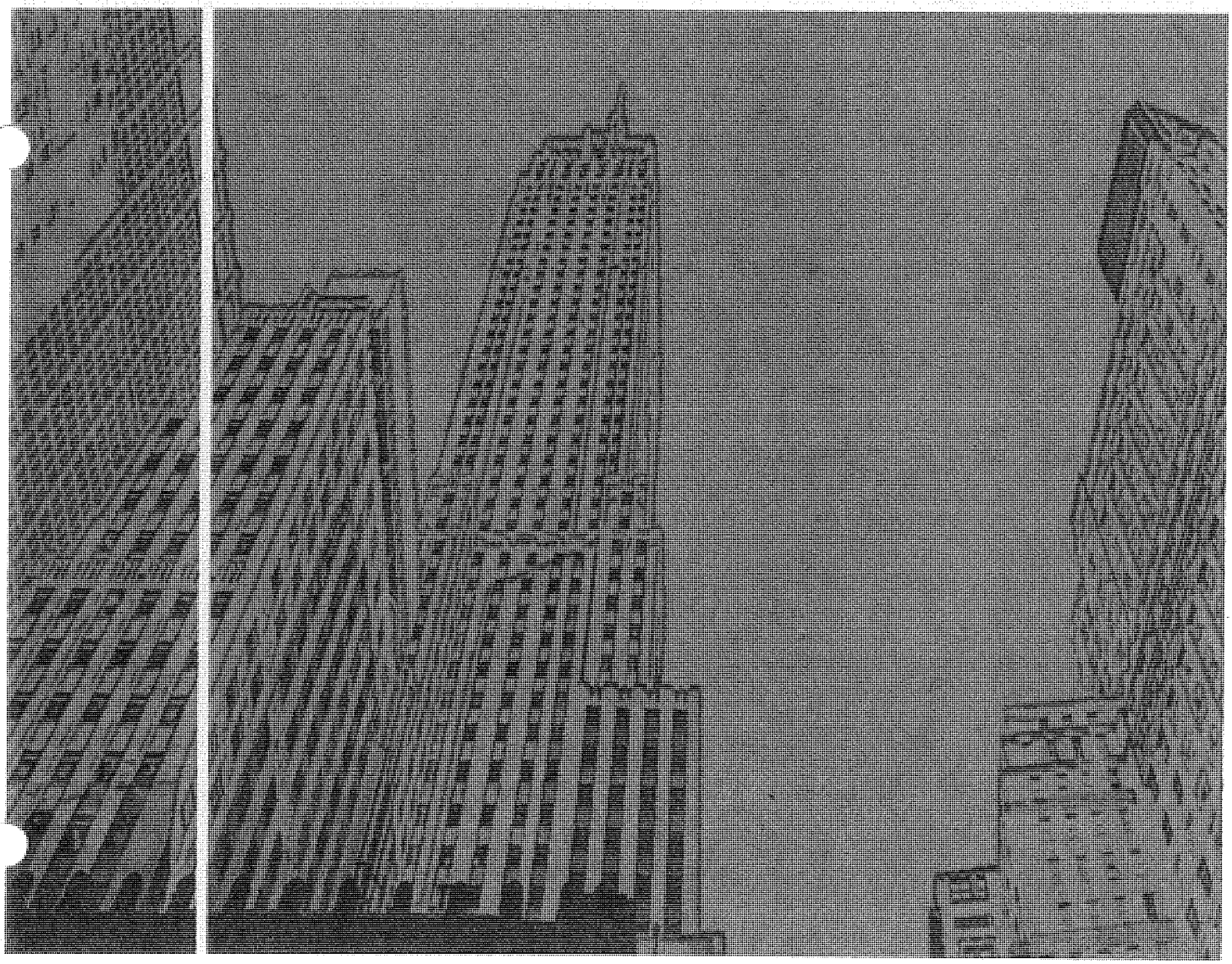
RFP #31644

NOMS Vendor Presentation & Responses to Clarification Questions

Airport Noise & Operations Management System Contract for John F. Kennedy (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports



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Airport Noise & Operations Management System

(ANOMS) Presentation

Understanding Your Program

- **EONS – Sustainability Plan**
  - Economic Viability, Operational Efficiencies, Natural Resource Conservation, Social Responsibilities
- **Working with Coalitions**
  - Local Government, Community Groups, Aviation Development Council
- **Operational Efficiencies**
  - Improve work force effectiveness and responsibilities, Enhanced tools for operational effectiveness, Consider Community needs
- **Individual Airport Requirements**
  - Departure Noise Limits, Preferential Runway Use, Noise Abatement Departure Procedures, Manage Curfews, Overnight Closure, Noise Complaint Collection Systems

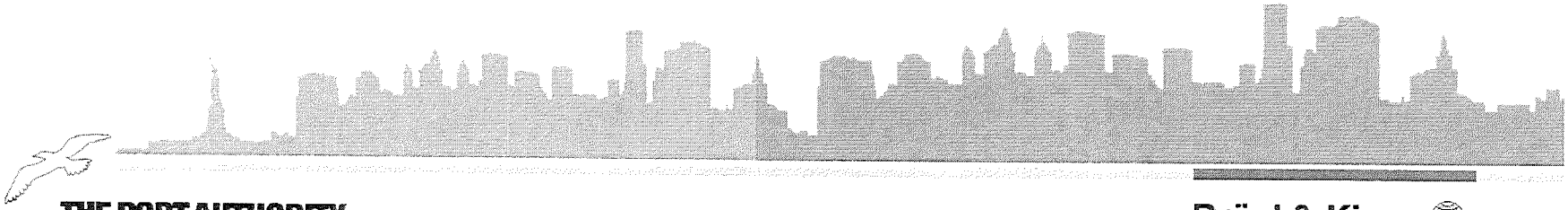
Agenda

- Team introductions
- Implementation methodology
- Key product capabilities
- Training & ongoing services

Your Integrated Project Team

think *globally*,
act *locally*.

- Susana Fueyo — **Global Program Manager**
- Robert Brodecky — **Vice President – Americas**
  - Nicole Eib — **Account Manager**
- Rebecca Brown — **Project Manager**
  - Sean Tanner — **Project Coordinator**
  - Matthew Barry — **Subject Matter Expert**
  - Simon Heath — **Products Manager – EMS**
  - Alex Fluken — **Trainer**
  - Robert De Franzo — **Service Delivery Manager**
  - Sharon Paul-Carpenter — **NMT Installations**
  - Allan Fargetta — **IT Manager**
  - Bruce Quinton — **Solutions Architect**
  - **Development Team**



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Projects Team Deployment Experience

Susana Fueyo – Global Program Manager

- PDX
- ARN
- GOT
- BMA
  +13 LFV
- SYD
- MEL
  +11 AUS
- LUX
- PRG
- BRS
- AMS
- BCN
- ALC
- AGP
- VLC
- PMI
- SOU

Rebecca Brown – Program Lead

- APA
- CPH
- LIS
- OPO
- FAO
- FNC
- EIN
- HEL
- SEN
- HKG
- ZAG
- ASA*

Bruce Quinton – Solutions Architect

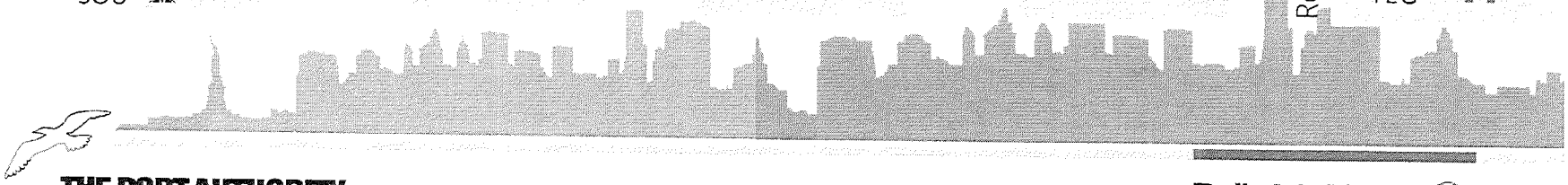
- SYD
- MEL
  +9 AUS
- YVR
- HEL
- ALC
- BCN
- PMI
- AGP
- VLC
- WAW

Sean Tanner – Project Coordinator

- ABE
- APA
- AUS
- BUR
- CLT
- CRG
- DEN
- FXE
- HPN
- OAK
- RSW
- SUA
- YTZ
- YYZ
- YUL

Rob De Franzo – Senior Service Delivery Manager

- ABE
- AUS
- BCT
- CMH
- CVG
- DEN
- FLL
- FXE
- HPN
- LAX
- MIA
- ONT
- ORD
- PBI
- VNY
- YEG



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Sub-contractual Relationships

Clarification questions 1 & 2

Name	Role	Past Collaborations
Harris Miller Miller & Hanson Inc.	Provide RealContours™ Version 2 and assist with NOMS reporting	LAWA, SAN, OAK RNO, SFO,
Digital Loggers Inc.	Supply and installation of air traffic control loggers for Teterboro Airport	BUR, YYZ, SFO, AUS, LAX
Paul Carpenter Associates, Inc.	MWBE Firm for Noise Monitoring Terminal Site Works, Installation and Maintenance/Services	PANYNJ World Trade Center Redevelopment Site PANYNJ Lincoln Tunnel Helix PANYNJ PABT PANYNJ LGA (RSA) Runway Safety Area Environment Assessment
PASSUR Aerospace	Flight track and flight plan data services	HPN ABE, SAN, SAC, MIA, FLL, FXE
Tele Atlas North America Inc (TomTom)	Vector street maps	LAX, ONT, VNY, SFO, DEN, ORD, & MDW
TerraNOVA International, LLC	Raster satellite imagery Vector Maps	LAX, ONT, VNY, ORD, SFO
ARINC Incorporated	D-ATIS Digital Automatic Terminal Information Services	First time collaboration

Implementation Methodology

Best Practices tailored to *Low Risk*

Sales Handover ▶ Planning & Delivery ▶ System Build & Tune ▶ Training & Acceptance ▶ Transition to Services

Handover Acceptance | Detailed Design Review | Training Readiness | System Acceptance

Clarification question 30

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Sean Tanner
Project Coordinator

Rebecca Brown
Project Manager

Susana Fueyo
Global Program Manager

Robert Brodecky
VP Americas

Toll free conference number

Communication & Escalation

Phase A – Software Deployment

Sales Handover → Planning & Delivery → System Build & Tune → Training & Acceptance → Transition to Services

Kick Off

Handover Acceptance

Detailed Design Review

Training Readiness

System Acceptance

Historic Data Conversion – Obtain, Convert & Assess

Interfaces – Establish & Connect

Static Data – Obtain & Import

Infrastructure – Size & Deploy

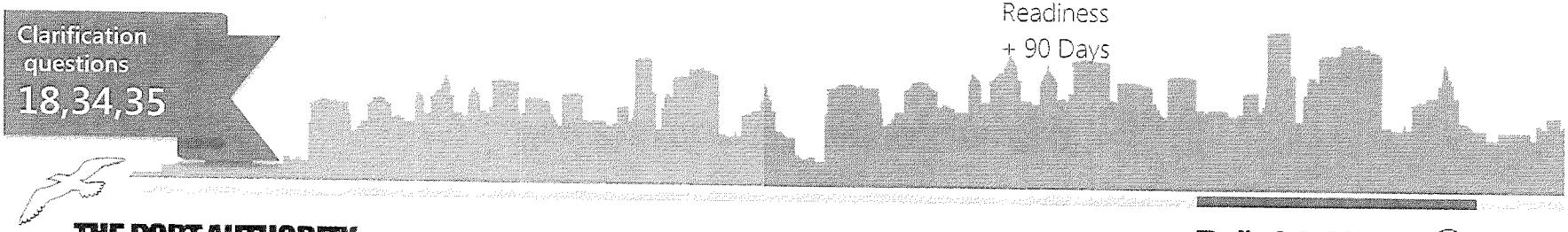
Development Work Packages

Obtain & evaluate data – including PlaneNoise
Map to ANOMS
Convert sample to validate
Convert all
Assess & Report
- Counts
- Spot Checks
- Anomalies

Monitoring enabled at Training Readiness - FOCUS

Training Readiness + 90 Days

Clarification questions 18,34,35



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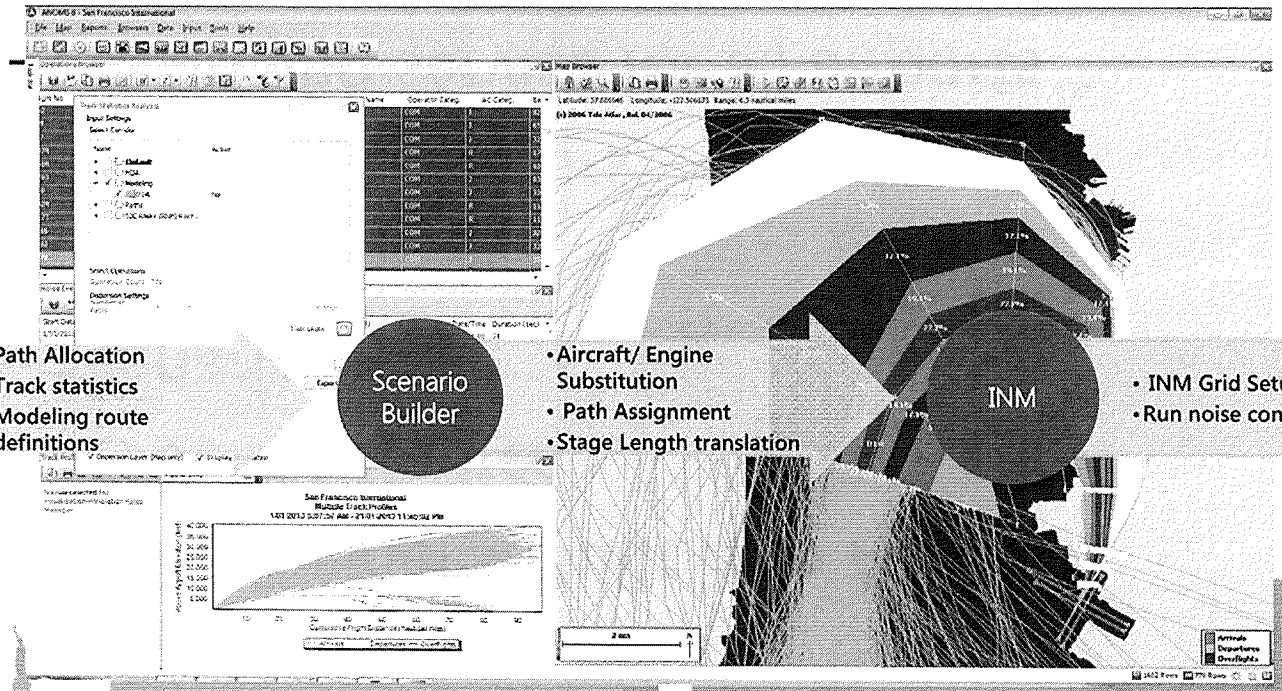
Clarification question 8

Contour Generation

- Scenario Builder – **Built into ANOMS**
  - Modeling Routes



ANOMS
- Path Allocation
- Track statistics
- Modeling route definitions

Scenario Builder
- Aircraft/ Engine Substitution
- Path Assignment
- Stage Length translation

INM
- INM Grid Setup
- Run noise contour

Clarification question 8

Contour Generation

- Scenario Builder – **Built into ANOMS**
  - Modeling Routes
  - Scenarios

- HMMH Real Contours
  - Set up and service for all airports
  - Daily contours
  - Auditing of contours

Community Engagement

Clarification questions
5, 16

- Web Portal Base
  - One WebTrak
  - 5 Airports
  - $30,900 (3 years)
  - Airport filter
- Web Portal Option
  - Per airport ($10,000)
  - $50,000 (3 years)
  - No set up fee, if during Phase A

Legend

Legend

Aircraft Icons | Aircraft Colours | Noise Colours

Each icon has a colour assigned to determine the type of operation. Icons will be coloured depending on operation (arrival/departure) type, and also the origin airport.

Colour	Airport	Operation Type
	HEATHROW, LONDON, ENGLAND	Arrival
	HEATHROW, LONDON, ENGLAND	Departure
	Unknown Airport	Over Flight

Community Engagement

- Key Product Features
  - Live noise
  - Weather
  - Drag time line
  - Lodge linked complaints
  - Efficient handling of complaints

Community Engagement

Clarification questions
13, 17

- Aging
  - Minimum 5 minutes
- Complaint Form
  - Disturbance – Existing
  - Airport – Will add
- Security
  - CAPTCHA checked on :
  - Easy
  - Hard

Security Question

This security question is to avoid automated submissions of the form.

Enter the two words below

Difficult to read? Try another | Play audio | (Security question by reCAPTCHA)

Submit complaint

Clarification questions 18, 19

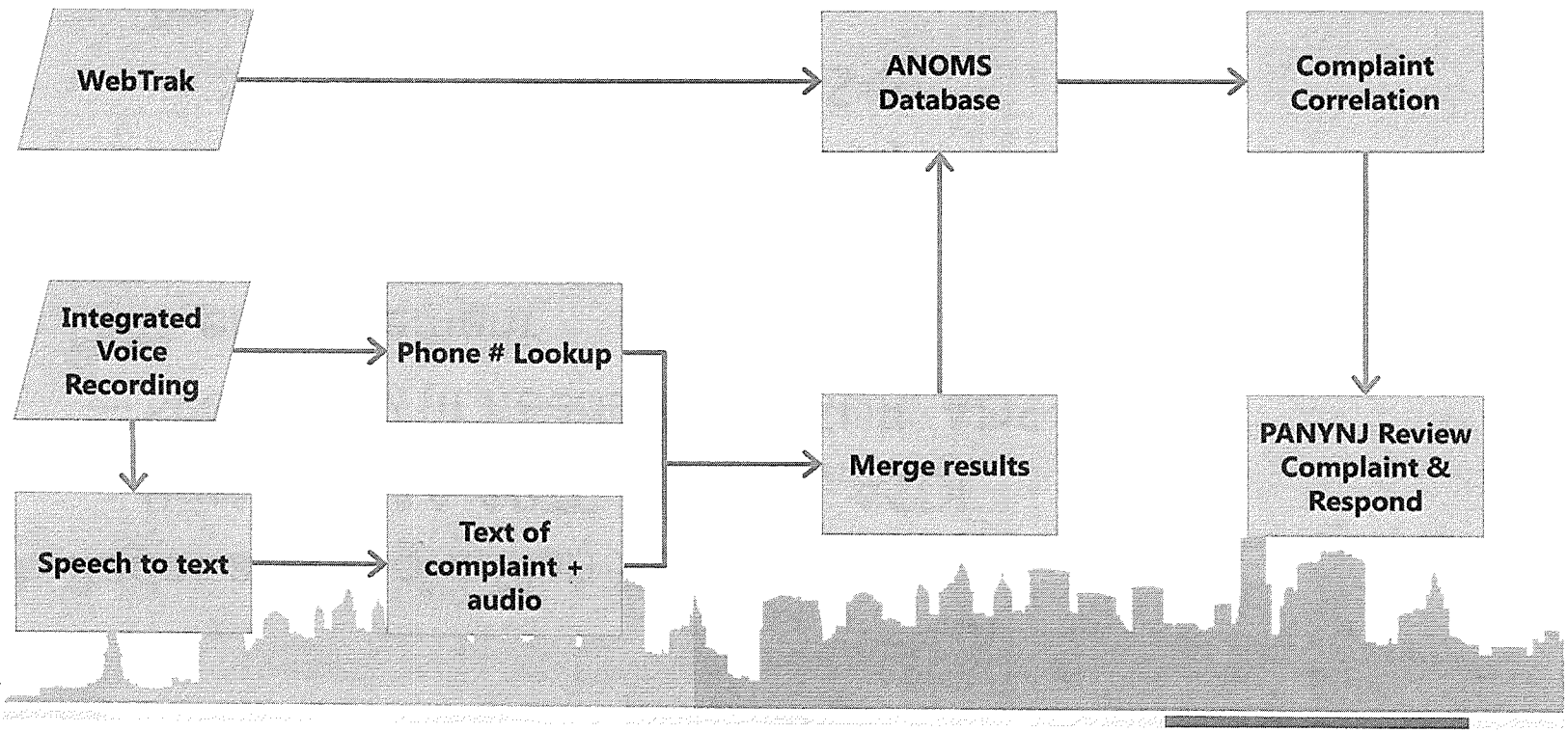
Community Engagement

- PlaneNoise
  - Historical conversion - Included
- IVRS
  - New technology
  - Fully automated conversion
    - Quality 50% to 60%
    - Audio recording
  - Human assisted
    - 85% to 99%
- Local number portability
  - Yes

Clarification question 20

Community Engagement

- Complaint flow
  - Fully automatic



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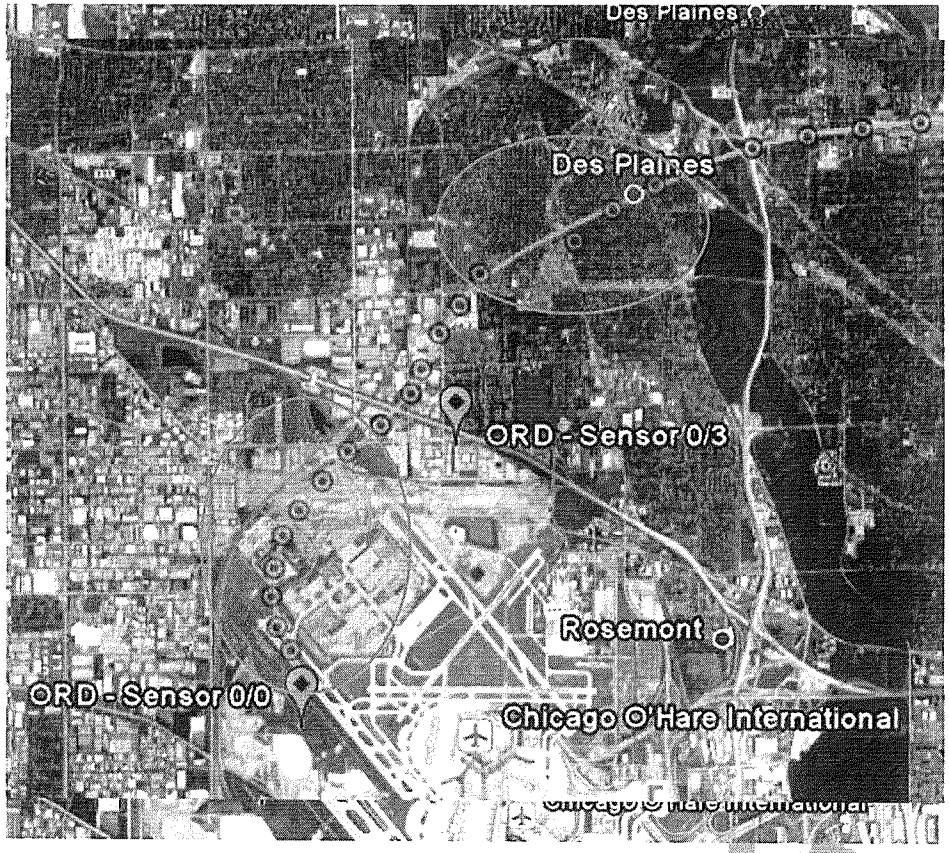
Clarification questions 10, 11, 12

Track and Flight Data

- Radar and Flight Plan Data Source
  - Primary: FAA ARTS, ASDE-X, ASDI
  - Secondary (if needed): PASSUR, ADS-B
- Data enhancement
  - Radar source merging
    - JFK, LGA and EWR (ADSE-X)
    - SWF and TEB (merge ADS-B)
  - Track cleaning (All)
  - Track smoothing (All)
  - Altitude coasting (PASSUR)
  - Track extension (SWF and TEB)

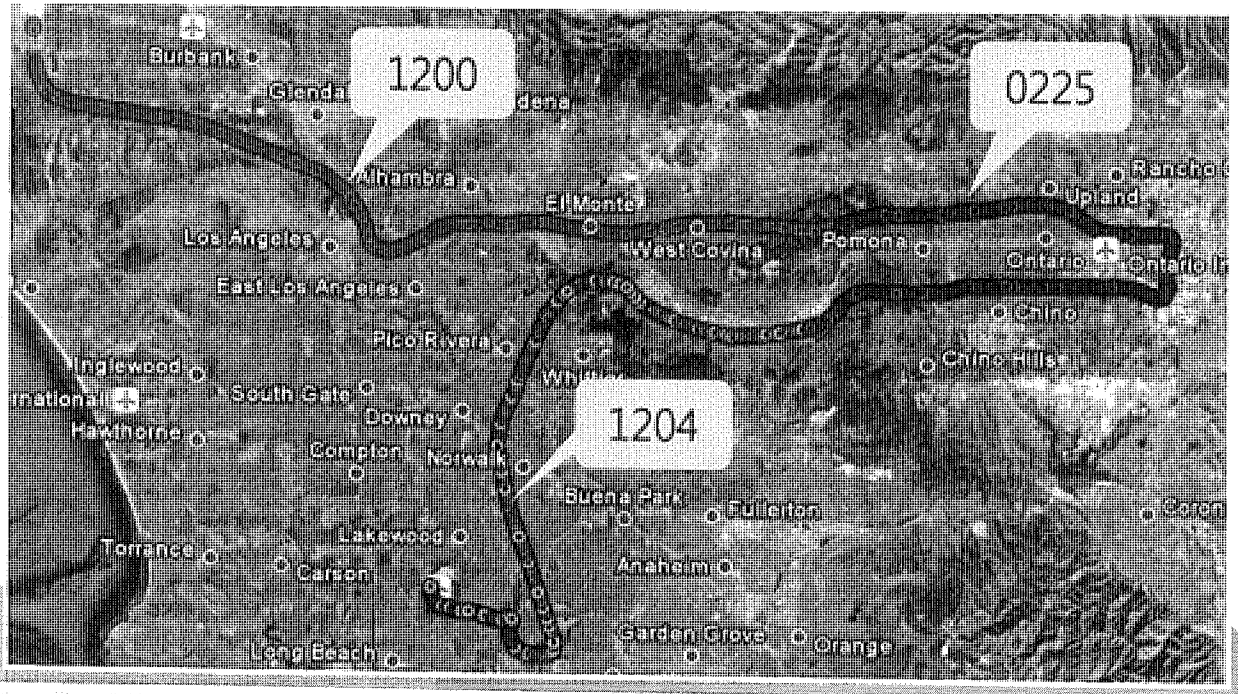
ANOMS – Cleaning Tracks

- Data from 2 radars
- Bad data #10, 11, 12
- Missing points on departure
- After tracking
  - Bad reads removed
  - Missing points added



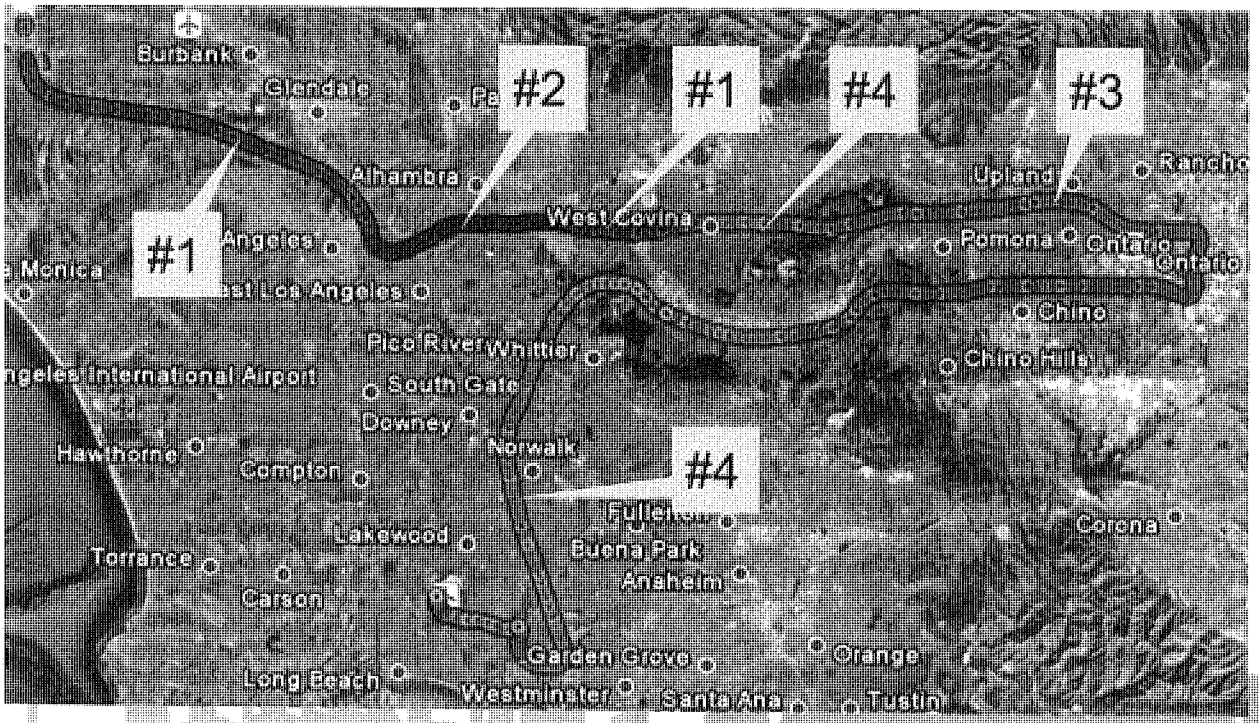
ANOMS – Code changes

- Aircraft often change beacon
  - Go from GA to controlled etc.
- ATC trackers typically break the track
- For monitoring you want a single track



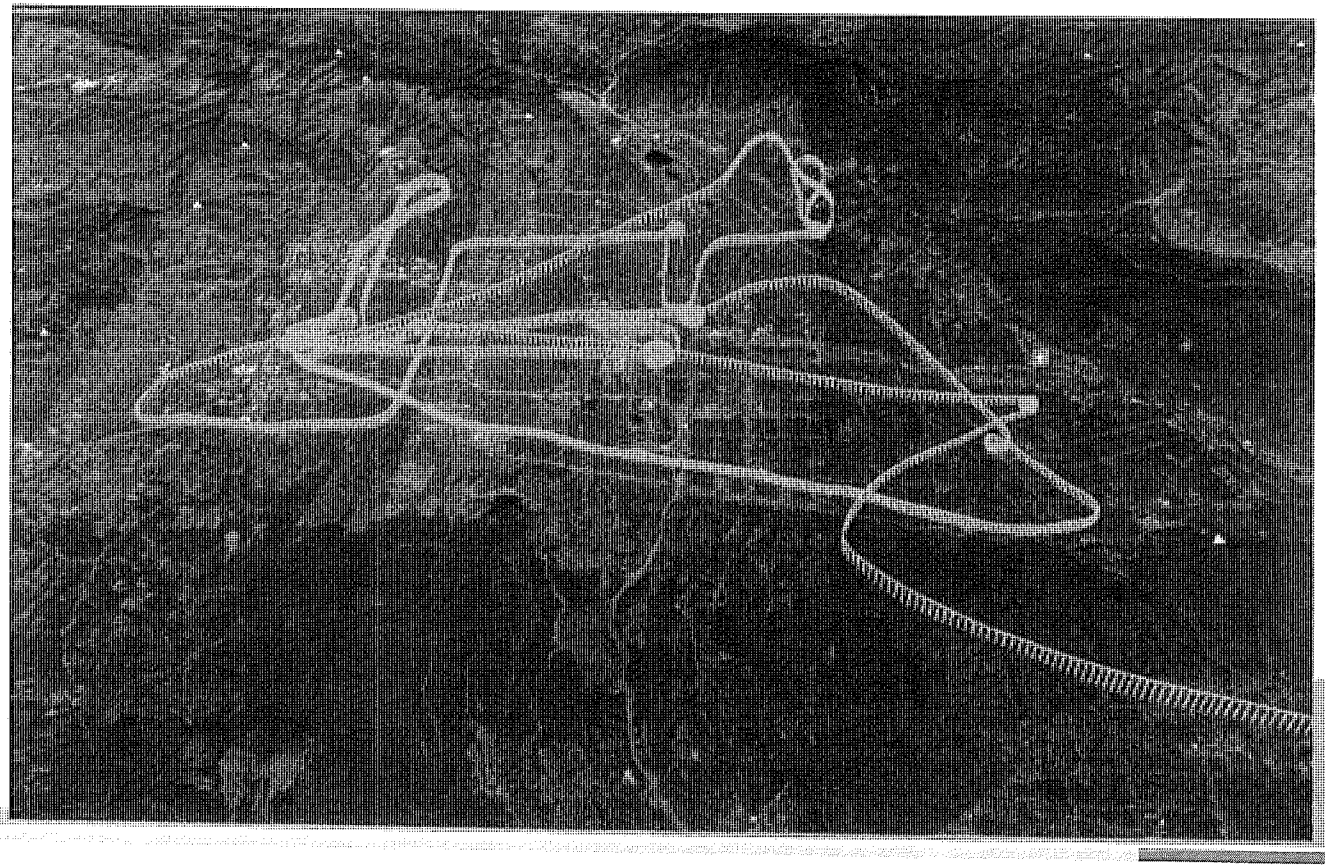
ANOMS – Merging radars

- Tracker selects the best data source at any moment
- Each color shows the radar selected to provide points



ANOMS – Helicopter tracking

- Police helicopter with multiple track breaks from ATC radar
- After tracking and cleaning



Clarification question 15

PC Specifications

- PC Specifications
  - No specific requirements for DLI client
  - Apply to ANOMS SmartClient
  - Recommend higher specifications
    - Dual screen
    - 8GB memory
- ANOMS WebClient
  - Slightly different specification (see handout)

Clarification question 21

Violations Handling

- Email
  - Registry
    - Can enter address
    - Can enter email
  - Adding email of letter
- Violations Workflow

February 25, 2013

Attention: Chief Pilot for CAO

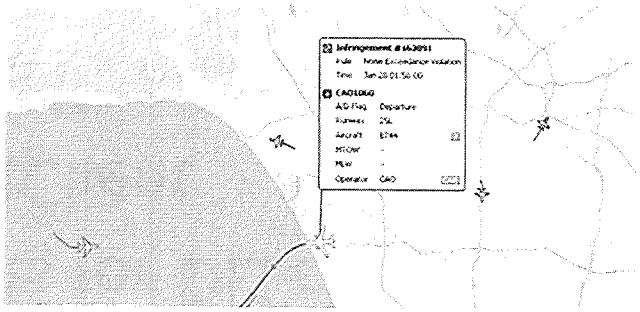
RE: Infringement #463891

While operating flight CAO1060 on January 28, 2013, your pilot infringed on the airport's operating procedure Noise Exceedance Violation.

Noise Exceedance Violation is described as:

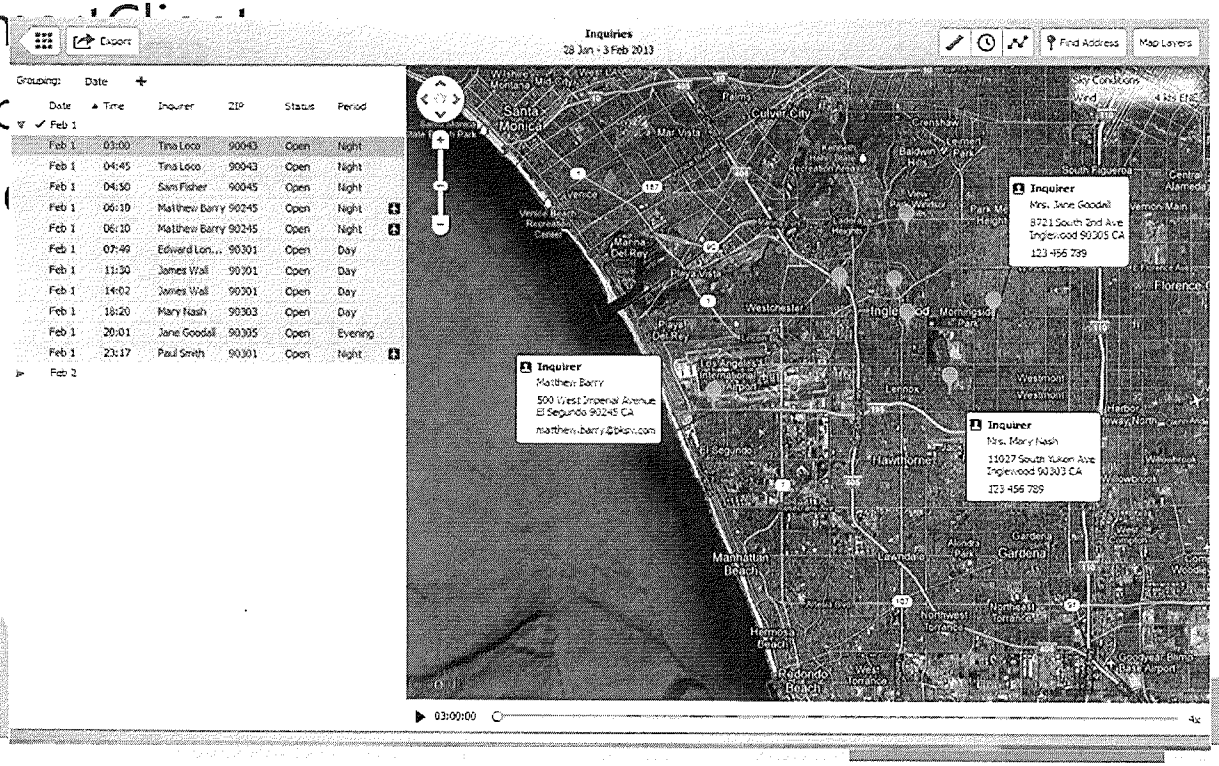
Detects operations with associated noise events with Max Level >= 99.9 dB

The infringement occurred at 01:58:00. A snapshot of the flight can be found below.



GIS Display of Complaints

- ANOMS WebClient
  - Google map based
- ANOMS Sn
  - KML Exp
    - Sche



Clarification question 22

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Clarification question 14

D-Weight

- D-weight and A-Weight in 3639-C
  - Only one at a time
  - Configurable
- PNDB from D-weight
  - Estimate of Perceived Noise Level (PNL)
  - PNL = D + 7 dB
- $L_{AS,Max}$ instead of $L_{DS,Max}$
  - UK CAA approved change for LHR and LGW
  - A = PNL - 13 dB
- Alternatives
  - 1/3rd Octaves
  - PNL directly

Phase A – Software Deployment

Sales Handover ▶ Planning & Delivery ▶ System Build & Tune ▶ Training & Acceptance ▶ Transition to Services

Handover Acceptance | Detailed Design Review | Training Readiness | System Acceptance

Training
No additional costs

- Onsite classroom delivery, supported by User Manual
- Regular Service Delivery Manager visits cover ad hoc & refresher training requests
- FOCUS online forum, courses & bookshelf
- User Forums

Clarification questions 23, 24

Acceptance

- Agreed Ticket Criteria – Categories (CAT) 1 through 4
  - CAT 4 requests applied using Change Management Process
- Agreed acceptance criteria
- Agreed punch list
- Cutover point for Complaint Number

Phase B – Hardware Deployment

Notice to Proceed ▶ Site Survey ▶ Installation ▶ 14 Day Operational Test

Items delivered:

- Fixed NMT's – hardened composite cabinet suitable for outdoor unattended monitoring installed on existing masts
- Portable NMT's – hardened composite cabinet mounted on a steel frame

Deployment Schedule

- Cost of portable NMT deployments can be incurred:
  - On delivery - no further charges will be sought when the request to install one is received); or
  - At the time of its installation

Clarification questions 6 & 33

Q4 2013
- JFK (7)
- TEB (ATCT)

Q2-Q3 2014
- EWR (3)
- LGA (2)
- JFK (2)
- Handhelds (2)

Q2-Q3 2015
Portables (8)

Pricing Clarifications

Clarification Question 4, 7, 9

- Detailed cost breakdown of ATCT Recorder provided in handout
- Supplemental work does not attract +15%; only 3rd party direct costs for hardware and software
- Aircraft Registry Breakdown:

Product	Setup	Ongoing
AMSTAT (10 users)	$1200	$3600 (annual)
Buchair	$6200	$4500

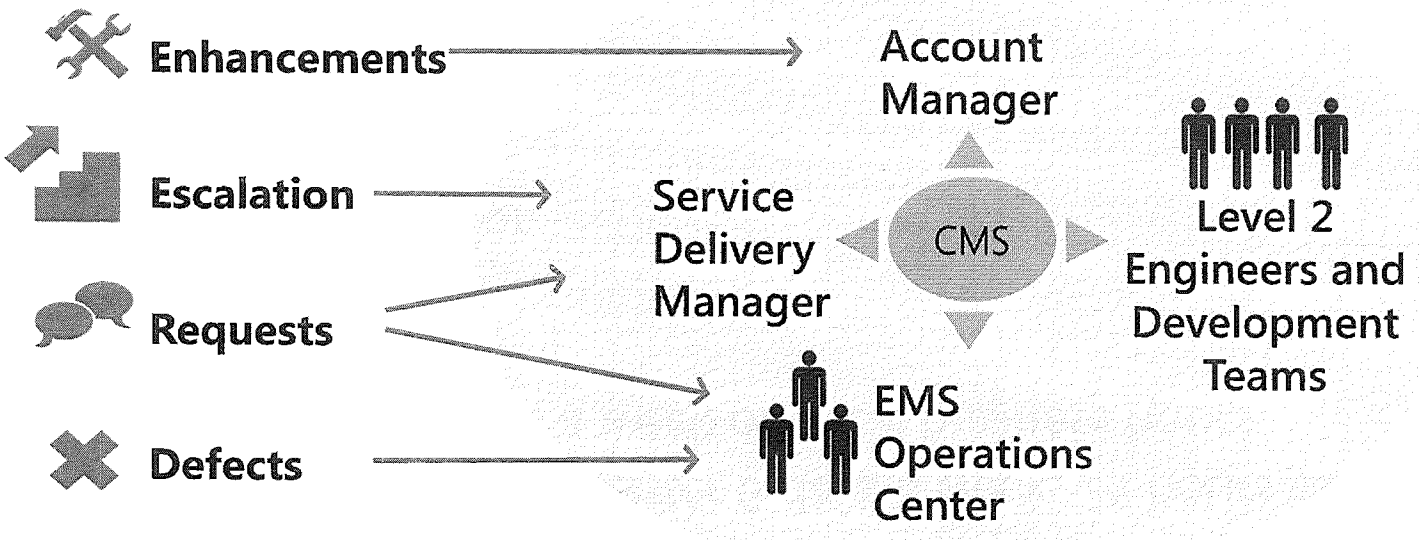
Ensuring Success

Project Unique Features	Achievement
Radar & Flight Plan	Sophisticated tools & extensive experience
Noise from 6 LD Monitors	Test the interface prior to initiating downloads
Historic Data Conversion	Proven process
Integrated Voice Recording Service	AGILE development methodology
Stakeholder Management	Open communication, proven process & support tools
Schedule & Scope	Clear stage Gates, regular reporting

Clarification question 31

Services Model

- ***Process Driven***
  - ITIL based, "Best Practices"



40+ personnel providing airport customer support and increased as required

Clarification question 25

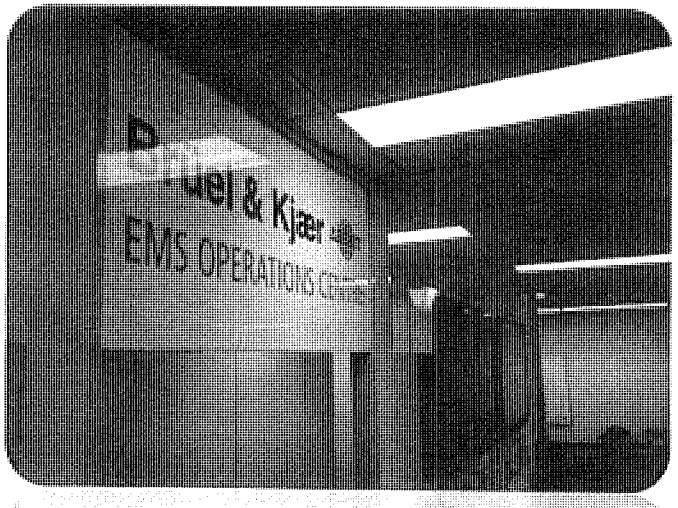
Monitoring

- ***Three Tier System***
  - Automated 7 days a week, 24 hours per day
  - Staffed EMS Operations Center 6 days a week, 24 hours per day
  - SDM Monitored 5 days a week on local business hours
- ***Proactive monitoring***
  - Threshold analysis
  - Auto Ticket generation
  - Services monitoring
- ***Reactive Monitoring***
  - Up/down monitoring
  - Real time alerts
- ***Daily Status report*** – So as you can see what is happening includes last 7 days so as you can see when things get fixed

Clarification question 32

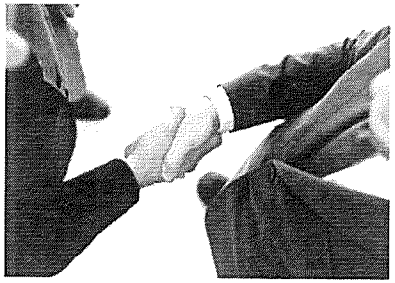
Operations Center - EMSOC

- EMS Operations Center - EMSOC
  - Staffed 24 hrs. 6 days a week
  - 2nd level staff on call



Service Delivery Manager - SDM

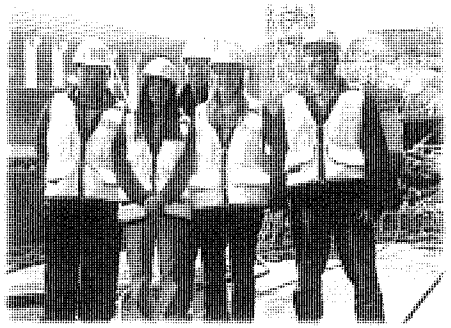
- SDM Role
  - Involved in Project Management
  - Available Monday through Friday during your business hours
  - Will be able to provide ongoing and initial training
  - The SDM is your central point of contact and is your advocate with B&K
  - SDM works for you



Clarification question 23

Ongoing Local Hardware Support

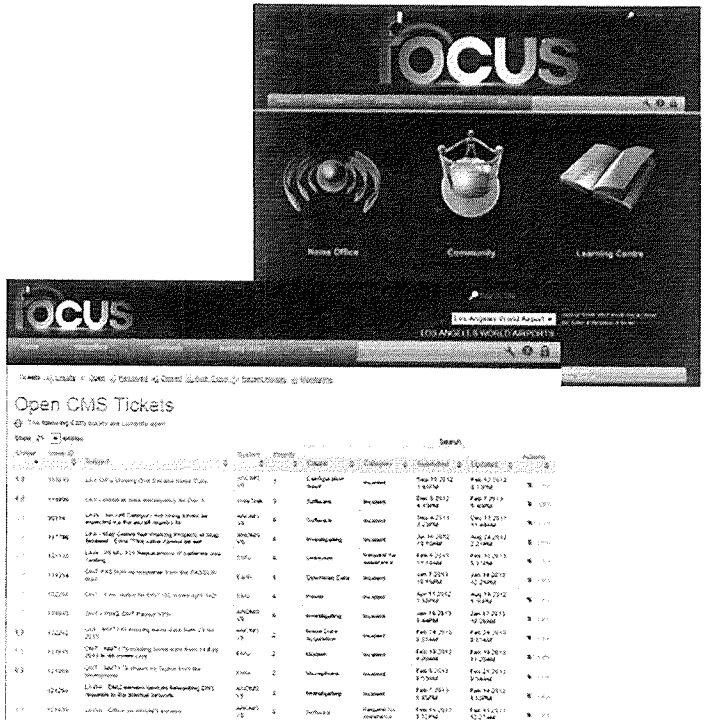
- Paul Carpenter Associates
- Currently working with PANYNJ
- MBE/WBE
- NMT's Availability will be calculated on a 24 hour period
- Break/Fix
- Included Periodic Maintenance



Clarification questions 26, 28

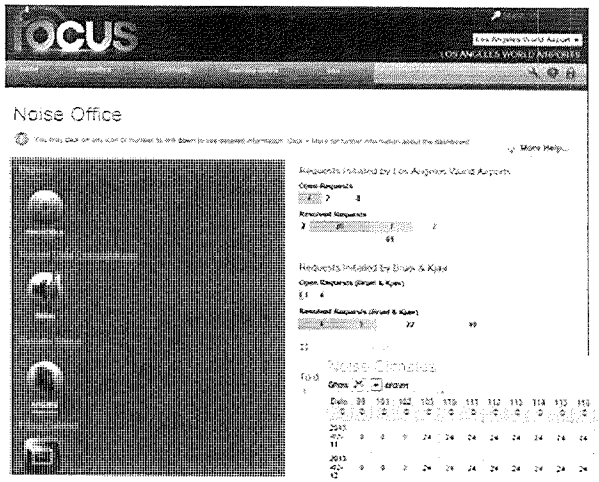
Service Management Tools

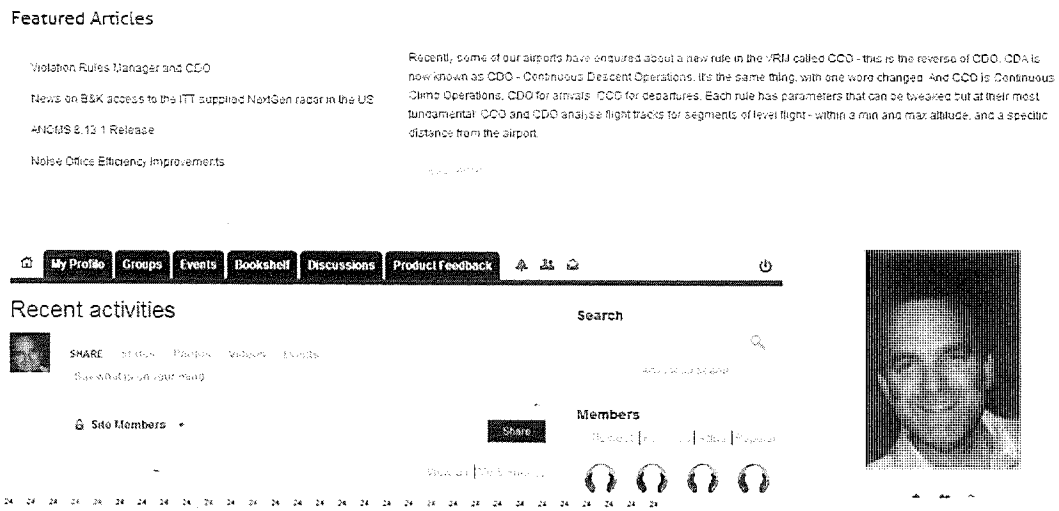
- Customer Management System – CMS
  - Service tracking system
- FOCUS
  - Tied to CMS, FOCUS provides a customer view on ticket traceability From start to finish

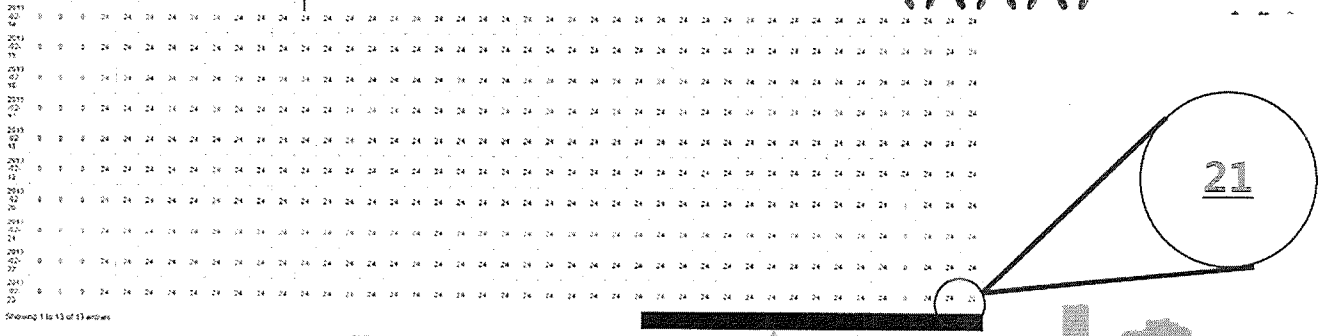


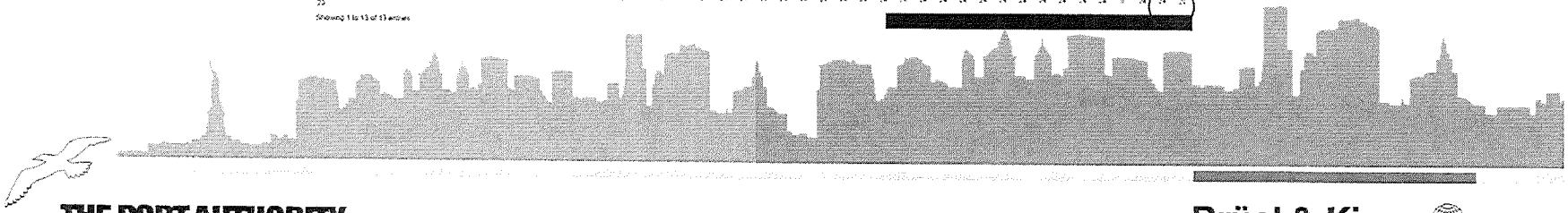
Clarification question 27

Product + People + Processes







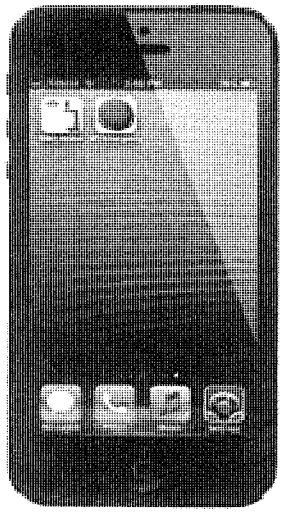


THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY

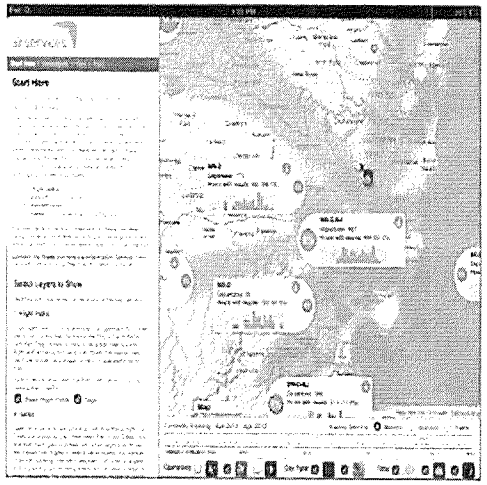
Brüel & Kjær

Interoperability – our Apps Everywhere

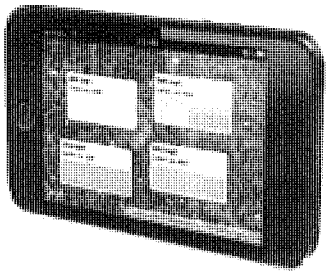
- Pluggable architecture at each layer of the Ecosystem
- Standards-based APIs enable collaborative app development
- Uncoupling the clients from the application layers enables us to make small task-specific clients that leverage the common infrastructure.
- Leveraging standards in the client layer enables compatibility with devices – rapid App development

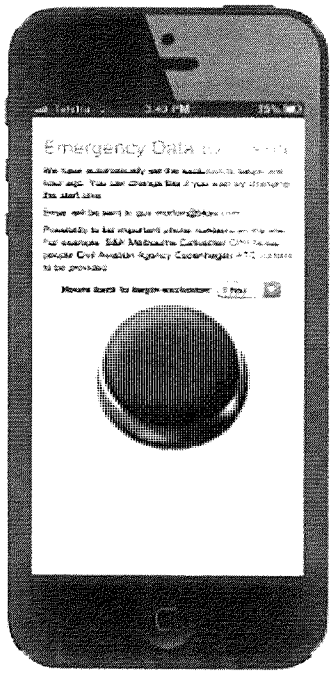


New Clients – Customer Focus



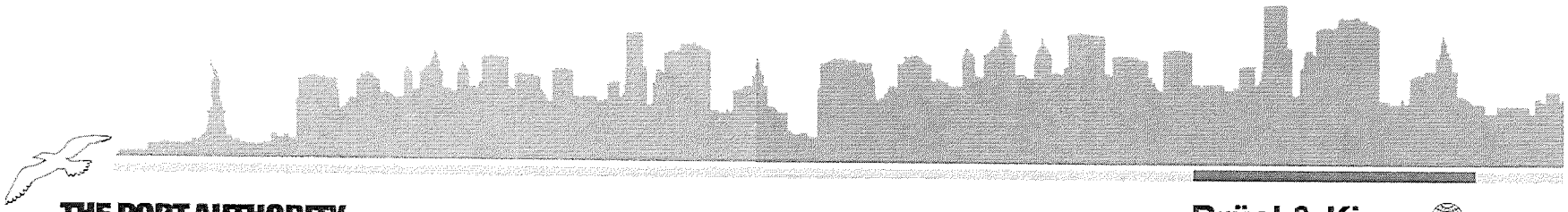
Delivering on Android and iOS, as well as the Desktop.





PANYNJ and Brüel & Kjaer

- *World leader* in Noise Management
  - 70 Years Experience
  - Over 230 Airports Worldwide
  - Research and Development Investment
- *Exclusive focus* on Airport Noise
  - Over 30 years of Airport Experience
  - Creating Innovation and leading edge solutions
  - Collaboration with Airports to evolve the product
- *Industry Trusted* Solution
  - Work hardened by the most demanding Airports
  - Accepted, Certified and Proven
- *Project Delivery*
  - Consistent, efficient and results oriented
  - Driven, trained professionals
- *Services*
  - Unparalleled, experienced and dedicated support team



THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY

Brüel & Kjær

Brüel & Kjær

Responses to Section B – Clarification Questions

Airport Noise & Operations Management System Contract for John F. Kennedy (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports

RFP # 31644

February 25, 2013

Introduction

This document contains the questions from the PANYNJ and responses from Brüel & Kjaer EMS Inc., for the negotiations concerning the ANOMS Presentation Invitation dated February 20, 2013

Clarifications to Letter of Transmittal

PANYNJ: 001. Proposed Subcontractors

1. Page 2 of the Letter of Transmittal contains a table listing all proposed subcontractors. Please detail the prior experience between the B&K ANOMS and products/services offered by the proposed subcontractors. Has B&K worked with all of these subcontractors before on other similar contracts? For example, has ANOMS system integrated HMMH's Real Contours before for any other airport ANOMS contract? Similarly, has Digital Loggers, Inc., Tele Atlas North America Inc., PASSUR, TerraNOVA International, LLC, ARINC Incorporated been successfully implemented in any contract(s) by B&K.

Name	Address	Role	Past Collaborations
Harris Miller Miller & Hanson Inc.	77 South Bedford Street Burlington, MA 01803	Provide RealContours™ Version 2 for the PANYNJ NOMS System and assist with NOMS reporting	For instance; Los Angeles World Airports, San Diego International Airport, Oakland International Airport, Reno International Airport, San Francisco International Airport
Digital Loggers Inc.	2695 Walsh Avenue Santa Clara, CA 95051	Supply and installation of air traffic control loggers for Teterboro Airport	For Instance; Burbank Bob Hope Airport, Toronto Pearson International Airport, San Francisco International Airport, Austin Bergstrom International Airport, Los Angeles International Airport
Paul Carpenter Associates, Inc.	23 Vreeland Road, Florham Park, NJ 07932.	MWBE Firm for Noise Monitoring Terminal Site Works, Installation and Maintenance/Services	PANYNJ World Trade Center Redevelopment Site, PANYNJ Lincoln Tunnel Helix, PANYNJ PABT, PANYNJ LGA (RSA) Runway Safety Area Environmental Assessment

Clarifications to E. Documentation of Proposer Prerequisites

GCI-NS: 003. Contract Dates of Major North America Contracts

This section contains a Table on page 4 listing the major North American contracts with a year listed in first column. What does the year in first column represent? Is it the contract start or end date?

The year in the first column presents the year of contract commencement.

Clarifications to F. Cost Proposal Form

GCI-NS: 004. TEB ATC Recorder

4. Clarify the specifications for the ATCT transmission recorder for TEB. Absent details, the cost listed in Tables 1C and ID appears overly excessive for such a system.

Brüel & Kjær has suggested installing a Digital Logger Inc. (DLI) voice recording system at TEB because the product is thoroughly integrated with ANOMS and the DLI recorders have been installed at a number of airports. Brüel & Kjær is willing to consider alternative solutions and suppliers.

TABLE 1C – COMPUTER HARDWARE

Equipment		Cost ($)
One (1) Computer/Server for TEB to Record ATC Transmissions		$49,000
16 channel logger	$20,182.5	
2-U Control Server [quad core processor, KVM] SAS/SATA disk controller, 2TB boot drive SATA Software RAID via Three 2TB	$5,306.1	
10 Radios with trays, power supplies and Switch [no filters included]	$20,550.5	
Multi-coupler	$546.3	
Roof mount Non-penetrating antenna mount and mast	$1,265.0	
Omnidirectional Antenna	$1,782.5	
	Grand Total($):	$49,000

The Authority may prefer to have separate sites, so B&K has offered an optional cost per additional WebTrak site at $10,000 each. Note the setup cost is waived if ordered as part of the ANOMS implementation.

GCI-NS: 006. Mounts for NMTs

6. One of the bullet items under Assumptions on page 10 state "Fixed and Portable NMTs will be installed on existing mounts". The fixed NMTs are installed on utility poles inside stainless steel cabinet while the portable NMTs are contained inside a stainless steel cabinet welded on a metal stand or frame. Please clarify whether the new stainless steel cabinets will be provided for the fixed NMTs or existing cabinets will be utilized for the new installation? Also, will the proposed cabinet for the new portable NMTS come with a stand or frame? The Authority required the latter in the Scope of Work

The new, fixed and portable NMT's will come with new hardened composite enclosures suitable for outdoor, unattended monitoring. The portable NMT's will include the same configuration as the fixed units, except they will be mounted on a steel frame.

GCI-NS: 007. Cost of Supplemental Work

7. Please clarify whether all Supplemental work or just the travel expenses and third party hardware / software services will incur 15% additional charge.

The 15% additional charge will only apply to third party hardware and software.

GCI-NS: 008. HMMH Real Contours

8. Is the price listed for HMMH's Real Contours feature for one single airport or for all five airports? The cost for this feature should be added to overall contract cost since as this feature is not Optional, but is a contract requirement detailed in the Scope of Work.

ANOMS includes modeling capabilities within the core product. The capabilities include the ability to use actual track data to generate track statistics and then turn these into dispersion routes for use with INM. The product also includes the Scenario Builder that allows users to extract actual data from ANOMS, aggregate it, apply rules to clean it up and produce scenarios that can be run in INM. (There is planned development for the export of the scenario to AEDT). B&K has a number of customers who are currently using this capability, including one group that is responsible for making contours for 20 airports. These capabilities are in the base offer and B&K believes they meet the stated requirements for modeling.

B&K also has a number of customers, who prefer the Real Contours generation service that is offered by HMMH. B&K is happy to work with HMMH to provide this sophisticated service to its customers. Indeed, if the option is selected, B&K and HMMH propose to enhance the existing interface to deliver a better experience of Real Contours from ANOMS.

Real Contours is a full service offering that includes the setting up, hosting of the processing and the auditing of the contours from data captured by ANOMS. However the labor content means that it

proposed flight tracking data sources be adequate to provide accurate flight tracking for SWF and TEB airports?

Given the way that PASSUR works, it will always yield a lesser quality result than FAA radar. B&K intends to deliver the track data using data that is sourced from the FAA primarily. It will also be possible to use Mode-S squitter (ADS-B) derived data sources to improve data availability at airports, such a TEB and SWF that have poor radar illumination.

Once the raw data is available, B&K will then apply its sophisticated track building capabilities to improve upon the results. The specific capabilities that will improve the results at all Authority airports, but particularly at airports with poor radar illumination, will be discussed briefly.

1. Merging Radars
   The ability to process many radars at once allows the tracker to maximize the data that is available. Data gaps in one source are filled out from another. This allows the tracker to use all available data to build the best possible track (ARTS III, ASDE-X, Mode-S Squitter).
2. Tracking based on aircraft dynamics
   The tracker models the expected, or possible dynamics of the aircraft and uses this as the basis of building the track rather than just relying on the tracking done by the radar source. This is particularly important when dealing with PASSUR (code changes can be frequent as are bad data reads). However it is also important for Aircraft Control Radar Trackers as these often break tracks unnecessarily.
   The aircraft dynamics are also used to clean out bad data points.
3. Track extensions
   Extending can be useful at airports such as TEB or SWF that are distant from the radar. In this case the radar data terminates a significant distance from the airport but it is clear as to which runway is to be used. The B&K tracker is able to provide a reasonable estimate of the start or end of the track. (The raw data is retained as well as the extended data).
4. Coasting and missing point interpolation
   The B&K tracker is capable of coasting altitudes or estimating positions for tracks that it is building. As noted, this is particularly important for PASSUR, but it also happens for ATC radars. The tracker is able to make use of the fact that it does not have to make these decisions in real time, and so it looks into the "future" to be a better job than a tracker that is constrained to real time operation.
5. Track Smoothing
   The tracker applies mathematical techniques to smooth out the sampling errors in the radar data. Basically, these techniques take account of the limited angular resolution of the radar and smooth out the jumping around that can occur when aircraft are a significant distance from the radar. This is an important technique for smaller airports such as TEB or SWF, which are reliant on radar from a distant major airport.

GCI-NS: 011. ARTS III Data at SWF

11. The current ARTS I11 data from the FAA for SWF does not provide accurate flight tracks in Authority's current NOMS system. How will the new flight tracking data feed proposed by B&K result in reliable and accurate flight tracks for SWF airport?

It is possible to use a "rule of thumb" to convert an A-weighting into an approximation of a D-weighting value. The rule of thumb value is based on the average difference between A-weight and D-weight values in previous studies. The studies will have shown variance around the mean difference. So, using a constant transformation means that there will be increased uncertainty in the used D-weight value. For example, the noise limits at Heathrow and Gatwick were modified to use L_{Amax} instead of PNDB in the early 90s.The system at Heathrow also estimated PNDB using D-weight at Heathrow. For Heathrow the noise limits were adjusted down using the approximation of subtracting 13 dB(A) to change PNL based limits into A-weight limits. Naturally, it would be possible to add the 13 dB(A) to produce and estimate of PNL instead. The Authority will need to be comfortable that the resulting violations will have legal standing based on this calculation.

An alternative approach would be to calculate the D-weight value from the 1/3rd octave values for an event. This approach would result in less uncertainty in the measurement.

However, if the Authority is contemplating a change in measurement technique, it should be remembered that the use of D-weight is to estimate the PNL level. It is possible to calculate this value directly in the instrument.

GCI-NS: 015. PC Specifications

15. Page 43 of the Technical Proposal lists the minimum client PC specifications, do these apply to all ANOMS user or only to TEB users using DL1 recorder?

These specifications apply to all users of the ANOMS SmartClient. Exclusive users of the ANOMS WebClient should meet the following requirements. **Description**	**Minimum**	**Recommended**
Flash Player	10.2	10.2+
Computer memory	2 GB	4 GB+
CPU		
PC	Intel Pentium 4 2.33 GHz Athlon 64 2800+	Intel Core i3 3.06 GHz+
Mac	Intel Core Duo 1.33 GHz	Intel Core i3 3.06 GHz+
Screen resolution	1920 × 1080	1920 × 1080
Colors	32 bit	32 bit
Operation system		
PC	Windows XP	Windows XP

GCI-NS: 018. PlaneNoise Noise Complaint System

18. The Authority has a current contract with the PlaneNoise that provides services for hosting the noise complaint system independent of the existing NOMS contract. Will B&K be able to import the noise complaints saved from June 2012 until the initiation of the new contract? Is this part of the proposed historical ANOMS data conversion?

Yes, B&K will import the data. Yes, it is part of the proposal.

GCI-NS: 019. Twilio Voice Response

19. On Page 87 of the Technical Proposal, B&K is proposing to use the Voice Response service provided by Twilio. Has B&K worked with Twilio in the past on such an automated noise complaint collection system? What is the accuracy of Twilio's voice to text conversion technology? Can the existing 800 toll free number be carried over to Twilio's IVR service?

B&K has not previously used an IRVS into a complaints system. We have a current contract that includes enabling IVRS capability for a complaints system. We have not previously worked with Twilio and provided it only as an example of a firm that provides suitable services. Our intention is to assess vendors before finalizing a decision.

B&K has not been able to find specific information on the accuracy of Twilio's automated transcription. It appears to be an automated service, so it is unlikely the accuracy is high. To address this, B&K plans to make the audio recording available with each complaint entry.

It would also be possible to use human assisted, or more sophisticated services. Claimed levels of accuracy achieved with more expensive services range from about 80% to 99%. B&K would need a better understanding of the length of voice messages expected to price such options.

Yes, it is possible to transfer the existing phone number.

GCI-NS: 020. Transfer of complaints from Twilio to ANOMS

20. Will the noise complaints collected by Twilio (via toll free number and IVR) be transferred to ANOMS8 automatically? If yes, what would be the Authority's involvement and frequency (i.e. how often) of such a transfer?

Yes, the complaints will be entered automatically. No, involvement from the Authority in the transfer will be required. The transfers will take place throughout the day.

GCI-NS: 021. Noise Violation e-mails to Airlines

21. Regarding noise violations: is the proposed ANOMS8 capable of storing emails and addresses of airlines / operators (manually entered by the Authority) and send emails containing noise violation to each offender (as prepared by the user manually and ability to send directly through the system)?

Yes. It will be possible to send the email directly from the SmartClient. The limitations of the web environment place more limitations on what can be done from the ANOMS WebClient.

B&K uses a mixture of tools to monitor systems. We have also developed a sophisticated monitoring system for our applications that provides alerts when abnormal situations occur. We use the following tools:

Nagios – Monitoring of the Oracle database for performance and abnormal status

PA Servermon – Is used to provide up/down monitoring of devices and also to monitor key services and functions

Focus – Provides the ability to set thresholds for data results. This includes such things as radar received

GCI-NS: 026. Availability of NMTs

26. Page 155 of the Technical Proposal states "the system is only guaranteed during working hours and availability is taken over a monthly period. Under these conditions the Operational Availability is acceptable". For the database and all associated software, the Authority may consider having operational availability counted only during working hours, however, for System hardware (NMTs) it must remain as a 24-hour period since airports work under continuous operations. Please confirm agreement.

Agreed, NMT's availability will be calculated on a 24 hour period

GCI-NS: 027. Ticket Traceability in FOCUS

27. Does B&K's FOCUS system provide traceability of trouble tickets from start to finish? What access / ability to view information will the Authority have into the system?

B&K uses aticket system called CMS (Customer Management System) to track all issues and service requests. Every update to the ticket is logged within CMS along with any change in status. Focus provides user access to CMS where all information related to the ticket is available. Focus also allows you to search through historical tickets

All updates to the tickets can be seen through Focus and provide traceability from start to finish.

GCI-NS: 028. Periodic Hardware Service

28. Page 160 of the Technical Proposal states Periodic Hardware Service as an option. Please clarify this section in more detail as what is optional and what will be covered under scheduled preventive maintenance? Is the cost included for this service? Do annual NMT calibrations fall under the scheduled preventive maintenance?

Periodic Maintenance is included as part of the Scheduled Preventive Maintenance within PANYNJ Noise Office Service Agreement (H.1). This will include; perform visual inspections, check operations, calibrate the Unit, update firmware if necessary, download and update configuration files, check batteries, replace bird spikes and windscreens as needed replace desiccant.

Our Support Model is based on a Service Delivery Manager who is associated with each account. The SDM is there as your point of contact and is also your advocate back into the B&K support teams. If B&K is awarded the Contract, a Dedicated Service Delivery Manager will be appointed.

B&K continuously increases staff to meet increased demands.

Currently there are 40+ personnel providing airport customer support.

GCI-NS: 032. EMSOC Operating Times

32. On page 20 of the Management Proposal, it is stated that the EMS Operations Center (EMSOC) is staffed from 5:00 pm Sunday until 8:00 pm Friday. Does this mean that 24-hour support is available during this period?? Please confirm. What time zone is the EMSOC hours based on? Where is the EMSOC office located?

The EMSOC Office is located in Melbourne, Australia. The EMSOC is responsible for the monitoring of the systems and is available at all times while staffed. We also have support staff available from our Sacramento Office during normal Business hours, as well as the Service Delivery Manager in the Eastern Time Zone

Clarifications to F.2.09 Detailed Implementation Plan

GCI-NS: 033. Installation of Portable NMTs in Phase B

33. Page 8 of the Detailed Implementation Plan lays out the Phase B Hardware Replacement Plan. As stated, the Proposal of services includes installation of 11 portable NMTs. Please advise when the cost for each NMT install would be incurred in the proposed contract given the situation where not all of the portable NMTs may be installed during the Phase B since some may stay in storage until a request is received to install one.

Table 1D (*Hardware Installation*) of the F.1 Cost Proposal specifies the unit cost for the installation of the Portable NMT units. The Port Authority may choose to either:

- Incur that total cost of the installation when the Portable NMT units are delivered at the start of the Phase B deployment (no further charges will be sought when the request to install one is received); or
- Incur the cost for each Portable NMT installation at the time of its installation. B&K reserves the right of revising the installation costs if the request for installation of the stored NMT units is received after the dates indicated in the Schedule for Hardware Installation provided by the Port Authority.

Port Authority the NOMOS data that was not converted during Phase 1 up to the date of the ANOMS system acceptance.

The above step 1 and steps 3 to 6 will be repeated.

GCI-NS: 035. Testing of Historical NOMS Data

35. Will there any testing done on the historical NOMS data once it has been transferred to the new ANOMS for data integrity? If no, what are the implications of having unverified data? If yes, please provide a brief description of the type of verification to be performed, by whom and what actions will be taken if problems are uncovered.

As already mentioned in the previous section, all converted data is checked and verified not only at the high summary level but also at a day by day level. Automated scripts are run by the Systems Engineer to ensure that in any given date range, the data counts are comparable (i.e. type of operations, operations by runway, number of complaints, complainers, weather records, number of noise events per NMT, daily and hourly noise climates, noise violations etc.).

Manual spot checks are undertaken throughout the date range to verify the location of the converted track points is correct

As part of the QA report supplied to the Port Authority, B&K will record any abnormalities or discrepancies uncovered (for example: duplicated records in the historical data) and a proposed resolution suggested.

Please find below some examples of the historical data conversion tests done as part of our standard QA process:

Test Name: HOURLY NOISE CLIMATES

Description

This test focuses on checking the counts of hourly noise climates as well as the quality of the noise climate data that's been converted.

- Check total count of hourly noise climates between two systems
- Check count of hourly noise climates between two systems, day by day
- Check count of hourly noise climates between two systems by noise measurement at location.
- Open hourly records in both systems for a day and check values for all available noise METRICS.

Test Name: DAILY NOISE CLIMATES

Description

This test focuses on checking the counts of daily noise climates as well as the quality of the noise climate data that's been converted.

- Check total count of daily noise climates between two systems

February 20 2013

Email: Nicole.Eib@bksv.com
Robert.Brodecky@bksv.com

Bruel & Kjaer
1050 Fulton Ave, Suite 213
Sacramento, CA 95825

Attn: Ms. Nicole Eib, Account Manager
Attn: Mr. Robert Brodesky, Vice President Americas

RE: **AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS, COLLECTIVE #31644 – PRESENTATION INVITATION**

Dear Ms. Eib and Mr. Brodesky:

In support of my communication dated February 1, 2013, the Port Authority hereby extends an invitation to Bruel & Kjaer's proposed ANOMS Project Management team to meet with the Port Authority's Evaluation Committee for discussion of your Proposal starting at 9:00 a.m. on Monday, February 25, 2013 at 233 Park Avenue South, 9th Floor Conference Room 980, New York, New York 10003. Please ensure that all personnel have Photo ID to gain access into the building.

If set-up time is required, access to the room will be available at 8:30 a.m. Call Adeel Yousef at 212 435-3784 from the security desk to gain access to the floor. Time will be strictly enforced and we intend to start promptly. The overall agenda is as follows:

- Introductions of Port Authority personnel and consultants and opening remarks
- Proposer's presentation (one hour maximum) as described in Section A below and inclusive of the questions listed in Section B below. .
- Open dialog & questions from participants (one hour maximum)
- Port Authority closing remarks

You must supply your own projector, laptop, and any other devices you may require. At the meeting, provide the Port Authority with two (2) copies of a CD-ROM with your presentation in electronic format, and eight (8) paper copies to be used by the Port Authority during the meeting.

A maximum of eight (8) individuals from the proposed team is allowed to be present at the meeting. However, the following three (3) key personnel must be present:

- Proposed Program / Project Manager – Day to day overall contact (not executive sponsor)
- Proposed Operations Manager
- Proposed Service Manager

Finally, please forward a list of all participants 24 hours prior to your presentation date. The list can be emailed to Jeanette.anderson@panynj.gov or swillner@panynj.gov

As a disclaimer, this invitation to make a presentation about your proposal to the Port Authority shall not be construed in any way whatsoever to be an acceptance of your proposal. It shall also be noted that some participants of your project team may be also part of other proposer teams.

If you have any questions, contact Jeanette Anderson at 201 395-3430 or Stacey Willner at 201 395-3343

Sincerely,

Stacey Willner

for Jeanette Anderson
Procurement Contracts Manager
Procurement Department

NOMS Vendor Presentations

You will be allocated one (1) hour for your presentation which will be followed by a Q& A period of no more than one (1) hour. Time will be strictly enforced.

Marketing information should not be included within your presentation. The presentation should focus on the key distinguishers of your solution and the value add your team brings to the project to reduce cost, mitigate risk and ensure success.

How to structure the time is up to you; however your presentation must cover the following points

- More thoroughly introduce your proposed project management team – with focus on the key technical, project manager and associated staff that will be day to day resources on this effort. This team should preside over and conduct the presentation and discussions that follow.

- In **brief**, describe the key products' capabilities, not just demonstrating core functionality and how it will work to achieve the Authority's stated business objectives.

- **Identify and describe the most important requirements unique to this project for having a successful, on time and on budget project and describe how each will be achieved.**

- Describe how your implementation methodology and your ongoing support model relate. Discuss adherence to SLAs.

- Describe how your training approach and ongoing support is structured.

- Responses to follow up clarification and concern questions sent under separate cover shall be incorporated into your presentation. When responding to a question it should be identified as such.

- Conclude with any key additional information you want the Authority to have.

Section B – Clarification Questions
Bruel & Kjaer

Letter of Transmittal

1. Page 2 of the Letter of Transmittal contains a table listing all proposed subcontractors. Please detail the prior experience between the B&K ANOMS and products/services offered by the proposed subcontractors. Has B&K worked with all of these subcontractors before on other similar contracts? For example, has ANOMS system integrated HMMH's Real Contours before for any other airport ANOMS contract? Similarly, has Digital Loggers, Inc, Tele Atlas North America Inc., PASSUR, TerraNOVA International, LLC, ARINC Incorporated been successfully implemented in any contract(s) by B&K.

2. Does Paul Carpenter Associates, Inc., proposed MWBE firms for NMT installation and maintenance/services, have prior experience in installing and servicing NMTS for any other airports? Please detail their relevant experience.

Section E. Documentation of Proposer Prerequisites

3. This section contains a Table on page 4 listing the major North American contracts with a year listed in first column. What does the year in first column represent? Is it the contract start or end date?

Section F. Cost Proposal Form

4. Clarify the specifications for the ATCT transmission recorder for TEB. Absent details, the cost listed in Tables 1C and 1D appears overly excessive for such a system.

5. Clarify the cost for the Web Based Software (Public Portal) listed in Table 2. Is this to be interpreted as the cost for WebTrak? If so, for how many airports? It is confusing since Subsection 8 (Options) list WebTrak service as optional with additional cost for set up and annual services of $5,000 and $10,000, respectively. Please provide the total cost for all five airports as this feature is not Optional, but is a contract requirement detailed in the Scope of Work.

6. One of the bullet items under Assumptions on page 10 state "Fixed and Portable NMTs will be installed on existing mounts". The fixed NMTs are installed on utility poles inside stainless steel cabinet while the portable NMTs are contained inside a stainless steel cabinet welded on a metal stand or frame. Please clarify whether the new stainless steel cabinets will be provided for the fixed NMTs or existing cabinets will be utilized for the new installation? Also, will the proposed cabinet for the new portable NMTS come with a stand or frame? The Authority required the latter in the Scope of Work.

7. Please clarify whether all Supplemental work or just the travel expenses and third party hardware/software services will incur 15% additional charge.

8. Is the price listed for HMMH's Real Contours feature for one single airport or for all five airports? The cost for this feature should be added to overall contract cost since as this feature is not Optional, but is a contract requirement detailed in the Scope of Work.

9. Please detail all cost(s) – one time and ongoing - for having AMSTAT Aircraft Registry and Buchair Aircraft Registry included in the contract?

Section F.2 Technical Proposal

10. On Page 12 of the Technical Proposal, listed are the flight tracking and information data sources to be used in the proposed ANOMS (3 bulleted items). Is all the data acquired from PASSUR? How about terminal radar data, is that part of the data? How is the resolution and reliability on PASSUR data? PASSUR currently provides the flight tracking for JFK, EWR, and LGA and based on the Authority's and its stakeholders' experience historically, PASSUR data can have inaccuracies; especially the aircraft altitude. How will B&K ensure the flight tracking data is accurate? Will the proposed flight tracking data sources be adequate to provide accurate flight tracking for SWF and TEB airports?

11. The current ARTS III data from the FAA for SWF does not provide accurate flight tracks in Authority's current NOMS system. How will the new flight tracking data feed proposed by B&K result in reliable and accurate flight tracks for SWF airport?

12. Is Flight Plan Data from the FAA part of the flight tracking information in the proposed ANOMS?

13. What is the data-aging requirement for flight tracking data in WebTrak? Is the flight tracking available for public viewing in near real time?

14. As described in the Technical Proposal, B&K will add the capability to the proposed NMT model 3639-C to use a D-weight filter. Is there the flexibility to revert to A weighting filter in the future if needed? The reason Authority uses D weighting is due to Pre-ANCA noise violation limit of 112 PNDB for JFK, EWR, and LGA that was established based on D weighting in 1970's. Is it possible to monitor noise in A weighting and do some kind of conversion in the database to convert to D weighting only for issuing violations? Would it be possible for B&K to provide an equivalent of noise value of 112 PNDB originally measured in D weighting into A weighting?

15. Page 43 of the Technical Proposal lists the minimum client PC specifications, do these apply to all ANOMS user or only to TEB users using DLI recorder?

16. Is there a filtering capability in WebTrak by airport to show flight tracks of only one airport at a time? Or all airports are shown simultaneously?

17. The proposed noise complaint web entry form on page 81 differs from the Authority's existing one. Is it possible to add in the drop down menu to the form for selecting airports or nature of disturbance etc.? Also, is there flexibility to add in security features to deter multiple noise entries in short period of time by adding in fields to type security code etc. Page 85 of the Technical Proposal discusses having CAPTCHA technology but it seems like it is in the background and not upfront on the webpage itself, please clarify.

18. The Authority has a current contract with the PlaneNoise that provides services for hosting the noise complaint system independent of the existing NOMS contract. Will B&K be able to import the noise complaints saved from June 2012 until the initiation of the new contract? Is this part of the proposed historical ANOMS data conversion?

19. On Page 87 of the Technical Proposal, B&K is proposing to use the Voice Response service provided by Twilio. Has B&K worked with Twilio in the past on such an automated noise complaint collection system? What is the accuracy of Twilio's voice to text conversion technology? Can the existing 800 toll free number be carried over to Twilio's IVR service?

20. Will the noise complaints collected by Twilio (via toll free number and IVR) be transferred to ANOMS8 automatically? If yes, what would be the Authority's involvement and frequency (i.e. how often) of such a transfer?

21. Regarding noise violations: is the proposed ANOMS8 capable of storing emails and addresses of airlines/operators (manually entered by the Authority) and send emails containing noise violation to each offender (as prepared by the user manually and ability to send directly through the system)?

22. Page 95 of the Technical Proposal states that the "complaint details can also be exported to GIS applications such as MapInfo and ArcGIS, allowing access to their sophisticated spatial analysis and reporting methods", is it possible to display the same noise complaint details (such as address) on a Google Map instead of MapInfo and ArcGIS? Is this something that B&K will integrate in the proposed ANOMS8 system to easily export noise complainants' addresses (or coordinates) automatically into Google Maps to show the location of each noise complaint for a given period?

23. Page 120 of the Technical Proposal states that the "refresher training will be available on as needed basis with additional cost", please clarify if additional cost will be incurred for regular refresher training provided for any existing or new employee via

a teleconferencing and/or web meetings utilizing the training material provided previously?

24. Table 1 on Page 128 of the Technical Proposal lists categories for Site Acceptance Testing (SAT). Would category 4 include a request for customization of noise complaint web entry form or any other feature of the system during Phase A Implementation period?

25. Page 154 of the Technical Proposal states that the "*automated tools monitor the solution 24x7*". Please clarify what is monitored and what tools are utilized?

26. Page 155 of the Technical Proposal states "*the system is only guaranteed during working hours and availability is taken over a monthly period. Under these conditions the Operational Availability is acceptable*". For the database and all associated software, the Authority may consider having operational availability counted only during working hours, however, for System hardware (NMTs) it must remain as a 24-hour period since airports work under continuous operations. Please confirm agreement.

27. Does B&K's FOCUS system provide traceability of trouble tickets from start to finish? What access / ability to view information will the Authority have into the system?

28. Page 160 of the Technical Proposal states Periodic Hardware Service as an option. Please clarify this section in more detail as what is optional and what will be covered under scheduled preventive maintenance? Is the cost included for this service? Do annual NMT calibrations fall under the scheduled preventive maintenance?

29. Page 161 of the Technical Proposal contains a table where the last line states that Requests of "How do I?" question types have resolution time of "30 days to answer". Please clarify what type of requests these would consist of. Would a question regarding how to operate a certain feature of proposed ANOMS8 be part of this?

Section F.3 Management Proposal

30. Management structure provided on page 8 of the Management Proposal specifies several team members in Australia including the Project Manager. Due to long distance and time difference involved, how does B&K propose to mitigate concerns related to the logistics of weekly meetings and project coordination with subs, onsite staff etc. for the Contract? Is there a local phone number available or only a long distance phone number for the Project Manager (in Australia)?

31. How many personnel currently staff B&K's customer support unit at any given time? Is there any plan to increase personnel if the new Contract is awarded by the Authority?

32. On page 20 of the Management Proposal, it is stated that the EMS Operations Center (EMSOC) is staffed from 5:00 pm Sunday until 8:00 pm Friday. Does this mean that 24-hour support is available during this period?? Please confirm. What time zone is the EMSOC hours based on? Where is the EMSOC office located>?

Section F.2.09 Detailed Implementation Plan

33. Page 8 of the Detailed Implementation Plan lays out the Phase B Hardware Replacement Plan. As stated, the Proposal of services includes installation of 11 portable NMTs. Please advise when the cost for each NMT install would be incurred in the proposed contract given the situation where not all of the portable NMTs may be installed during the Phase B since some may stay in storage until a request is received to install one.

34. Pages 15 through 17 describe in detail the Phase A deployment plan. In the sequence of various tasks and milestones taking place, where would the historical NOMS data conversion take place? Please clarify. It also appears the noise complaint hotline transfer is not addressed in this section. Please advise.

35. Will there any testing done on the historical NOMS data once it has been transferred to the new ANOMS for data integrity? If no, what are the implications of having unverified data? If yes, please provide a brief description of the type of verification to be performed, by whom and what actions will be taken if problems are uncovered.

THE PORT AUTHORITY OF NY & NJ

February 1, 2013

Email: Nicole.Eib@bksv.com
Robert.Brodecky@bksv.com

Bruel & kjaer
1050 Fulton Ave, Suite 213
Sacramento, CA 95825

Attn: Ms. Nicole Eib, Account Manager
Attn: Mr. Robert Brodesky, Vice President Americas

RE: **AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS, COLLECTIVE #31644 – PRESENTATION INVITATION**

Dear Ms. Eib and Mr. Brodesky:

The Port Authority hereby extends an invitation to Bruel & Kjaer's proposed ANOMS Project Management team to meet with the Port Authority's Evaluation Committee for discussion of your Proposal starting at 9:00 a.m., on Monday, February 25, 2013 in New York City.

If set-up time is required, access to the room will be available at 8:30 a.m. Call Adele Yousef at 212 435-3784 from the security desk to gain access to the floor. The overall agenda and precise location of the meeting will be forthcoming in a separate correspondence.

You must supply your own projector, laptop, and any other devices you may require. At the meeting, provide the Port Authority with two (2) copies of a CD-ROM with your presentation in electronic format, and fifteen (8) paper copies to be used by the Port Authority during the meeting.

A maximum of eight (8) individuals from the proposed team is allowed to be present at the meeting. However, the following three (3) key personnel must be present:

- Proposed Program / Project Manager – Day to day overall contact (not executive sponsor)
- Proposed Operations Manager
- Proposed Service Manager

Finally, please forward me a list of all participants 24 hours prior to your presentation date. The list can be e-mailed to jeanette.anderson@panynj.gov.

As a disclaimer, this invitation to make a presentation about your proposal to the Port Authority shall not be construed in any way whatsoever to be an acceptance of your proposal.

If you have any questions, contact Jeanette Anderson at 201-395-3430.

Sincerely,

Jeanette Anderson

Jeanette Anderson
Procurement Contracts Manager
Procurement Department

Procurement Department
2 Montgomery Street, 3rd Floor
Jersey City, NJ 07302
T: 212 435 7000

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS

RFP NO.: 31644

January 2013

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Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

A – Letter of Transmittal

January 2013

Brüel & Kjær

24 January 2013

Port Authority of New York and New Jersey
Procurement Department
Attn: Bid/Proposal Custodian
Two Montgomery Street, 3rd Floor
Jersey City, New Jersey 07302
United States of America

Brüel & Kjær Letter of Transmittal

Dear Ms Anderson,

Brüel & Kjær EMS Inc is responding to the Authority's December 2012 RFP No 31644 for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

Brüel & Kjær EMS Inc is submitting this proposal as the single prime contractor entity.

Brüel & Kjær is the world's leading supplier of goods and services for airport noise and flight track monitoring solutions, with more than 230 customers worldwide. Brüel & Kjær's customers include some of the world's largest airports – Los Angeles, Denver, London Heathrow and Amsterdam.

Brüel & Kjær is a wholly owned division of Spectris plc. Spectris develops and markets productivity-enhancing instrumentation and controls and is listed on the London Stock Exchange (symbol SXS). In 2011 Spectris had sales of £1,106.2 million, and it employs around 7,500 people worldwide. Spectris is a member of techMARK, the London Stock Exchange's index for technology companies, and the FTSE4Good index of socially-responsible companies.

Brüel & Kjær EMS Inc
[illegible]
[illegible]
[illegible]
United States [illegible]

[illegible]
[illegible]
[illegible]
[illegible]

Contacts

For negotiations and contract execution, please contact:

- Robert Brodecky – Vice President Americas – +1 (916) 265.7707

For questions and issues relating to this response to the RFP, please contact:

- Nicole Eib – Account Manager – +1 (916) 265.7703

Proposed Subcontractors

Brüel & Kjær proposes to use the following subcontractors:

Name	Address	Role
Harris Miller Miller & Hanson Inc.		Provide RealContours™ Version 2 for the PANYNJ NOMS System and assist with NOMS reporting
Digital Loggers Inc.		Supply and installation of air traffic control loggers for Teterboro Airport
Paul Carpenter Associates, Inc.		MWBE Firm for Noise Monitoring Terminal Site Works, Installation and Maintenance/Services
PASSUR Aerospace		Flight track and flight plan data services
Tele Atlas North America Inc (TomTom)		Vector street maps
TerraNOVA International, LLC		Raster satellite imagery
ARINC Incorporated		D-ATIS Digital Automatic Terminal Information Services

Details of Incorporation

Brüel & Kjær EMS Inc is incorporated in Delaware with officers as follows:

Name	Title	Address
Martin Adams	Chairman	10 Cole St Brighton VIC 3186 Australia

Name	Title	Address
Robert Brodecky	Vice President Americas	Exemption (1)
Harry Kinread	Company Secretary	
David Goldstein	Treasurer	

A copy of the most recent Certificate of Incorporation is attached as A.1 Certificate of Incorporation. I have also attached a written declaration (attached as A.2 Confirmation of Certificate of Incorporation) signed by the company secretary that the copy furnished is a true copy of the Certificate of Incorporation as of the date of the opening of the Proposals.

Integrity

Brüel & Kjær certifies that it meets and will continue to meet the Integrity provisions (Section 40) of the General Contract Provisions included in the Authority's RFP 31644 without reservation. This offer is valid for 120 days from submission to the Authority.

We look forward to further discussions with the Authority so that we can deliver our state of the art technology and customer service to support excellence in stakeholder management in the New York and New Jersey areas.

Yours sincerely,

Robert Brodecky
Vice President Americas
Brüel & Kjær EMS Inc

Attachments

- A.1 Certificate of Incorporation
- A.2 Confirmation of Certification of Incorporation

A.1 Certificate of Incorporation

A.1 Certificate of Incorporation

State of Delaware
Secretary of State
Division of Corporations
Delivered 10:29 AM 07/15/2010
FILED 10:26 AM 07/15/2010
SRV 100743301 - 2327868 FILE

CERTIFICATE OF AMENDMENT OF
CERTIFICATE OF INCORPORATION OF
LOCHARD CORPORATION

Pursuant to 8 Del. C. §242

Lochard Corporation, a Delaware corporation, hereby certifies:

1. Article First of the Certificate of Incorporation is hereby amended to read in its entirety as set forth below:

FIRST: The name of this Corporation is Bruel & Kjaer EMS Inc.

2. This amendment was adopted in accordance with 8 *Del. C.* §§ 228 and 242.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be duly executed in its corporate name as of this 15th day of July, 2010.

By: Harry Kinread
Name: Harry Kinread
Title: Company Secretary

A.2 Confirmation of Certification of Incorporation

A.2 Confirmation of Certificate of Incorporation

Brüel & Kjær

January 10, 2013

Port Authority of New York and New Jersey
Procurement Department
Attn: Bid/Proposal Custodian
Two Montgomery Street, 3rd Floor
Jersey City, New Jersey 07302

Confirmation of Certificate of Incorporation

Dear Sirs,

As you are aware, Brüel & Kjær EMS Inc is responding to the Authority's December 2012 RFP No 31644 for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports.

As requested, Brüel & Kjær EMS Inc has attached a copy of the current Certificate of Incorporation.

I am pleased to confirm that this copy the Certificate of Incorporation is a true copy as of the date of opening of our proposal.

Yours sincerely
Brüel & Kjær EMS Inc

H. W. Kinread

H. W. Kinread
Company Secretary

Brüel & Kjær EMS Inc
1050 Fulton Avenue
Suite 213
Sacramento, California 95825
United States

Tel: +1 (916) 265 7700
Fax: +1 (916) 265 7719
email: emsinfo@bksv.com
www.bksv.com/EMS

B. EXECUTIVE SUMMARY

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

B – Executive Summary

January 2013

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Leading Products and Technology 4
Excellence in Services and Support 6
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1 Introduction

This document B – Executive Summary forms part of the Brüel & Kjær response to the Port Authority of New York and New Jersey (Port Authority) RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

The Proposer shall submit a summary presenting the major features of its proposal and how the proposal satisfies the requirements contained in this RFP, as well as the special competencies and expertise of the Proposer to meet the requirements of this RFP.

2 Executive Summary

Brüel & Kjær is the world leader in sound and vibration measurement and analysis with 70 years of experience. Brüel & Kjær is a wholly owned division of Spectris plc, which develops and markets productivity-enhancing instrumentation and controls, and is a top 200 company listed on the London Stock Exchange

Brüel & Kjær is the world's leading supplier of products and services for airport noise and flight track monitoring solutions, with more than 230 customers worldwide. Brüel & Kjær's customers include the world's largest airports – Los Angeles, Denver, London Heathrow and Amsterdam.

Brüel & Kjær aircraft noise and operations management solutions provide world-leading capability for the effective management of government, industry and community stakeholders.

Brüel & Kjær offers world-leading technology, excellence in delivery and customer support and cost-effective solutions that will support the Port Authority's goals both now and in the future.

World Leading Solution

With Brüel & Kjær's twenty year intimate knowledge of the Port Authority's noise program, it will deliver a proven solution that is as dependable as the NMTs installed by Brüel & Kjær over 20 years ago.

Brüel & Kjær offers seamless integration of tools and services to meet the requirements of the Port Authority and its stakeholders.

The seamlessly integrated enterprise wide solution is comprised of our state of the art ANOMS suite of products that is compliant to Port Authority requirements and designed specifically for airports like JKF, LGA, EWR, SWF and TEB.

The main features of our state of the art solution consist of:

- **ANOMS Web** – simple intuitive web based application provide users with quick and powerful results through customizable tasks.

- **ANOMS Smart Client** – sophisticated features enable users to perform more complex analysis and the capability to work with larger data volumes.
- **WebTrak** – tools to transparently share information and actively engage communities and airport stakeholders, using commonly available web browsers.
- **Noise Monitoring Terminals** – the latest technology designed to meet the latest standards of the noise industry, including D-weighted frequency calculations.

Innovation beyond the perimeter

Our constant drive for innovation means that Brüel & Kjær has invested in solutions that enable airports to engage directly with stakeholders including airlines, pilots, community organizations and governments. Our offer includes options for the PANYNJ which transition the Noise Office into other organizations within the Port Authority.

Brüel & Kjær solutions are developed for the world's largest and leading airports and flexible to meet ever changing needs.

Assurance

Brüel & Kjær is the undisputed long-term worldwide provider of aircraft noise and operations management solutions worldwide. With over 230 airport systems, we have proven experience in project management and solution delivery.

The core solution, ANOMS, is built on decades of experience and product development, working closely with many of the world's leading airports and airport authorities such as Los Angeles World Airports, Chicago Department of Aviation, Denver International Airport, Greater Toronto Airport Authority and San Francisco International Airport.

Brüel & Kjær will deliver what the Port Authority requires from its aircraft noise and operations management system.

With 70 years' experience in acoustics and more than 30 years in the aviation noise industry, Brüel & Kjær is the only end-to-end manufacturer and supplier of aircraft noise and operations management solutions, including system installation, project management and ongoing client support services.

With cooperative effort, Brüel & Kjær will quickly and expertly deploy and complete the system implementation project according to the timeframe the Port Authority requires.

The Port Authority is assured that Brüel & Kjær will meet its commitment to deliver, based on experience in project management and customer service, products, financial strength and industry staying power.

Excellence in Services and Support

Brüel & Kjær supports over 230 airport customers and currently hosts over 80 customers in its datacentres. Through 30 years of providing customer services to the world's leading airports we understand what is required to maintain an airport's noise monitoring system at peak efficiency.

For this response, with 5 airports, 22 noise monitors, and significant community involvement, Brüel & Kjær is offering state of the art services to ensure your system is available, your data is reliable and results are not disputable.

The Brüel & Kjær approach with hosted and managed services allows PANYNJ Noise Offices to focus on core business, with Brüel & Kjær to manage the technology. Brüel & Kjær is accountable to deliver the services to meet the Port Authority's business outcomes.

- **Services Management** – Brüel & Kjær's solution includes dedicated Service Delivery Manager, electronic and staffed monitoring, help desk, scheduled support client visits and access to the annual Brüel & Kjær Airport User Forum.
- **Maintenance Services** – Annual onsite maintenance of the NMTs, schedule preventative maintenance, fault management, software patches and upgrade.
- **Technology Management** – Brüel & Kjær uses a Class A US data center covering all facets of technology management.
- **Security** – Brüel & Kjær takes appropriate measures to ensure the security of the Port Authority's data. The service also provides assurances for continuous operation in the event of a catastrophic failure.

Experience in Installation and Training

Key to the PANYNJ Project will be expert system installation which takes into account the ongoing daily needs of Port Authority staff and the preservation and conversion of historical system data.

A certified professional project management team will manage installation, with a local systems engineer as your advocate throughout the project. Coordination and installation of the solution will be supported from our Sacramento and Boston offices with local M/WBE subcontractor support.

During the project implementation, Brüel & Kjær will provide on-site training. In the experience of Brüel & Kjær, staff at airports and TAMIS sites converting to ANOMS find the new system easy and intuitive to learn and use.

During the life of the services agreement, ongoing training is provided by your dedicated Services Delivery Manager.

Working with the Port Authority, Brüel & Kjær has the experience and capability to deliver the aircraft noise and operations management system to meet the Port Authority's business outcomes.

Conclusion

Airports choose Brüel & Kjær because of our experience, rich solutions that are proven to deliver and offer great value for money. Brüel & Kjær is with its customers for the long term with solutions and services to make tasks easier.

As a company, Brüel & Kjær has long-term stability and dedication in the industry. Core technologies and services proposed are Brüel & Kjær solutions – a single vendor with integrated solution set, developed to make the job easier, that assists with all environmental and operations management needs.

Partnering with Brüel & Kjær is a sound decision that has been made repeatedly by the world's leading airports. The Port Authority can be assured that its community stakeholders and consultants are receiving the world's leading airport noise and operations management system from a company that can be relied upon, now and in the future, to deliver, upgrade and support the Port Authority of New York & New Jersey system.

Brüel & Kjær is ready to work with the Port Authority to commence this important project.

C. AGREEMENT ON TERMS OF DISCUSSION

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

C – Agreement on Terms of Discussion

January 2013

1 Introduction

This document C – Agreement on Terms of Discussion forms part of the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

The Proposer shall submit a copy of the "Agreement on Terms of Discussion," signed by an authorized representative of the Proposer. The Agreement format is included as Attachment A and shall be submitted by the Proposer without any alterations or deviations. Any Proposer who fails to sign the Port Authority's "Agreement on Terms of Discussion" will not have its proposal reviewed. If the Proposer is a joint venture, an authorized representative of each party must sign the Agreement.

The signed Agreement on Terms of Discussion is included as

- C.1 Brüel & Kjær Agreement on Terms of Discussion

C.1 Attachment A – Brüel & Kjaer Agreement on Terms of Discussion

ATTACHMENT A

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority Freedom of Information Code and Procedure adopted by the Port Authority's Board of Commissioners on March 29, 2012, which may be found on the Port Authority website at: http://www.panynj.gov/corporate-information/pdf/foi-code.pdf, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Byfield & Kjaer EMS Inc.
(Company)

(Signature)

Vice President
(Title)

January 25, 2013
(Date)

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DO NOT RETYPE.

D. CERTIFICATIONS WITH RESPECT TO THE CONTRACTOR'S INTEGRITY PROVISIONS

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

D – Certifications with Respect to the Contractor's Integrity Provisions

January 2013

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1 INTRODUCTION 3

2 CERTIFICATIONS WITH RESPECT TO THE CONTRACTOR'S INTEGRITY PROVISIONS 3

1 Introduction

This document D – Certifications with Respect to the Contractor's Integrity Provisions forms part of the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

2 Certifications with Respect to the Contractor's Integrity Provisions

The Proposer, by signing the Letter of Transmittal, makes the certifications in the "Contractor's Integrity Provisions," included as Section XX of this RFP. If the Proposer cannot make any such certifications, it shall enclose an explanation of that inability.

Brüel & Kjær certifies that it meets and will continue to meet the Integrity provisions (Section 40) of the General Contract Provisions included in the Authority's RFP 31644 without reservation.

Furthermore, as part of the Spectris plc group of companies, all Brüel & Kjær employees are subject to the Spectris Code of Business Ethics, which is available at:

http://www.spectrisethics.co.uk/BKS/

E. DOCUMENTATION OF PROPOSER PREREQUISITES

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

E – Documentation of Proposer Prerequisites

January 2013

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1 Introduction

This document E – Documentation of Proposer Prerequisites forms part of the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

The Proposer shall submit documentation to demonstrate that it meets all prerequisites, if any, included herein.

This document describes the manner is which Brüel & Kjær meets the proposer prerequisites for the Port Authority of New York and New Jersey RFQ 31644.

This document also lists the required financial information for the RFQ response.

2 Prior Experience

2.1. Continuous Experience

A. The Proposer shall have had at least five (5) years of continuous experience immediately prior to the date of the submission of its proposal in the development, installation, management, maintaining and supporting a Airport Noise & Operations Monitoring System, and shall be currently engaged in providing these services to at least one Commercial Airport and one General Aviation Airport in United States under the same or separate contract(s). The Proposer may fulfil this prerequisite if it can demonstrate that the persons or entities owning and controlling the Proposer have had a cumulative total of at least the same number of years and type of direct continuous experience immediately prior to the submission of this proposal as is required of the Proposer, or has owned and controlled other entities which meet the requirement.

Brüel & Kjær is the world's largest developer and supplier of airport noise and operations management solutions, with deliveries to more than 230 customers world-wide over more than twenty years.

Major North American contracts during the last five years include:

YEAR	CUSTOMER	PROJECT
2012	Burbank Glendale Pasadena Airport Authority	Development, project management, installation, contracted ongoing maintenance & support
2012	Denver International Airport	Development, project management, installation, contracted ongoing maintenance & support
2012	Martin County – Stuart Airport	Development, project management, installation, contracted ongoing maintenance & support
2011	Lee County Port Authority – Southwest Florida International Airport	Development, project management, installation, contracted ongoing maintenance & support
2011	Aviation Department of Charlotte North Carolina Charlotte Douglas International Airport	Development, project management, installations, contracted ongoing maintenance & support
2011	Austin Bergstrom International Airport	Development, project management, installation, contracted ongoing maintenance & support

YEAR	CUSTOMER	PROJECT
2010	City of Cincinnati – Cincinnati Municipal Lunken Airport	Development, project management, installation, contracted ongoing maintenance & support
2010	City Of Chicago – O'Hare International Airport & Midway International Airport	Installation and upgrade of noise monitoring terminals. Installation and upgrade of software to ANOMS 8. Contracted ongoing maintenance & support services.
2009	County of San Diego – Palomar Airport	Installation and retrofit NMTs, installation of ANOMS 6, then upgrade to ANOMS 8 software. WebTrak services. Contracted ongoing maintenance & support services
2009	Los Angeles World Airports – LAX, ONT & VNY	Development and installation of an aircraft & noise monitoring and management system, including installation of permanent and portable noise monitoring terminals, ARTS direct connection and WebTrak. Contracted ongoing maintenance & support
2008	City of Hayward – Hayward Executive Airport	Development, project management, installation, contracted ongoing maintenance & support

2.2. Satisfactory Performance

B. During the time period stated in (A) above, the Proposer shall demonstrate satisfactory performance of at least two (2) contracts for similar services of similar scope.

Brüel & Kjær is the world's largest developer and supplier of aircraft noise and operations management solutions, with deliveries to some of the world's largest and most complex airport operators.

Satisfactory performance of system delivery is proven by the repeated activation of long-term services contracts for hosting, system support and hardware maintenance for our customers, including

YEAR COMMENCED	CUSTOMER	PROJECT	PERFORMANCE
2012	Greater Toronto Airport Authority – Toronto Pearson International Airport	Upgrade, retrofit and installation of new noise monitoring terminals, WebTrak services and Hosted ANOMS 8 software services.	Following successful delivery of the solution in October 2012, GTAA executed a 3+1+1 agreement for hosting, support services and maintenance

YEAR COMMENCED	CUSTOMER	PROJECT	PERFORMANCE
2010	Denver International Airport	Major 2012 expansion of permanent & portable NMTs, and upgrade ANOMS and WebTrak software	Following system launch in 2010, Denver purchased a major system expansion in 2011, which was completed in 2012. This expansion included upgrade and retrofit of existing NMTs and WebTrak. During the period, Denver Airport has repeatedly renewed its services contracts for additional years.
2005	Los Angeles World Airports – LAX, VNY, ONT	Major 2010 upgrade of permanent & portable NMTs, and ANOMS and WebTrak software	In 2010, Brüel & Kjær completed a major system upgrade this long-standing customer. Following acceptance, LAWA activated the five year support and maintenance agreement

C. The Proposer shall demonstrate that it has earned gross revenues of at least $1,000,000 a year for the last two (2) fiscal or calendar year(s) from the type of services or products described herein. Provide a statement on company letterhead signed by company's CFO certifying that your company meets the gross revenues specified above.

To demonstrate that Brüel & Kjær meets the requirement for gross revenue, it has attached the most recent audited annual report.

- Attachment E.1 – Brüel & Kjær Annual Report 2011

3 Financial Information

The Proposer will be required to demonstrate that it is financially capable of performing the contract resulting from this RFP ("Contract"). The determination of the Proposer's financial qualifications and ability to perform this Contract will be in the sole discretion of the Port Authority. The Proposer shall submit, with its proposal, the following:

3.1. Certified Financial Statements

A. (1) Certified financial statements, including applicable notes, reflecting the Proposer's assets, liabilities, net worth, revenues, expenses, profit or loss and cash flow for the most recent year or the Proposer's most recent fiscal year. (2) Where the certified financial statements in (1) above are not available, then reviewed statements from an independent accountant setting forth the aforementioned information shall be provided.

Where the statements submitted pursuant to subparagraphs (1) and (2) aforementioned do not cover a period which includes a date not more than forty five days prior to the Proposal Due Date, then the Proposer shall also submit a statement in writing, signed by an executive officer or his/her designee, that the present financial condition of the Proposer is at least as good as that shown on the statements submitted.

To demonstrate that Brüel & Kjær meets the requirement for gross revenue, it has attached the most recent audited annual report.

- Attachment E.1 – Brüel & Kjær Annual Report 2011
- Attachment E.2 – Brüel & Kjær Financial Position 2012 Confirmation

3.2. Current Statement of Work

B. A statement of work which the Proposer has on hand, including any work on which a bid and/or proposal has been submitted, containing a description of the work, the annual dollar value, the location by City and State, the current percentage of completion, the expected date for completion, and the name of an individual most familiar with the Proposer's work on these jobs.

During 2010, Brüel & Kjær completed a major system upgrade for Los Angeles World Airports for Los Angeles, Van Nuys and Ontario airports, including upgrade of permanent & portable NMTs, and upgrade of ANOMS and WebTrak software.

This system is supported by a services agreement for hosting, support and maintenance services worth in excess of $300,000 per year.

This two year project was accepted by the customer in April 2010.

For more details, please contact Ms. NICOLE EIB on

For more information please see F.2 Attachment D – Proposer Reference Form.

3.3. Banking Details

C. The name and address of the Proposer's banking institution, chief banking representative handling the Proposer's account, the Proposer's Federal Employer Identification Number (i.e., the number assigned to firms by the Federal Government for tax purposes), the Proposer's Dun and Bradstreet number, if any, the name of any credit service to which the Proposer furnished information and the number, if any, assigned by such service to the Proposer's account.

3.3.1. Banking Institution

- Suppliers Bank Account Name Brüel & Kjaer EMS Inc.
- Account Number
- Bank JPMorgan Chase Bank, N.A.
- Bank Address Chicago, IL (No Street Address needed)
- Routing Number 071000013

3.3.2. General

- Brüel & Kjær chief banking representative Robert Brodecky
- Federal Employer Identification Number
- Dunn & Bradstreet Reference Number 052121851

E.2 Brüel & Kjaer Financial Position 2012 Confirmation

Brüel & Kjær

7 January 2013

Port Authority of New York and New Jersey
Procurement Department
Attn: Bid/Proposal Custodian
Two Montgomery Street, 3rd Floor
Jersey City, New Jersey 07302
United States of America

Present Financial Condition of Brüel & Kjær

Dear Ms Anderson,

As you are aware, Brüel & Kjær is responding to the Authority's December 2012 RFP No 31644 for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

As requested, Brüel & Kjær has attached the most recent audited financial statements for 2011.

Our 2012 statements are currently in preparation, with release expected during early 2013 Q2. I am pleased to confirm that our 2012 financial position is at least as good as our financial position in 2011.

Yours sincerely,

Arne Rasmussen
Chief Finance Officer
Brüel & Kjær Sound & Vibration Measurement A/S

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DK-2850 Nærum
Denmark

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F. PROPOSAL

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

F.1 Cost Proposal

January 2013

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1 Introduction

This document F.1 Cost Proposal for PANYNJ FRP 31644 forms part of the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

Vendor's pricing shall be "all inclusive" and firm for the term of the agreement. The prices shall include, but not be limited to, all delivery, installation, removal, equipment, labor, training, maintenance & support, insurance, project management and administrative services that the company provides in order to delivers Services that meet or exceed the requirements set forth in the Scope of Work of this RFP.

Entry of Prices:

1. The prices quoted shall be written in figures, in ink, preferably in black ink where required in the spaces provided on the Cost Proposal Form attached hereto and made a part hereof.

2. All Proposers are asked to ensure that all charges quoted for similar operations in the Contract are consistent.

3. Prices must be submitted for each Item required on the Cost Proposal Form.

4. All Proposers are asked to ensure that all figures are inserted as required, and that all computations made have been verified for accuracy.

5. The request for Hourly Rates apply to work associated with the Supplemental Work provision of the contract, which the Port Authority may or may not implement at its sole discretion.

6. Proposers shall identify any underlying cost-related assumptions in the section named "Assumptions", in the Cost Proposal Form.

2 Hardware Services

TABLE 1A - PERMANENT AND PORTABLE NOISE MONITORING TERMINAL UNITS

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)	Not available	$19,611	$20,266
Total Cost for Eleven (11) Units	Not available	$215,721	$222,926
Portable NMT (Per Unit)	Not available	$20,211	$20,866
Total Cost for Eleven (11) Units	Not available	$222,321	$229,526
Grand Total($):	Not available	$438,042	$452,452

Note: Cost for Permanent and Portable NMT is inclusive of all accessories and peripherals including housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – HANDHELD SOUTH LEVEL METERS

Equipment	Cost ($)
Handheld Sound Level Meter (Per Unit)	$10,200
Total Cost for Two (2) Units	$20,400
Handheld Calibrator (Per Unit)	$4,100
Total Cost for Two (2) Units	$8,200
Grand Total ($):	$28,600

Note: Cost for handheld sound level meters and handheld calibrators unit include the carrying case for each unit.

TABLE 1C – COMPUTER HARDWARE

Equipment	Cost ($)
One (1) Computer/Server for TEB to Record ATC Transmissions	$ 49,000
Grand Total($):	$ 49,000

Note: Computer Systems for TEB facility include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

TABLE 1D – HARDWARE INSTALLATION

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/ Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit	Included	$13,100	Included	11	$144,100
Installation of Portable NMT Unit	Included	$ 8,100	Included	11	$89,100
Computer/Server for TEB to Record ATC Transmissions	Included	$27,000	Included	1	$27,000
				Grand Total:	$260,200

Notes:

1. Equipment installation cost is inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost is inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

3 Software Services

TABLE 2 – SOFTWARE SERVICES

Task	Cost ($)			
	Base 3 Years	**First 2 Yr Option**	**Second – 2 Yr Option**	**Third – 2 Yr Option**
Transfer of 10 Year Historical Data	Included in Phase A Project item (Table 3)	Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information	Included	Included	Included	Included
NOMS Software (8 User Licenses)	$296,700	$213,000	$225,900	$239,700
Web Based Software (Public Web Portal)	$30,900	$22,200	$23,500	$25,000
Web Site Hosting for General Noise Information	Included	Included	Included	Included
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)	$18,500	$13,300	$14,100	$15,000
Voice To Data Transcription Service for Noise Complaints	Included	Included	Included	Included
INM Noise Contour Calculation	Included	Included	Included	Included
Noise Calculation at a Certain Chosen Location on a GIS Map	Included	Included	Included	Included
Software Upgrades	Included	Included	Included	Included
Total Cost ($)	$ 346,100 *for 3 years of services*	$248,500 *for 2 years of services*	$263,500 *for 2 years of services*	$279,700 *for 2 years of services*
Additional User License	$11,300	$12,200	$12,900	$13,700

Note: Cost for each term of the contract is inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

4 Contract Services

TABLE 3 – CONTRACT REQUIREMENTS

Task	Cost ($)			
	Base 3 Years	**First 2 Yr Option**	**Second – 2 Yr Option**	**Third – 2 Yr Option**
Contract Management and Administrative Services	$123,600	$88,700	$94,100	$99,900
Phase A Project Implementation including Testing (One Time)	$309,748	Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation	Included in Phase A Project	Not Applicable	Not Applicable	Not Applicable
Ongoing Training	Included	Included	Included	Included
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals -Training Manuals	Included	Included	Included	Included
System Maintenance & Repair (Hardware & Software)	$293,600	$210,700	$223,600	$237,200
System Support (On Site Troubleshooting Support)	$200,900	$144,200	$153,000	$162,300
Hardware and Software Warranty	Included	Included	Included	Included
Total Cost ($)	$927,848 *for 3 years of services including one-time services*	$443,600 *for 2 years of services*	$470,700 *for 2 years of services*	$499,400 *for 2 years of services*

Note: Cost for each term of the contract is inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

5 Total Cost

TABLE 4 - ESTIMATED TOTAL CONTRACT COSTS

		Total Costs ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	$452,452
TABLE 1B	Handheld Sound Level Meters	$28,600
TABLE 1C	Computer Hardware	$49,000
TABLE 1D	Hardware Installation	$260,200
TABLE 2	Software Services (9 years of services)	$1,137,800
TABLE 3	Contract Requirements (9 years of services including one time services)	$2,341,548
	GRAND TOTAL	$4,269,600

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

6 Hourly Rates

TABLE 5 – HOURLY RATES FOR SUPPLEMENTAL WORK – STRAIGHT TIME

	Hourly Rates ($)			
Resource	**Base (3 Yrs)**	**First Option (2 Yrs)**	**Second Option (2 Yrs)**	**Third Option (2 Yrs)**
Contract Manager	$206	$222	$235	$250
Project Manager	$206	$222	$235	$250
Software Developer/Engineer	$206	$222	$235	$250
Trainer	$206	$222	$235	$250
Report Writer	$206	$222	$235	$250
Installation Technician	$155	$166	$176	$187
Technical Support (Hardware/ Software)	$206	$222	$235	$250

Note: Straight time is defined as normal business hours between 8:00AM and 5:00PM EST

TABLE 6 – HOURLY RATES FOR SUPPLEMENTAL WORK – OVERTIME

	Hourly Rates ($)			
Resource	**Base (3 Yrs)**	**First Option (2 Yrs)**	**Second Option (2 Yrs)**	**Third Option (2 Yrs)**
Contract Manager	$268	$289	$306	$325
Project Manager	$268	$289	$306	$325
Software Developer/Engineer	$268	$289	$306	$325
Trainer	$268	$289	$306	$325
Report Writer	$268	$289	$306	$325
Installation Technician	$202	$216	$229	$243
Technical Support (Hardware/ Software)	$268	$289	$306	$325

Note: Over time is defined as time between 5:01PM and 7.59AM EST

7 Assumptions

In preparing this cost proposal the following assumptions were made:

- In Table 3, "Phase A Project Implementation including Testing (One Time)" is a Project Service that is payable by Project Milestones defined in F.2.09 Detailed Implementation Plan.
- Table 1D are Project Services that are payable by Project Milestones defined F.2.09 Detailed Implementation Plan.
- Fixed and Portable NMTs will be installed on existing mounts.
- Table 5 includes fees for nine years of services, including one time Phase A and Phase B project fees.
- For Supplemental Work, third party hardware, software and services will be charged at cost plus 15%.
- For Supplemental Work, travel expenses (if required) including fares and accommodation, will be charged at cost plus 15%.

8 Options

This offer includes the following options:

8.1. WebTrak

WebTrak provides near live and replayed aircraft movements. It gives the community access to flight information and noise data (where available), and reduces the need and time for airport employees to explain where aircraft actually fly, how often, who they are and where they go.

Brüel & Kjær has included a single instance of WebTrak in the deliverables to the Authority, to provide a consolidated view of the aircraft flight movements for all Authority airports.

At the request of the Authority, Brüel & Kjær will provide separate WebTrak services in the solution for one or more airports.

The following pricing is for a single airport:

ID	Item	Description	Price (USD)
WT1	Setup	One-time setup fee	$5,000*
WT2	Annual Services	Ongoing support fee	$10,000

* This fee is waived if WebTrak is ordered as part of the ANOMS implementation project.

For more information, please see F.2.02 WebTrak Product Description.

8.2. WebTrak MyNeighbourhood

WebTrak MyNeighbourhood is a component of the internet-based WebTrak System that enables the public to answer commonly asked questions about the overall impact of airport operations and to to explore long term statistics and trends in airport operations.

At the request of the Authority, Brüel & Kjær will provide WebTrak MyNeighbourhood services in the solution, for one or more individual airports

The following pricing is for a single airport:

ID	Item	Description	Price (USD)
WTMN1	Setup	One-time setup fee	$6,000
WTMN2a	Annual Services with WebTrak for airport	Ongoing support fee	$6,000
WTMN2b	Annual Services without WebTrak for airport	Ongoing support fee	$15,000

For more information, please see F.2.07 WebTrak MyNeighbourhood Product Description.

8.3. HMMH Real Contours

Harris Miller Miller & Hanson Inc. (HMMH) RealContours™ converts aircraft flight track data into Federal Aviation Administration's Integrated Noise Model (INM) input data, runs the INM, and provides the INM results based on the modeling of each individual flight track.

At the request of the Authority, Brüel & Kjær will include HMMH Real Contours modelling services in the solution.

ID	Item	Description	Price (USD)
RC1	Setup	One-time setup fee	$61,100
RC2	Annual Support Services	Ongoing support fee	$67,800

For more information, please see F.2.11 HMMH Real Contours V2.

8.4. AMSTAT Aircraft Registry

AMSTAT is a provider of researched market information to the business aviation industry. AMSTAT provides data on the worldwide fleet of corporate aviation aircraft, including jets, turboprops, and turbine helicopters, including aircraft owners and contact lists.

At the request of the Authority, Brüel & Kjær will provide a price for data services, integration and support of the AMSTAT Aircraft Registry.

8.5. Buchair JP Fleets Aircraft Registry

Buchair is a provider of researched market information to the aviation industry. Its JP Fleets database includes data on the worldwide fleet of commercial aircraft, including aircraft owners and operators.

At the request of the Authority, Brüel & Kjær will provide a price for data services, integration and support of the Buchair JP Fleets database.

8.6. Audio Streaming

Brüel & Kjær noise monitoring terminals can be equipped with modules for live audio streaming, allowing authorised users to connect and listen to noise events as they occur.

At the request of the Authority, Brüel & Kjær will provide a price for adding Audio Streaming capabilities to the NMTs.

F.1 Cost Proposal for PANYNJ RFP
31644 – Attachment B

December 20, 2012

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1A - Permanent and Portable Noise Monitoring Terminal Units

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)	Not Available	$ 19,611.00	$ 20,266.00
Total Cost for Eleven (11) Units	Not Available	$ 215,721.00	$ 222,926.00
Portable NMT (Per Unit)	Not Available	$ 20,211.00	$ 20,866.00
Total Cost for Eleven (11) Units	Not Available	$ 222,321.00	$ 229,526.00
Grand Total ($):	Not Available	$ 438,042.00	452,452.00

Note: Cost for Permanent and Portable NMT shall be inclusive of all accessories and peripherals including but not limited to housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – Handheld Sound Level Meters

Equipment	Cost ($)
Handheld Sound Level Meter (Per Unit)	$ 10,200.00
Total Cost for Two (2) Units	$ 20,400.00
Handheld Calibrator (Per Unit)	$ 4,100.00
Total Cost for Two (2) Units	$ 8,200.00
Grand Total ($):	$ 28,600.00

Note: Cost for handheld sound level meters and handheld calibrators unit shall include the carrying case for each unit.

December 20, 2012

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1C - Computer Hardware

Equipment	Cost ($)
One (1) Computer/Server for TEB to Record ATC Transmissions	$49,000.00
Grand Total ($):	$49,000.00

Note: Computer Systems for both TEB facility shall include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

December 20, 2012

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE ID – Hardware Installation

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit	Included	$13,100.00	Included	11	$144,100.00
Installation of Portable NMT Unit	Included	$8,100.00	Included	11	$89,100.00
Computer/Server for TEB to Record ATC Transmissions	Included	$27,000.00	Included	1	$27,000.00
				Grand Total:	$260,200.00

Notes: 1. Equipment installation cost shall be inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost shall be inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

December 20, 2012

COST PROPOSAL FORM

SOFTWARE SERVICES

TABLE 2 - Software Services

Task	Cost ($)			
	Base 3 Years	First - 2 Yr Option	Second - 2 Yr Option	Third - 2 Yr Option
Transfer of 10 Year Historical Data	Included in Phase A Project Table 3	Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information	Included	Included	Included	Included
NOMS Software (8 User Licenses)	$296,700.00	$213,000.00	$225,900.00	$239,700.00
Web Based Software (Public Web Portal)	$30,900.00	$22,200.00	$23,500.00	$25,000.00
Web Site Hosting for General Noise Information	Included	Included	Included	Included
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)	$18,500.00	$13,300.00	$14,100.00	$15,000.00
Voice To Data Transcription Service for Noise Complaints	Included	Included	Included	Included
INM Noise Contour Calculation	Included	Included	Included	Included
Noise Calculation at a Certain Chosen Location on a GIS Map	Included	Included	Included	Included
Software Upgrades	Included	Included	Included	Included
Additional User License	$11,300.00	$12,200.00	$12,900.00	$13,700.00
Total Cost ($):	$357,400.00	$260,700.00	$276,400.00	$293,400.00

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

December 20, 2012

COST PROPOSAL FORM

CONTRACT SERVICES

TABLE 3 - Contract Requirements

Task	Cost ($)			
	Base 3 Years	First - 2 Yr Option	Second - 2 Yr Option	Third - 2 Yr Option
Contract Management and Administrative Services	$623,600.00	$88,700.00	$94,100.00	$99,900.00
System Testing Requirements	$309,748.00	Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation	Included in Phase A Project	Not Applicable	Not Applicable	Not Applicable
Ongoing Training	Included	Included	Included	Included
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals - Training Manuals	Included	Included	Included	Included
System Maintenance & Repair (Hardware & Software)	$198,600.00	$210,700.00	$223,600.00	$237,200.00
System Support (On-Site Troubleshooting Support)	$200,900.00	$144,200.00	$153,000.00	$162,300.00
Hardware and Software Warranty	Included	Included	Included	Included
Total Cost ($):	$927,848.00	$443,600.00	$470,700.00	$499,400.00

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

December 20, 2012

COST PROPOSAL FORM

TOTAL COST

TABLE 4 - Estimated Total Contract Costs

		Total Cost ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	$452,452.00
TABLE 1B	Handheld Sound Level Meters	$ 28,600.00
TABLE 1C	Computer Hardware	$ 49,000.00
TABLE 1D	Hardware Installation	$260,200.00
TABLE 2	Software Services	$1,137,800.00
TABLE 3	Contract Requirements	$2,341,518.00
	Grand Total:	$4,269,600.00

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

December 20, 2012

COST PROPOSAL FORM

HOURLY RATES

Table 5 - Hourly Rates for Supplemental Work – Straight Time

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager	$206.00	$222.00	$235.00	$250.00
Project Manager	$206.00	$222.00	$235.00	$250.00
Software Developer/Engineer	$206.00	$222.00	$235.00	$250.00
Trainer	$206.00	$222.00	$235.00	$250.00
Report Writer	$206.00	$222.00	$235.00	$250.00
Installation Technician	$155.00	$166.00	$176.00	$187.00
Technical Support (Hardware/Software)	$206.00	$222.00	$235.00	$250.00

Note: Straight time is defined as normal business hours between 8:00 AM and 5:00 PM EST

Table 6 - Hourly Rates for Supplemental Work – Overtime

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager	$268.00	$289.00	$306.00	$325.00
Project Manager	$268.00	$289.00	$306.00	$325.00
Software Developer/Engineer	$268.00	$289.00	$306.00	$325.00
Trainer	$268.00	$289.00	$306.00	$325.00
Report Writer	$268.00	$289.00	$306.00	$325.00
Installation Technician	$202.00	$216.00	$229.00	$243.00
Technical Support (Hardware/Software)	$268.00	$289.00	$306.00	$325.00

Note: Overtime is defined as time between 5:01 PM and 7:59 AM EST

December 20, 2012

COST PROPOSAL FORM

ASSUMPTIONS

Proposers should identify any underlying cost-related assumptions in this in the space below or on additional sheets if the space provide below is insufficient.

7 Assumptions

In preparing this cost proposal the following assumptions were made:

- In Table 3, "Phase A Project Implementation including Testing (One Time)" is a Project Service that is payable by Project Milestones defined in F.2.09 Detailed Implementation Plan.
- Table 1D are Project Services that are payable by Project Milestones defined F.2.09 Detailed Implementation Plan.
- Fixed and Portable NMTs will be installed on existing mounts.
- Table 5 includes fees for nine years of services, including one time Phase A and Phase B project fees.
- For Supplemental Work, third party hardware, software and services will be charged at cost plus 15%.
- For Supplemental Work, travel expenses (if required) including fares and accommodation, will be charged at cost plus 15%.

8 Options

This offer includes the following options:

8.1. WebTrak

WebTrak provides near live and replayed aircraft movements. It gives the community access to flight information and noise data (where available), and reduces the need and time for airport employees to explain where aircraft actually fly, how often, who they are and where they go.

Brüel & Kjær has included a single instance of WebTrak in the deliverables to the Authority, to provide a consolidated view of the aircraft flight movements for all Authority airports.

At the request of the Authority, Brüel & Kjær will provide separate WebTrak services in the solution for one or more airports.

The following pricing is for a single airport:

ID	Item	Description	Price (USD)
WT1	Setup	One-time setup fee	$5,000*
WT2	Annual Services	Ongoing support fee	$10,000

* This fee is waived if WebTrak is ordered as part of the ANOMS implementation project.

For more information, please see F.2.02 WebTrak Product Description.

8.2. WebTrak MyNeighbourhood

WebTrak MyNeighbourhood is a component of the internet-based WebTrak System that enables the public to answer commonly asked questions about the overall impact of airport operations and to to explore long term statistics and trends in airport operations.

At the request of the Authority, Brüel & Kjær will provide WebTrak MyNeighbourhood services in the solution, for one or more individual airports

The following pricing is for a single airport:

ID	Item	Description	Price (USD)
WTMN1	Setup	One-time setup fee	$6,000
WTMN2a	Annual Services with WebTrak for airport	Ongoing support fee	$6,000
WTMN2b	Annual Services without WebTrak for airport	Ongoing support fee	$15,000

For more information, please see F.2.07 WebTrak MyNeighbourhood Product Description.

8.3. HMMH Real Contours

Harris Miller Miller & Hanson Inc. (HMMH) RealContours™ converts aircraft flight track data into Federal Aviation Administration's Integrated Noise Model (INM) input data, runs the INM, and provides the INM results based on the modeling of each individual flight track.

At the request of the Authority, Brüel & Kjær will include HMMH Real Contours modelling services in the solution.

ID	Item	Description	Price (USD)
RC1	Setup	One-time setup fee	$61,100
RC2	Annual Support Services	Ongoing support fee	$67,800

For more information, please see F.2.11 HMMH Real Contours V2.

8.4. AMSTAT Aircraft Registry

AMSTAT is a provider of researched market information to the business aviation industry. AMSTAT provides data on the worldwide fleet of corporate aviation aircraft, including jets, turboprops, and turbine helicopters, including aircraft owners and contact lists.

At the request of the Authority, Brüel & Kjær will provide a price for data services, integration and support of the AMSTAT Aircraft Registry.

8.5. Buchair JP Fleets Aircraft Registry

Buchair is a provider of researched market information to the aviation industry. Its JP Fleets database includes data on the worldwide fleet of commercial aircraft, including aircraft owners and operators.

At the request of the Authority, Brüel & Kjær will provide a price for data services, integration and support of the Buchair JP Fleets database.

8.6. Audio Streaming

Brüel & Kjær noise monitoring terminals can be equipped with modules for live audio streaming, allowing authorised users to connect and listen to noise events as they occur.

At the request of the Authority, Brüel & Kjær will provide a price for adding Audio Streaming capabilities to the NMTs.

F.2 Technical Proposal for PANYNJ
RFP 31644

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

F.2 Technical Proposal

January 2013

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Brüel & Kjær

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The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

F.2.08 Key Staff Resumes

January 2013

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1 Introduction

This document F.2.08 Key Staff Resumes forms part of the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

The extent to which the Proposer, and the managerial and supervisory personnel proposed to be dedicated to this Contract have the technical expertise and experience in implementing and managing similar services in a similar environment using the staff comparable in size to that necessary for the services to be provided hereunder, the anticipated function of each person on the Contract, a summary of the relevant experience of each person. The resumes of the individuals who are being recommended for these positions should be included in the Proposal.

This document contains the resumes of the individuals recommended for the managerial and supervisory personnel dedicated to this contract.

- Jaime Locquaio – Operations Manager, Americas
- Nicole Eib – Account Manager
- Rebecca Brown – Project Manager
- Robert DeFranzo – Services Delivery Manager
- Robert Drozdz – Noise Office Manager
- Sean Tanner – Training Services
- Stephen Reed – Global Services Manager
- Susana Fueyo Suarez – Global Programs Manager
- Don Campbell – NMT Services Manager

2 Jaime Locquaio – Americas Operations Manager

Jaime has over 26 years of aviation operations and managerial experience including 14 years in Military Air Traffic Control Operations, 8 years in Airport Noise Management at Mineta San Jose International Airport and four years as Operations Manager (Americas) at Bruel & Kjaer EMS Inc.

Jaime has been involved in developing and managing Aviation and Noise Management Programs through resource management and coordination, developing partnerships, and community relations. He is experienced in contract negotiations, project and operations management, and training development.

2.1. Professional Experience

- Operations Manager, Americas – Brüel & Kjær EMS Inc
- Airport Noise Abatement Manager – Mineta San Jose International Airport.
- Public Safety Dispatcher – San Jose Police Department.
- United States Air Force, Air Traffic Control Tower Watch Supervisor.

2.2. Qualifications

- US Air Force/FAA Air Traffic Control School.
- Community College of the Air Force – Associates
- Applied Sciences, Air Traffic Control.
- Air Traffic Controller / Air Traffic Controller Watch Supervisor
- Terminal Instrument Approach Design Specialist

3 Nicole Eib – Account Manager

Nicole has a proven track record of more 10+ years of successful Account Management and Client Services Management, with strong ability to create, maintain, and enhance relationships with long term results.

Nicole has strong experience in working with government contracts, and is able to quickly understand, assess, and address customers' challenges and effectively work towards resolution.

3.1. Professional Experience

3.1.1. December 2010 – Present

Brüel & Kjaer EMS Inc

Account Manager

- Liaison for the client during project and services phases
- Manage existing client base throughout North & South America
- Proactive client contact enhancing business relationship
- Renew and maintain all existing contractual agreements

3.1.2. June 2008 – December 2010

Brüel & Kjaer EMS Inc

Services Delivery Manager

- Manage a portfolio of customers and assure their success with the software and hardware
- Developed strong relationships with account base
- Schedule regular account reviews with customers via WebEx, and or face to face meetings assisting with strategies to optimize return on investment
- Manage all technical activities and able to escalate to the proper individuals whom include working with development, project management, operations, sales and higher level management.

- Work with internal departments to provide services meeting the customer's expectations
- Conduct on- going training with existing account base and peers

3.1.3. February 2007 – June 2008

Cisco- Webex

Client Services Manager

- Maintain regular client awareness through regular proactive customer contact
- Identify & define additional ways to increase revenue opportunities within assigned customer base
- Drive adoption, retention and satisfaction of their services
- Work closely with interdepartmental teams
- Provide continued education, entrenchment and penetration of various contact levels of the customer organization

3.1.4. May 2003 – February 2007

TelePacific Communications (formerly Mpower Communications)

Account Manager

- Manage and renew customer accounts within Illinois, Central Valley, Northern CA and The Bay Area.
- Provide superior customer satisfaction through cultivating long-term relationships
- Design and present customized proposals and presentations to customers (pre-sales and post-sales)
- Drive issue resolution through issue identification and internal cross-functional process, internal reporting mechanism, external trouble reporting avenues and management based escalation
- Analyze and report customer trends through reporting resources
- Train newly hired Account Managers
- Two-time President's Club Award recipient (2004 and 2005)

3.1.5. Prior to May 2003

Prior to May 2003, Nicole had roles with Global Crossing Telecommunications

3.2. Qualifications

- Miller Heiman - Certified Strategic/Conceptual Selling Sales
- Tony Robbins Power of Positive Influence
- The No. One Curriculum for Project Management and Premiere Customer Service
- Technical Training in Voice, Data and VOIP applications

3.3. Professional Associations

- Airport Council International
- Florida Airport Council Member
- Professional Business Woman Group

4 Rebecca Brown – Project Manager

Rebecca Brown is a dual citizen of Australia and the United States and has previously held a Restricted level Australian Defence clearance.

4.1. Professional Experience

4.1.1. November 2010 – Present

Brüel & Kjær Environmental Management Systems (EMS)

Senior Project Manager – Airports Team Lead

- Brüel & Kjær EMS is a global leader in the field of sound and vibration measurement, monitoring and assessment.
- The Global Project Team manages the deployment and upgrade of Airport and Urban Environmental Management Systems around the world from key office locations in Denmark and Australia.
- Project Management within EMS requires considerable skill in the key project areas of cost and scope control whilst working across time zones and cultures to deploy complex systems in highly regulated environments.

As a Senior Project Manager and Team Leader for Airports, my role involves the following tasks and responsibilities:

- Development/enhancement of a structured approach for Project Deployment
- Development/enhancement of a Quality Assurance process for Project Deployments
- Mentoring and leading the team of staff allocated to the Airport portfolio
- Assisting the Global Program Manager with development of the Operational Plans and Budget
- Compilation of Monthly Financial Reporting for the Executive
- Management of projects across Europe, the United States and Asia

4.1.2. August 2008 – November 2010

Airservices Australia

Airservices Australia provides air navigation and airside services to the Australian aviation industry. The region covered by Airservices' air traffic operations covers 11 per cent of the earth's surface.

Program Coordinator/Project Manager, Major Construction Portfolio

- The Major Construction Portfolio of Airservices manage the deployment of Construction projects for the organisation worth in excess of $5M AUD, including new Air Traffic Control towers, cutting edge Fire Training Facilities and office buildings.

Minor Works Program Coordinator

- The Minor Works Program involves all projects within the AUD 200 million capital works program with an allocated budget of less than $200k AUD.
- The role of Minor Works Program Coordinator was developed to provide governance and oversight of the entire Minor Works Program, which during my tenure, encompassed 89 open projects from all areas of the business with a collective budget in excess of $3 million.

As the Program Coordinator/Project Manager in the Major Construction Portfolio, Rebecca's responsibilities involved:

- Management of the Construction of a $12M AUD Fire Training Facility in Melbourne
- Development of Tender documents in consultation with Procurement and Legal Counsel to a standard to meet Commonwealth requirements
- Management of the project budget and tasks in SAP
- Oversight of the Major Construction Program, including the construction of new ATC Towers in Melbourne and Adelaide and refurbishment of remote towers around Australia
- Development of a standard Work Breakdown Structure to assist the integration of Project tools with SAP
- Reporting to the Executive and Board of Airservices on project progress and briefs on subsequent impacts to Business Strategies

As the Minor Works Program Coordinator, my duties and responsibilities were to:

- Develop systems for managing and tracking the program of projects (the role was newly created).
- Develop reporting requirements and a structured system of tracking actual expenditure against the allocated budget (using SAP).
- Tailor and scale the corporate Project Management Methodology to minimise the administrative overhead for the smaller projects.
- Present to the internal Project Management Forums to improve visibility and perception of the Minor Works Program.
- Liaise with project managers, maintenance and technical staff from all areas of the business.
- Undertake the project management of a number of projects.
- Assist and train staff in project management requirements and techniques.
- Actively manage the program of works.

4.1.3. January 2003 – August 2008

QinetiQ-AeroStructures (Formerly AeroStructures Technologies)

Senior Engineer/Engineer

- QinetiQ-AeroStructures is a major contactor to the Australian Defence Force. The majority of work conducted is in the structural integrity of the ADF's fleet of aircraft, both fixed and rotary wing.
- Participated in a number of different tasks whilst at QinetiQ-AeroStructures, ranging from the preparation and checking of aircraft usage reports, which are highly data intensive, to the preparation of high level fatigue life management reports.
- My MBA thesis was directly related to the QinetiQ. This involved frequent interviews with the CEO, GM and conducting a survey of all staff members.

Positions held at QinetiQ-AeroStructures:

- PC-9/A Project Manager.
- Interim Project Manager for the Fighter/Trainer project team (managing all work on the F/A-18, PC-9/A and JSF).
- POC for all client related matters on the JSF.
- Checker of reports in the fields of data analysis and data processing.
- Preparer of reports in all engineering related fields.
- Treasurer of the Company Social Club.

As a Senior Engineer in the Fighter/Trainer Project Team, my role included the following:

- Staff training and supervision
- Scoping new projects
- Developing job proposals and contingency plans
- Development & application of analysis methodologies
- Resource and project planning
- Liaising with clients and suppliers on both technical and management related issues
- Task leadership
- Supporting the team lead in both technical and administrative issues
- Reporting
- Developing a system of document management for resources acquired by the team

4.2. Qualifications

- 2007 Master of Business Administration (Aviation Management) – RMIT
- 2003 Bachelor of Aerospace Engineering (Honours 2A) – RMIT
- 2003 Bachelor of Business Administration (With Distinction) – RMIT

- 2006 – 2011 Certified Associate of Project Management (PMI)
- 2007 MSG-3 Familiarisation Training Course (Bombardier)
- 2006 Technical Report Writing Skills (ATT)
- 2005 Airframe Stress Analysis and Sizing (M. Niu, ATT)
- 2004 Fundamentals of Damage Tolerance Analysis

4.3. Professional Associations

- Member Royal Aeronautical Society
- Member Engineers Australia (Mechanical College)
- Member Australian Institute of Project Management

5 Robert DeFranzo – Services Delivery Manager

Robert is a senior Services Delivery Manager, with primary responsibility for US East Coast airport customers, as well as providing support to other service delivery managers.

Robert DeFranzo joined Brüel & Kjær EMS (formerly Lochard) from the MASSPORT Noise Abatement Office at Logan Airport where he was an intern for 2 years. At Logan, Rob gained a greater understanding of the role of a Noise Abatement Office as well as the need for having supportable software to assist in providing for the needs of the community.

Robert plays a crucial role in new system installations, and has supported projects at Austin, Lehigh Valley, Las Vegas, and Honolulu airports.

Robert has a strong understanding of the ANOMS product suite and has trained clients on many different aspects of the product.

As Service Delivery Manager, Robert is:

- Responsible for ensuring the delivery of services meets contracted requirements on a day to day basis
- The escalation point for all service issues
- Responsible for providing assistance and product support of the ANOMS System
- Responsible for delivery of monthly reports, including data on tickets
- Liaison with the Field Engineering staff to resolve short and longer term NMT issues; and
- Liaison with the Account Manager in contract and financial negotiations

Robert is responsible for regular customer discussions for issues, enhancements and upgrades.

5.1. Professional Experience

- 2004 – 2007 Brüel & Kjær – System Engineer
- 2000 – 2003 Brüel & Kjær – System Analyst

- 1999 – 2000 HMMH – System Analyst
- 1997 – 1999 MASSPORT Noise Abatement Office at Logan Airport - Intern

5.2. Qualifications

- Bachelor of Computer Science, BS Electrical Engineering, Suffolk University – 1999

6 Robert Drozdz – Noise Office Manager

6.1. Professional Experience

6.1.1. 2006 – Present

Brüel & Kjær Environmental Management Solutions

Robert is currently the Noise and Aircraft Operations Manager, where he is responsible for the following roles:

- Monitoring and analysing Flight Paths in and around major international airports
- Monitoring and analysing the impact of aircraft noise in and around various domestic and international airports
- The set up and testing of the ANOMS 'Noise and Flight Path Monitoring' system for Airport customers
- Maintaining the ANOMS8 'Noise and Flight Path Monitoring' system for various customers
- Generation and validation of Flight and Noise Document Reports, which are released to the airports and published to the public

6.1.2. 2005 – 2006

Volkswagen AG Car Company, Wolfsburg Germany

Robert completed a 6-month internship with Volkswagen AG Car Company as part of his Aerospace Engineering degree and Engineering Management course. During this time he worked as a member of the Research and Development team where he was responsible for the following roles:

- Conducting Finite Element Modelling (FEM) analysis, using programs including NASTRAN and ANSYS to complete various structural and stress analysis' of vehicles

6.2. Qualifications

- 2012 High Performance Management (Diploma of Management), Leadership Management Australia (LMA)
- 2011 INM 7 Noise Modelling, Harris Miller Miller & Hanson Inc (HMMH)
- 2005 Graduate Certificate of Engineering Management The Royal Melbourne Institute of Technology
- 2001 – 2004 Bachelor Of Aerospace Engineering The Royal Melbourne Institute of Technology Graduated with 2A Honors
- Recipient of the Monash University Prize, 2000
- Recipient of the English and Maths Methods Subject Prize, 2000 (Nazareth College)
- Recipient of the Further Mathematics Prize, 1999 (Nazareth College)

7 Sean Tanner – Training Services

Sean has more than 25 years of customer oriented experience, including services delivery management, project coordination, I.T. and airport noise system installation, and training services.

Sean is experienced with training individuals and large groups.

7.1. Professional Experience

7.1.1. April 2008 – Present

Brüel & Kjaer EMS Inc (formerly Lochard Corporation)

Project Coordinator

- Project Coordination and resource management for North America
- Servicing all of North America
- Subcontractor Management
- Customer Service

Information Technology

- IT Hardware installation
- Level 1 & 2 Internal IT support

Service Delivery Manager

- Contract Management and maintenance
- Local and Remote Noise Monitoring Software support and consulting
- Business Reporting
- Single Point of Contact and Escalation Management
- Local Time Zone Liaison between customers and remote technical support
- Training
- Customer Service

7.1.2. December 2006 – April 2008

Adecco Engineering & Technical

Senior Technical Staffing Consultant

- Sourcing to hire permanent, temporary and outsourced candidates for entry level to senior level technical positions, ranging from computer technicians to aerospace engineers.
- Manage existing client relationships

7.1.3. August 2006 to December 2006

Ameriquest Mortgage

Mortgage Loan Specialist/Processor

- Sold Conventional and Sub Prime Mortgage loan products
- Credit Consultation
- Processed Mortgage loans to funding

7.1.4. Prior to August 2006

Prior to August 2006, Sean had roles with Hewlett Packard, Aerojet & Northrop Grumman (via Kemtah Group), Bank of America and West Maui Parasail Co, Inc.

7.2. Qualifications

- Bachelor of Science in Business Administration, Concentration in Finance (pending)
- Project Management Training (pending)
- MCSE certification courses (MCP Certified) - Heald Institute of Technology
- Private Pilot License - American Pacific Air – Kahului, Maui, HI
- US Coast Guard 100 ton License (expired) - Pacific Maritime Academy - Honolulu, Hawaii

8 Stephen Reed – Global Services Manager

In the role of Global Services Manager, Stephen is responsible for all customer support services. This is a global role and includes support staff in USA, Denmark, Netherlands, Spain and Australia.

Stephen has over 20 years experience in IT management, specialising in building support processes and infrastructure improvements.

Stephen has extensive experience in implementing service management processes and holds ITIL certification.

Stephen established the EMS Operations Centre to provide round the clock helpdesk, system monitoring, system support and customer support.

Stephen established the Brüel & Kjær EMS Data Centres in the US and Australia to host our critical customer systems – currently, Brüel & Kjær hosts aircraft noise and operations management solutions for more than 50 airports worldwide.

8.1. Professional Experience

Prior to joining Brüel & Kjær, Stephen had senior roles with

- Manager, Service Delivery in HP Outsourcing – Hewlett Packard
- General Manager Shared IT Services – Pacific Dunlop
- Manager of the Technical Services Group – Pratt Industries

8.2. Qualifications

- Certificate of Technology – Caulfield Institute of Technology

9 Susana Fueyo Suarez – Global Programs Manager

Susana is the Program Manager responsible for delivering EMS projects, assuming overall responsibility and accountability for Brüel & Kjær EMS Division's project portfolio worldwide.

9.1. Professional Experience

Susana's recent experience includes:

- program manager overseeing multi-airport projects including Air Services Australia national upgrade (8 airports) and LFV (Sweden) national implementation (17 airports)
- Program Manager for Australian Department of Defence (5 Air Force bases)
- Project Manager for Barcelona SIRBCN project and Palma di Mallorca
- As Project Manager for Prague, successfully delivered green field project in the shortest timescale ever managed by the company.

Prior to joining Brüel & Kjær, Susana's roles included:

- Program Manager - Aerostructures Technologies FT-5 Life Of Type Extension (LOTEX) Maintenance Program
- Purchasing Manager - Rolls-Royce Deutschland TP400 TurboProp Project – Airbus A400M
- Project Team Leader – Principal Development Engineer - Rolls-Royce Canada - Industrial Trent – Total Trent Design To Cost (T^2DTC).
- Senior Development Engineer - Rolls-Royce plc Industrial Trent – Core Engine

9.2. Qualifications

- Nottingham University (U.K.)/University of Oviedo (Spain) Mechanical Eng/Ingeniero Industrial Superior – Especialidad Mecánico Máquinas
- Bilingual English and Spanish, working knowledge of French and basic German.
- Certified Associate in Project Management with Project Management Institute (PMI)

10 Don Campbell – NMT Services Manager

Don is responsible for contract execution, assessment of technical specifications, and overall contract compliance during and after the project including acceptance test, and is also a key liaison with third party suppliers, vendors.

Don has over thirty years of experience in computer-based instrumentation system design, sales, and marketing including division project management. Don has significant experience in government computer based systems, strong technical engineering and systems development skills.

Don is a recognized performer with a record of consistent and effective responsibility in development, project implementation and management, cost control and custom system design, with a speciality in airport solutions.

Don is a former Division Manager for Brüel & Kjær Condition Monitoring Systems and a Major Program Manager for government projects.

Don holds BSc EE & ME from Western New College, Springfield, Ma.

F.2.09 Detailed Implementation Plan

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

F.2.09 – Detailed Implementation Plan

January 2013

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1 Document Approval

This document is F.2.09 Detailed Implementation Plans for the Port Authority of New York & New Jersey (Port Authority) "Airport Noise & Operations Management System Contract for John F. Kennedy (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) Airports", consisting on the replacement of the current software system to ANOMS and WebTrak and the replacement of the existing Noise Monitoring Terminals to the be delivered by **Error! Reference source not found.** (B&K).

Brüel & Kjær has developed rigorous implementation and deployment methods for delivering noise monitoring systems in a cost and time efficient manner. These methods, based on PRINCE2 and PMI project management methodologies, have been tried and tested on green field installations, replacement and upgrades for multi-airport environments. Brüel & Kjær's corporate knowledge, gained through installing systems at airports around the globe, ensures Brüel & Kjær's ability to identify and manage risks early, leading to successful project outcomes for key stakeholders.

Brüel & Kjær has the largest pool of experienced NOMS staff of any vendor worldwide, mobilising a dedicated Integrated Project Team (IPT) to ensure that the project scope of work is delivered professionally, within the proposed timeline and to agreed specifications.

All information contained in this document is "Commercial-in-Confidence" and no part or parts may be disclosed to any other person or body other than the Customer without the written permission of Brüel & Kjær.

The initial draft of this document shall serve as a framework to define the implementation plan for the contract Scope of Work. The final version of this document will be formally approved by the Port Authority and Brüel & Kjær, and will constitute the basis for a Project Method of Work.

Approved for and on behalf of:

Error! Reference source not found.	Port Authority of New York & New Jersey
Project Manager:	
Date:	**Date:**

2 Introduction

2.1. Purpose

Within the scope of the SW and HW replacement of the Port Authority Airport NOMS, the purpose of this document is to define and establish how Brüel & Kjær and the Port Authority will work together to:

- ✓ Deliver the contractual milestones within the timescales and comply with the technical requirements defined by the Port Authority and agreed in B&Ks response to the tender.
- ✓ Define the tasks to undertake within the scope of this project.
- ✓ Define a detailed schedule recording the tasks, resources and dependencies.
- ✓ Agree on the method to invoice the payment milestones.
- ✓ Manage the project in an efficient way, ensuring Port Authority is kept informed of project progress, any issues, risks or potential delays.
- ✓ Maximise the synergy with the Port Authority to successfully deliver the project.
- ✓ Clarify the roles and responsibilities to avoid conflict.
- ✓ Provide the contact details of team members and key personnel for delivery of the project.
- ✓ Ensure an optimum control and monitoring of the project.

This document does not override any prior or future contractual agreement between the aforementioned parties or any contractual arrangement between the parties. It does however provide more detailed information about how the project setup must operate and requires approval and commitment by all Project Managers, with backing from the project executives.

2.2. Document Audience

This document's intended audiences are:

- ✓ Port Authority Project Manager and Project Board.
- ✓ Brüel & Kjær Project Manager and Project Board.

2.3. Document Identification

The information recorded in this document is applicable to the delivery, implementation and maintenance of the replacement airport NOMS for the Port Authority.

2.4. Stakeholders / Sign-Offs

The table below lists all document reviewers, document sign offs.

Legend: DR ("Document Reviewer")

DS ("Document Sign-off")

Req.	Name	Position	Group
DR	T.B.D.	Contract Director	**Port Authority**
DS	T.B.D	Project Manager	**Port Authority**
DR	Robert Brodecky	Vice President	**Brüel & Kjær**
DR	Nicole Eib	Account Manager	**Brüel & Kjær**
DR	Susana Fueyo-Suarez	Global Program Director	**Brüel & Kjær**
DS	Rebecca Brown	Project Manager	**Brüel & Kjær**

3 Project Context

The Port Authority is seeking proposals for a Noise and Operations Monitoring System (NOMS) to serve all its five airports. This opportunity The SW and HW replacement of the existing Airport NOMS, at its most elemental, comprises the delivery of the following components:

3.1. Phase A Software Replacement

- ✓ Hosted ***ANOMS Software*** applications, for the Port Authority airports (JFK, LGA, EWR, SWF and TEB) and Web enabled ***ANOMS Web***;
- ✓ 3 User account licenses with full access to the system and 7 User account licenses with read only access;
- ✓ A compliant, airport installation of our highly-configurable ANOMS application which is proven in operation at over 75 airports globally;
- ✓ Secure Virtual Private Network (VPN) between Port Authority, Brüel & Kjær and the US Data Centre (data centre fully duplicated in an off shore location);
- ✓ Public Web Portal ***WebTrak Display, Investigate and Library***
- ✓ Interface with the Flight Data and Tracking Information;
- ✓ Interface with the existing NMT's (via broadband and dial-up communications);
- ✓ Interface with D-ATIS (or alternatively, interface to METAR and NOTAMS if the D-ATIS feed is not available for any of the 5 airports);
- ✓ Integration of the noised data collected by the existing Noise Monitor Terminals (B&K and LD models);
- ✓ Raster and vector maps;
- ✓ Aircraft Registry;

- ✓ Scenario Builder (SB) and INM 7.0 license to allow exporting track data into INM and importing INM contour images into ANOMS for display on the GIS map, including the ability to calculate noise levels at a given location (select a location on the map and a set of tracks to use for the calculation of a noise level);
- ✓ Interactive Voice Response service: "off the shelf" service from a well-established service provider (e.g. Twilio) to deliver the service that will then be integrated into the system and supported by Brüel & Kjær;
- ✓ Standard and Customised reports;
- ✓ Project Documentation and System Manuals:
    - Project Management Plan including the Detailed Implementation Plan and Project Schedule
    - Monthly Steering Reports including the updated Project Schedule
    - Historical Data Migration Plan
    - Solution Definition Document including the System Diagrams and Security Practises and Policies
    - Training Plan
    - Site Acceptance Test Plan
    - NMT User Manuals and NMT Technical Documentation
    - ANOMS Operator Manual
    - Disaster Recovery Plan
    - 3rd part System Security ad Audit report
    - Change Management Standard Process
- ✓ Database Documentation including the schema documentation [please note no access to the database is granted];
- ✓ 10 years of Historical Data Conversion (HDC) including noise monitoring readings, noise violations, noise complaints and flight information and tracks. The data is to be provided by the Port Authority in external hard drive, preferably as flat files. If the data provided is in raw format, Brüel & Kjær will use our

superior track builder to provide the track information to the Port Authority (the appearance of the tracks might vary from the historical data since the more advanced track building algorithms could improve the track correctness). To be converted adequately, the historical noise violation data provided by the Port Authority shall be provided as a violation associated to a noise event that has been correlated to an operation. The converted noise violation will be stored as a flag associated to an operation and no additional violation details will be converted;

- ✓ Comprehensive System Training – Operational Core and Specialist (4 days) to 10 authority users, followed by the System Inspection and System Acceptance Testing (SAT). A training plan will be submitted 14 days prior to the commencement of the training;

- ✓ System Inspection and System Acceptance Testing (SAT) in accordance with our standard SAT methodology. The test plan will be submitted 14 days prior the commencement of the SAT. The testing will commence after the training has been delivered fulfilling a twofold goal: demonstrating the system complies with the agreed contractual requirements and as a refresh training session ;

- ✓ 14 day Operational Period; and

- ✓ Take responsibility for flight tracking services for SWF Airport under this Contract.

3.2. Phase B Hardware Replacement and ANOMS upgrade

- ✓ Eleven (11) fully compliant fixed Brüel & Kjær Type 3639 Noise Monitoring Terminals (NMTs) which are proven at many airports around the world in a vast range of climatic and operational conditions. Six (6) NMTs for JFK, Three (3) NMTs for EWR and Two (2) NMTs for LGA;

- ✓ Eleven (11) portable NMTs and associated hardware that are either deployed in communities or currently in storage as follows, Three (3) Portable NMTs for JFK and Eight (8) NMTs in Communities surrounding JFK, LGA and LWR;

- ✓ Two (2) Handheld Brüel & Kjær Type 2250 Noise Monitoring Terminals (NMTs) with sound level calibrators for calibrating the handhelds NMT;

- ✓ Two (2) pistonphone calibrator to calibrate the twenty two (22) fixed and portable Type 3639-C NMTs;

- ✓ Provide Communication devices for NMTs using either wireless, broadband or landline connection, depending on the availability and cost of type of connection at each NMT site as determined by the Authority's contract manager for each NMT site;

- ✓ Replace the existing stainless steel housing cabinets for both portable and permanent NMT units along with any mounting brackets with new housing cabinets that built out of durable material (Polymer) that is smaller in size than the existing units and able to house all the supporting hardware and equipment for the NMT unit;

- ✓ NMT Manufacturer's Certificate of Conformance and installation Commissioning Sheets;

- ✓ Evaluate the existing NMT units being replaced for salvageable value, which can be credited towards the new NMT units and handheld devices;

- ✓ Retain TEB's Existing NMTs;

- ✓ Replace the existing DVR Computer System / PC MON at TEB with a DLI logger to record up to ten (10) frequencies used for the transmissions from the FAA's ATCT to replay ATCT recordings at the same time as tracks are replayed (specific recordings can be linked to operations by the user). The users at TEB airport will be able to listen to the ATCT transmission through the ANOMS Client.

  The proposed digital voice recording system assumes that Bearcat scanners will be replaced, only 1 (one) Omni-directional antenna is required (non penetrating roof mount) and the rooftop location and the internal cabling from the rooftop antenna location to the radio/scanner rack space is already available for use. The number of frequencies recorded can be extended up to sixteen (16) as a priced option to be negotiated if the Port Authority is interested.

  To facilitate the replacement, Brüel & Kjær will liaise with the TEB airport to ensure the following can be provided:

  - Adequate space (1/2 rack for the equipment), power and ventilation. Power required is 3A from one L-15 circuit;

  - Fixed IP for server;

  - Access to remote maintenance channel via secure VPN;

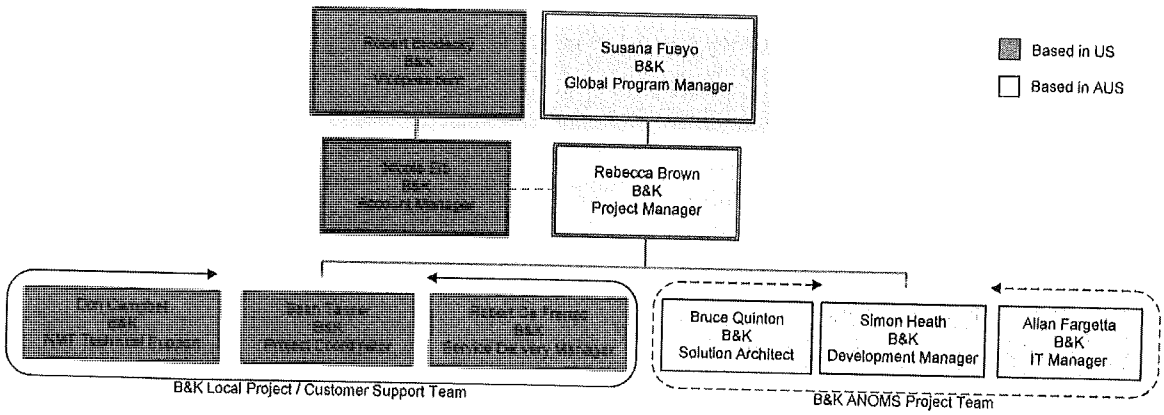
  - 1000BT port. Minimum 100BT bandwidth to clients;

- ✓ Take responsibility to disconnect, remove and dispose all hardware components of the existing System; and
- ✓ Within the Phase B implementation time scales, ANOMS will be upgraded (following the change management process described in Section 7.2 Changes to Supported Live Systems) so the Port Authority can benefit from the following enhancements that are currently scheduled in the product road map:
    - Track Density exportable to the GIS tool as a geo-located image, as well as export to MS Excel spreadsheet (during Phase A the Port Authority the track density will be exportable on the screen as an image)
    - Export flight data to AEDT for AEDT models input (during Phase A the Port Authority will be able to export track data into INM Radar Graphics format)
    - Any optional packages the PA NY NJ might have taken

Key to the Port Authority Project will be an intelligent system installation; which minds the daily needs of Airport Authority Staff and the preservation of historical system data. The Brüel & Kjær Project Manager (PM) will work closely with Port Authority in delivering required project and test documents as outlined in the purchase agreement.

4 Project Communication and Administration

4.1. Brüel & Kjær Project Team Organisation Chart



4.2. Project Administration and Communication Governance

During the project initiation and analysis/design phase, the administration, monitoring and the project communications will be shared between the following individuals:

- ✓ To Be Confirmed (Project Manager, Port Authority)
- ✓ Rebecca Brown (Project Manager, Brüel & Kjær)

All formal communications relating to commercial issues, project scope, project schedule and administration matters will take place between these two individuals.

In order to facilitate and expedite the communications, there will be additional communication channels in the following areas:

- ✓ Monthly Steering Meeting - a monthly steering report will be provided to the Port Authority on project progress two (2) days before the steering meeting is held;

- ✓ Weekly conference calls will be held between the Project Managers of both companies. Technical issues may also be discussed during these conference calls with the attendance of the system users and project coordinator. Ad-hoc attendance of the IT and development members of the team can be requested; and
- ✓ Regular e-mail communication between team members.

Brüel & Kjær will be responsible for arranging, chairing and minuting the meetings.

	Meeting objective	Artefacts	Meeting Attendants
Weekly Project Meeting	Work in progress, status of the deliverables and tasks Review the project milestones Dependencies and Risks Any other business	Project Action Log Previous meeting minutes / actions	Port Authority Project Manager Rebecca Brown Technical Experts ad-hoc
Monthly Steering Meeting	Work in progress, status of the deliverables and tasks Review the project milestones Dependencies and Risks Review of key strategic or escalation matters	Monthly Steering Report Updated project schedule Minutes from the previous meeting	Port Authority Contract Director Port Authority Project Manager Rebecca Brown Susana Fueyo Nicole Eib

4.3. Applications and Tools Needed

It is expected that all the parties working on the Project have access to certain software applications to enable communication and information exchange. The software applications required are:

- MS Excel
- MS Word
- MS PowerPoint
- MS Office Project
- MS Outlook
- Web browser, Internet Explorer

4.4. Focus

Focus is an online resource for all members of the Brüel & Kjær Environmental Management Solution Community. Focus provides easy and convenient access to Noise Office services, online training material, user forums and discussions as well as providing a central repository for documentation and data summaries.

Throughout the project, Focus will be used as a documentation repository.

https://focus.bksv.com.

4.5. Contact Details

Project Title	Name	Contact Number	Email Address	Location
B&K				
Contract Manager	Nicole Eib	Direct: +1 916 265 7703 Cell:	nicole.eib@bksv.com	Sacramento USA
Global Program Manager	Susana Fueyo	Direct: +61 3 9508 4996 Cell:	susana.fueyo@bksv.com	Melbourne, Australia
Project Manager	Rebecca Brown	Direct: +61 3 9508 4947 Cell:	rebecca.brown@bksv.com	Melbourne, Australia
Project Coordinator	Sean Tanner	Direct: +1 916.265.7708 Cell:	sean.tanner@bksv.com	Sacramento USA
IT/VPN Lead	Allan Fargetta	Direct: +61 3 9508 4956 Cell:	allan.fargetta@bksv.com	Melbourne, Australia
Solution Architect	Bruce Quinton	Direct: +61 3 9508 4910 Cell:	bruce.quinton @bksv.com	Melbourne, Australia
Product Ordering	Ravi Nagarajah	Direct: + 61 3 9508 4944 Cell:	ravi.nagarajah@bksv.com	Melbourne, Australia
NMT Technical Lead	Don Campbell	Direct: +1 954 437 8497 Cell:	don.campbell@bksv.com	Florida USA
Service Delivery Manager	Robert De Franzo	Direct: +1 916 265 7711 Cell:	robert.defranzo@bksv.com	Boston USA
Port Authority New York & New Jersey				
Project Manager	TBD	Direct: Cell:	TBD	Port Authority
System Specialist	TBD	Direct: Cell:	TBD	Port Authority
IT/VPN Lead	TBD	Direct: Cell:	TBD	Port Authority
Representative of User Group	TBD	Direct: Cell:	TBD	Port Authority

4.6. Project Action Log

All key actions will be managed via the Projects Action log. This log will be emailed weekly to the Port Authority and an updated copy will be kept on FOCUS where it will be accessible by all project team members.

5 System Deployment and Cut Over

Key to the successful delivery of the project will be a system installation plan which is sensitive to the ongoing daily needs of the Port Authority users.

The ANOMS system deployment described is a low-risk and proven approach that has been tested through numerous ANOMS implementations for other major customers, including plentiful examples where hardware from the previous system had to be maintained. All hardware and software installation for ANOMS will be undertaken to limit the impact on the operation of the existing system.

5.1. Phase A Deployment

The Project deployment phase commences with a face to face **Kick-off Meeting** with the Port Authority to review the detailed deployment plan, scope of work, dependencies and schedule.

The timely establishment of a **secure site to site VPN tunnel** between the Port Authority Network and Brüel & Kjær data centre is key to the delivery of the Phase A. This task will require the input and cooperation from the Port Authority IT department.

Brüel & Kjær will concurrently work on securing the **dynamic data feeds** (weather, radar and flight plan) and to verify the interface to the NMT Larson-Davis Model LD831. Brüel & Kjær will request access to the portable unit LD831 currently in storage to facilitate this task and ensure that the noise data download from these units is reliable.

The ANOMS software is then deployed in the Data Centre platform and the weather, radar and flight feeds connected. At this stage Brüel & Kjær will load the **static data** (raster and vector maps, aircraft registry information, historic data etc.) and evaluate the system to verify the connectivity, reliability and accuracy of all the dynamic and static feeds (except for noise at this stage).

Once Brüel & Kjær determines that the system is performing satisfactorily with weather, radar and flight plan data, the communications (dial-up) from ANOMS to the noise monitors will be established **in a non-destructive mode and scheduled during the curfew period (quiet period)** and outside the dial-up scheduling time for the old system.

It is important to note that if the transfer of noise data to the old system is done in a destructive mode (the data downloaded is then erased from the NMTs), the ANOMS dial-up connection shall be scheduled to start and finalize before the old system commences its dial-up process.

Brüel & Kjær will engage the Port Authority users to verify the dial-up schedules for the old system as well as the parameters configured for the NMTs (thresholds, trigger levels, guard time etc.). ANOMS communication to the NMTs (dial-up) will be conducted using an agreed first NMT unit and then rolled out to the remaining units. No data loss or impact on the old system is expected during this process.

The ultimate goal is to have a seamless transition from the old system to ANOMS with comparable noise data.

Once the ANOMS system has been finally configured and tuned, the **WebTrak application** will be configured as **password protected** and access granted exclusively to the Port Authority. Please note that the WebTrak password protection can be removed at any time the Port Authority decides and made available to the members of the public only when the Port Authority chooses to do so. The public launch of WebTrak can be flexibly timed to any Public Relations event or commitment with the community.

Brüel & Kjær will undertake an internal quality assurance process before undertaking the Site Inspection and Acceptance test described in ***Section 6***. At this point in time the system will be treated by Brüel & Kjær as an operational in production system, enabling the system's automatic 24/7 monitoring, system administration services, system backups etc. included in the services offering.

After successful completion of the Acceptance and Testing (including the 14 day operational period), the ANOMS system will be declared operational in production and the Services Level Agreement will commence. The Port Authority can decide at this stage to discontinue the dial-up connection from the old system to the NMTs and decommission it.

5.2. Phase B Deployment

The Phase B deployment work will commence, at the Port Authority's request, in the 4th quarter of 2013. Brüel & Kjær will subsequently arrange site surveys to the sites where the NMTs are to be replaced and to TEB airport, to evaluate the installation of the ATCT recorded system for integration with ANOMS.

After the site surveys Brüel & Kjær will submit a survey report to record the status of the current installations and propose the schedule and sequence to replace the units.

Prior to the replacement of the NMTs, Brüel & Kjær will deliver the NMTs (together with the Manufacturers Certificate of Conformance for the units), and test the 3G communications for the NMTs so when the replacement is performed minimum data loss will occur. Typically the data loss associated with NMT replacements (when reusing the current location and installations) does not exceed a two (2) hour period.

Please note that in order to minimize the disruption on the Port Authority system and based on the fact that the NMT locations and installations are to be reused, Brüel & Kjær will undertake the physical installation and connection with the communications provider concurrently, to avoid having a significant data loss of noise.

Once the installation is completed the Site Inspection and the Commissioning of the units will be undertaken. The commissioning sheet for all the installed NMTs will be presented to the Port Authority and all the NMT details will be available in FOCUS.

This same best practise approach will be followed for the NMT replacement work to be undertaken during 2014 (2nd and 3rd quarters) and 2015 (2nd and 3rd quarters).

Brüel & Kjær has an extensive experience replacing existing NMTs in operational noise monitoring systems with a minimum impact on the operations of the airport users.

During the Phase B the ANOMS system will be upgraded to the next General Available (GA) release of the software (following the Change Administration process applicable to our live systems) offering enhanced features and capability while ensuring the Port Authority has the latest and more advanced version of the product when both deployment phases are completed.

8 Milestones & Deliverables

8.1. Payment Milestones and Invoices

Payment milestones have been contractually agreed and are documented in ***F1 – Cost Proposal*** of the contract. When the milestone is delivered and the Port Authority confirms the receipt and acceptance of the milestone, B&K will send the invoice to the Port Authority Project Manager for approval and processing. The invoice document shall quote the proper title and the Purchase Order number.

The following implementation fees and payment milestone have been agreed:

Table 2 - to be updated after contract negotiations

Port Authority – Replacement of NOMS Milestone		Quantity	Unit ($USD)	Total ($USD)
Phase A – Software Replacement				
A.1	VPN Connection Configured	1	$6,160.00	$6,160.00
A.2	ANOMS SW Deployment Completed	1	$138,600.00	$138,600.00
A.3	Historical Data Converted	1	$46,200.00	$46,200.00
A.4	WebTrak Application Available	1	$9,240.00	$9,240.00
A.5	Training Delivery Completed	1	$15,400.00	$15,400.00
A.6	Site Acceptance Test Completed	1	$61,600.00	$61,600.00
A.7	Operational Period Completed	1	$32,548.00	$32,548.00
			Phase A Total	$309,784.00
Phase B – Hardware				
BH. 1	Permanent NMT [3G/4G]	11	$20,266.00	$222,926.00
BH.2	Portable NMT [3G/4G]	11	$20,866.00	$229,526.00
BH.3	Handheld Sound Level Meter / Calibrator	2	$10,200.00	$20,400.00
BH.4	Handheld Pistonphone Calibrator	2	$4,100.00	$8,200.00
BH.5	ATCT Recorder Hardware	1	$49,000.00	$49,000.00
Phase B – HW Installation				
BI. 1	Installation of Permanent NMT	11	$13,100.00	$144,100.00
BI.2	Installation of Portable NMT	11	$8,100.00	$89,100.00
BI.3	Installation of ATCT Recorder	1	$27,000.00	$27,000.00
			Phase B Total	$790,252.00
			Total Upgrade Fee	$1,100,000.00

8.2. Deliverables and Dependencies

The project deliverables have been defined as the elements within the scope of the project that shall be achieved to deliver the project milestones. Monitoring the delivery of these tasks is key to ensure the project progresses within the agreed timescales and they will be subject to review and scrutiny during the regular project and steering meetings. These tasks have been clearly recorded in the Project Schedule included in Sections 9 & 10.

The complete scope is defined in detail in the Solution Definition Document.

	Deliverable	Dependency	Responsible
Phase A	Network Communications	VPN Tunnel	B&K / Port Authority
	ANOMS Base SW deployed	DC Platform Ready	B&K
	ANOMS SW configuration	Radar and Flight Plan Feed D-ATIS (METAR + NOTAMS) Feed Maps / Aircraft Registry	B&K
	ANOMS SW Tuning	Dial-up Communications to NMTs	B&K
	ANOMS SW Installed	Historical Data Conversion	Port Authority / B&K
	WebTrak Application	ANOMS SW Deployed	B&K
	System Training Site Acceptance Testing	ANOMS SW Deployed and PC Clients Available	B&K / Port Authority
	14 day Operational Period	SAT Completed	B&K
	System Accepted / Start SLA	14 day Period Completed	B&K
Phase B	ATCT Site Survey at TEB	Port Authority Notice To Proceed	Port Authority / B&K
	ATCT Recorder Equipment Delivered	ATCT Site Survey at TEB	B&K
	ATCT Installation and Integration with ANOMS	Equipment delivered and space available at the ATCT	B&K
	ATCT Recording Delivered	Users listening and correlating recording to operations	Port Authority
	For each of the NMT HW Replacement Phases the following applies:		

Deliverable	Dependency	Responsible
NMT Delivery NMT Site Survey	Notice To Proceed and Access to Site	Port Authority / B&K
NMT Installation and Commissioning	Equipment Delivered 3G Comms Available	B&K
NMT Cut Over and downloading to ANOMS	NMT Commissioning Completed	B&K
14 day Operational Period	NMT Cut Over Completed	B&K
NMT Replacement Accepted	14 day Period Completed	B&K

8.3. Key Activities the Port Authority will be responsible for:

As with all implementations, there are certain activities or services which the Port Authority will be required to provide. The following list includes some of the typical requirements that the Port Authority will need to consider in their planning:

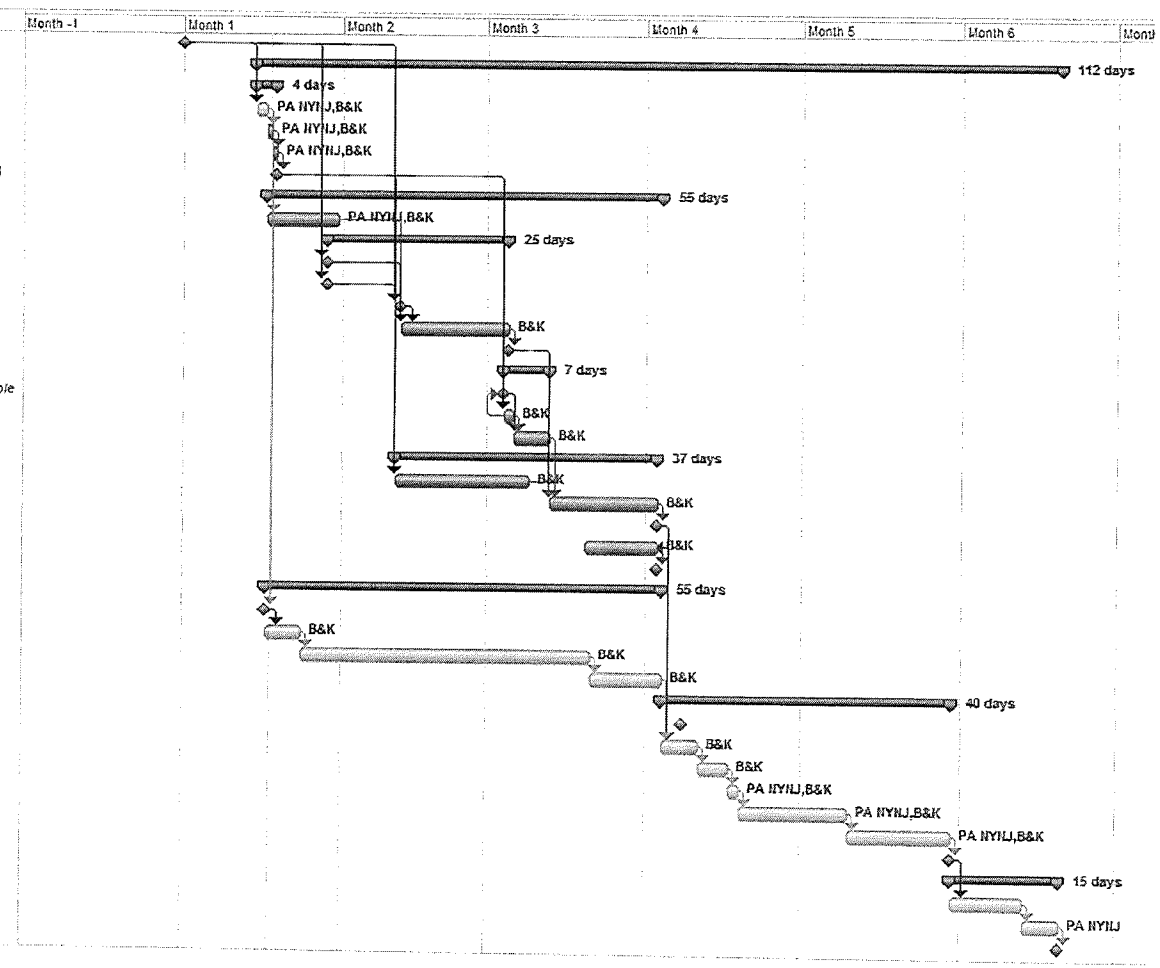
- ✓Provision and ongoing support of a VPN connection between Brüel & Kjær Data Centre and the Port Authority facilities configured as per Brüel & Kjær requirements.
  This VPN connection should support a minimum of 512Kb bandwidth;
- ✓Access to the existing NMT sites which shall meet the standards for aircraft monitoring including:
  - Cleared, level site (minimum 3m x 3m) with concrete foundation
  - All ground works performed
  - Existing secure enclose
  - Available power and communications services
- ✓Rental/planning permission/permits associated with the locations of the monitoring terminals if required;
- ✓User Computer Workstations as specified by Brüel & Kjær;

- ✓ Provision of detailed information about the existing NMT settings and dial-up scheduling times
- ✓ Provision of detailed information about routes required to be established in the system as well as any other objects and/or layers that the Customer may require to be set up (AIP documentation shall be requested to the Port Authority);
- ✓ Access to the TEB ATCT to perform the site survey and installation of the ATCT Recorder
- ✓ Historical Data (HD) including noise monitoring readings, noise violations, noise complaints and flight information and tracks. The data is to be provided by The Port Authority in external hard drive, preferably as flat files; and
- ✓ A training room with connection to the system to allow Brüel & Kjær to deliver the trainings and perform the SAT testing (to be witness by the Port Authority representatives).

The list will be updated and agreed with the Port Authority at the kick – off meeting.

9 Schedule at Project Commencement – Phase A

ID	Task Name
1	**PA NYIIJ Contract signed / NTP**
2	**Phase A - Software Replacement**
3	**Phase A.1 Initiation**
4	Kick off meeting
5	Review of project scope and solution
6	Technical Review or Requirements
7	Scope Agreement - SDD and PMP documents issued
8	**Phase A.2 System Build and Data Migration**
9	VPN Build and Configure
10	**System Interfaces**
11	*D-ATIS / METAR / NOTAMS feed available*
12	*LD831 NMT available*
13	*Radar and Flight Plan Feed Available*
14	Dynamic Feeds received and reviewed
15	*Interface Development and Check Completed*
16	**Noise Data: Dial-Up Communications**
17	*NMT Parameters and Dial-Up Schedule available*
18	Physical Noise Collector server deployed
19	Dial Up connection established
20	**ANOMS Build**
21	Server Build
22	ANOMS Configure and Tune
23	*ANOMS System Build complete*
24	WebTrak Site Configured
25	WebTrak Site Available
26	**Historic data migration**
27	*HD external hard drive received*
28	Mapping TAMIS data to ANOMS fields
29	HD Conversion - Processing Time
30	QA of imported data
31	**Phase A.3 System Testing and Acceptance**
32	Delivery of Manuals and System Documentation
33	System Internal QA
34	Training Delivery
35	Site Acceptance Test
36	Punch list Agreed and Resolved
37	14d Operational Period
38	**System Accepted - Start of Services**
39	**Phase A.4 Phase A completion**
40	Convert the historical data gap
41	Old System Decommissioning
42	Phase A Project completion



10 Schedule at Project Commencement – Phase B

The detailed scheduled for the Phase B of the project will be submitted once the Port Authority confirms the schedule for the different sub-phases of the NMT replacement and the ATCT recorder in at TEB airport.

F.2.10 Quest 2011 SSAE 16 Report

Quest®

TECHNOLOGY MANAGEMENT FOR BUSINESS

Report on the Description of System, Suitability of Design and Operating Effectiveness of Controls
January 1, 2011 through December 31, 2011

SSAE 16 Type II

BODEN KLEIN & SNEESBY

CERTIFIED PUBLIC ACCOUNTANTS

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SECTION I: Independent Service Auditor's Report

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INDEPENDENT SERVICE AUDITOR'S REPORT

To The Board of Directors of Quest
Sacramento, California

We have examined Quest Service Delivery Centers (Quest) description of its service delivery center system for processing user entities' transactions throughout the period January 1, 2011 to December 31, 2011, and the suitability of design and operating effectiveness of controls to achieve the related control objectives stated in the description. The description indicates that certain control objectives specified in the description can be achieved only if complementary user entity controls contemplated in the design of Quest's controls are suitably designed and operating effectively, along with related controls at the service organization. We have not evaluated the suitability of the design and operating effectiveness of such complementary user entity controls.

Service Organization's Responsibilities

In section II of this report, Quest has provided an assertion about the fair presentation of the description and the suitability of design and operating effectiveness of the controls to achieve the related control objectives stated in the description. Quest is responsible for preparing the description and for the assertion, including the completeness, accuracy, and method of presentation of the description and the assertion, providing the services covered by the description, specifying the control objectives and stating them in the description, identifying the risks that threaten the achievement of the control objectives, selecting the criteria, and designing, implementing, and documenting controls to achieve the related control objectives stated in the description.

Service Auditor's Responsibility

Our responsibility is to express an opinion on the fairness of the presentation of the description and on the suitability of the design and operating effectiveness of the controls to achieve the related control objectives stated in the description, based on our examination. We conducted our examination in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform our examination to obtain reasonable assurance about whether, in all material respects, the description is fairly presented and the controls were suitably designed and operating effectively to achieve the related control objectives stated in the description throughout the period January 1, 2011 to December 31, 2011.

An examination of a description of a service organization's system and the suitability of the design and operating effectiveness of the service organization's controls to achieve the related control objectives stated in the description involves performing procedures to obtain evidence about the fairness of the presentation of the description and the suitability of the design and operating effectiveness of those controls to achieve the related control objectives stated in the description. Our procedures included assessing the risks that the description is not fairly presented and that the controls were not suitably designed or operating effectively to achieve the related control objectives stated in the description. Our procedures also included testing the operating effectiveness of those controls that we consider necessary to provide reasonable assurance that the related control objectives stated in the description were achieved.

An examination engagement of this type also includes evaluating the overall presentation of the description and the suitability of the control objectives stated therein, and the suitability of the criteria specified by the service organization and described in Section II of this report. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

Inherent Limitations

Because of their nature, controls at a service organization may not prevent, or detect and correct, all errors or omissions in processing or reporting transactions. Also, the projection to the future of any evaluation of the fairness of the presentation of the description, or conclusions about the suitability of the design or operating effectiveness of the controls to achieve the related control objectives is subject to the risk that controls at a service organization may become inadequate or fail.

Opinion

In our opinion, in all material respects, based on the criteria described in Quest's assertion in Section II of this report,

a. The description fairly presents the service delivery center system that were designed and implemented throughout the period January 1, 2011 to December 31, 2011.

b. The controls related to the control objectives stated in the description were suitably designed to provide reasonable assurance that the control objectives would be achieved if the controls operated effectively throughout the period January 1, 2011 to December 31, 2011, and user entities applied the complementary user entity controls contemplated in the design of Quest's controls throughout the period January 1, 2011 to December 31, 2011.

c. The controls tested, which together with the complementary user entity controls referred to in the scope paragraph of this report, if operating effectively, were those necessary to provide reasonable assurance that the control objectives stated in the description were achieved, operated effectively throughout the period January 1, 2011 to December 31, 2011.

Description of Tests of Controls

The specific controls tested and the nature, timing, and results of those tests are listed in section IV of this report.

Restricted Use

This report and the description of tests of controls and results thereof in section IV of this report are intended solely for the information and use of Quest, user entities of Quest's service delivery center system during some or all of the period January 1, 2011 to December 31, 2011, and the independent auditors of such user entities, who have a sufficient understanding to consider it, along with other information including information about controls implemented by user entities themselves, when assessing the risks of material misstatements of user entities' financial statements. This report is not intended to be and should not be used by anyone other than these specified parties.

Boden Klein & Sneesby

BODEN KLEIN & SNEESBY
Certified Public Accountants

July 16, 2012

SECTION II: Management's Assertion Statement

MANAGEMENT'S ASSERTION STATEMENT

To the management of Quest's Service Delivery Center user organizations and their auditors:

We have prepared the description of Quest's system for user entities of the system during the period January 1, 2011 to December 31, 2011, and their user auditors who have a sufficient understanding to consider it, along with other information, including information about controls implemented by user entities of the systems themselves, when assessing the risks of material misstatements of user entities' financial statements. We confirm to the best of our knowledge and belief that:

1. The description fairly presents the system and controls in place at Quest's Service Delivery Centers during the period January 1, 2011 to December 31, 2011 for processing their transactions. The criteria we used in making this assertion were that the description:
    a. Presents how the system was designed and implemented to process relevant transactions, including if applicable:
        i. The types of services provided.
        ii. The procedures, within both automated and manual systems, by which services are provided, included, as appropriate, procedures by which transactions are initiated, authorized, recorded, processed, corrected as necessary, and transferred to reports and other information prepared for user entities.
        iii. The related accounting records, supporting information, and specified accounts that are used to initiate, authorize, record, process, and report transactions; this includes the correction of incorrect information and how information is transferred to the reports and other information prepared for user entities.
        iv. How the system captures significant events and conditions, other than transactions.
        v. The process used to prepare reports and other information for user entities.
        vi. The specified control objectives and controls designed to achieve those objectives, including as applicable, complementary user entity controls contemplated in the design of the service organization's controls.
        vii. Other aspects of our control environment, risk assessment process, information and communication system (including related business processes), control activities, and monitoring controls that are relevant to processing and reporting transactions of user entities of the system.
    b. Does not omit or distort information relevant to the scope of the system, while acknowledging that the description is presented to meet the common needs of a broad range of user entities of the system and their financial statement auditors, and may not, therefore, include every aspect of the system that each individual user entity of the system and its auditor may consider important in its own particular environment.
    c. Includes relevant details of the changes to the system subsequent to the date of the description and prior to the date of this report.

2. The controls related to the control objectives stated in the description were suitably designed and operating effectively throughout the period January 1, 2011 to December 31, 2011, to achieve those control objectives. The criteria used in making this assertion were that:
    a. The risks that threaten the achievement of the control objectives stated in the description have been identified by management;
    b. The controls identified in the description would, if operating as described, provide reasonable assurance that those risks would not prevent the control objective stated in the description from being achieved.
    c. The controls were consistently applied as designed and manual controls were applied by individuals who have the appropriate competence and authority.

SECTION III: Description of Controls Provided By Quest

DESCRIPTION OF CONTROLS PROVIDED BY QUEST

Overview of Operations

Corporate Background

Quest is headquartered in Sacramento, California. Quest was founded in 1982 during the early days of the PC revolution. Large mainframe data centers formed the initial client base, buying mainly mainframe media, peripherals, PC products and supplies. Yet early on and based on demand, Quest founders Cindy and Tim Burke, envisioned a broader company – one that would help clients achieve their competitive business goals by serving all their technology needs.

Today, Quest is a technology management firm that serves Fortune 50-5000 corporations, state and local governments and educational institutions. The company offers clients a portfolio of computer hardware and networking equipment, professional services, managed services, telecommunications & transport, support & maintenance management, fiber–optics, wireless & structured cabling, and technical staffing, all backed by the most advanced technologies.

The company employs approximately 120 people, including teams of consultants, engineers, project managers, product specialists, customer service representatives and administrative personnel focused on making Quest an industry leader by delivering the latest in technology tools and services that best services the business goals of the clients. The company is comprised of the following:

- Corporate
- Co-location Services
- Managed Services
- Professional Services
- Sales and Marketing
- Purchasing
- Customer Service
- Infrastructure Services

Information released from the American institute of Certified Public Accountants Audit Guide precludes service organizations, such as Quest, from addressing business continuity or disaster recovery planning in sections of the report covered by the independent public accountants' opinion since projection of controls into future periods is subject to inherent limitation. Recognizing the importance of this information to clients, included in Section V is a description of QMS disaster recovery strategy and plans.

Report Focus

This SSAE 16 report is focused on Quest's Managed Services and Co-location services that are provided in Quest's Service Delivery Centers. Quest Managed Services (hereafter referred to as QMS) offers data center services, including Co-location and enterprise hosting in secure, environmentally controlled locations. Control objectives and related control activities described in this report apply specifically to those services associated with Co-location services.

Internal Controls over Financial Reporting at User Entities

As a Managed Service and Co-location provider Quest is not directly involved with the processing of transactions for its user entities. Clients deploy a wide variety of systems and applications in Quest's Service Delivery Centers that may include systems that play a key role in financial reporting. As Quest's involvement is generally limited to providing the physical environment in which clients systems reside, the controls identified later in this section are limited to those areas that play only a partial role in the overall reliability of systems that may be relevant to a client's financial reporting. User entities and their auditors should consider these limitations along with the Complementary User Entity Controls (provided later in this report) when evaluating the suitability and effectiveness of a user entities overall control environment.

Services

Co-location Space

Quest Service Delivery Centers are highly secured facilities that are environmentally controlled to accommodate client's mission critical infrastructure. Quest Service Delivery Centers are designed, engineered and operated based on industry best practices. Quest's Co-location resources provide: lockable cabinets – fully ventilated and available in half or full sizes, single server racks, private cages and/or full private suites – custom built to client's specifications. Facilities are manned and monitored 24x7x365.

Power

Quest Service Delivery Centers have redundant electric power grids, redundant Uninterruptible Power Supply (UPS) systems and diesel generators capable of providing a steady stream of conditioned power to support the facilities.

Cooling

The facilities are cooled with a variety of air cooling systems that are either conventional air conditioning systems or closed loop chiller systems that utilize a series of water cooled chiller units. In addition, redundant ventilation and cooling units are used in conjunction with a variety of Computer Room Air Conditioners (CRAC) units located in each of the data center rooms throughout the facility creating an environment for optimizing ideal temperature and humidity levels.

Network Connectivity

QMS offers Carrier neutral facilities enabling clients to contract with a multitude of various telecommunication and internet carriers for their connectivity service. Internet connectivity is provided as a conduit to clients' facilities in order to access managed devices and retrieve monitoring data. It also allows QMS to deliver reports and replication services. QMS provide Virtual Private Network (VPN) secure connections allowing QMS to securely communicate with its clients across the public internet. It encrypts and decrypts outbound and inbound data respectively, thus preventing unauthorized viewing of the data by a third party intercept.

Support Resources

Staffed with experienced engineers and NOC personnel, QMS provides Managed Services to facilitate clients infrastructure and business applications, such as: Performance and Health Management, Managed Security Services, Network, Server and Application Management and Monitoring, Managed Data Backup, Vaulting and Recovery Services and Cloud Services.

Monitoring

QMS monitors all critical systems 24x7x365 for status (change of state), trouble and alarm condition, thus providing round the clock situational awareness of electrical and mechanical systems. QMS also has room-based temperature and humidity conditions monitored to ensure systems stability.

CONTROL ENVIRONMENT ELEMENTS

The control environment is the foundation for all other areas of internal control. As such, Quest's control environment sets the tone for the organization and influences control consciousness and discipline of employees. Quest's management emphasizes the importance of controls and ethical behavior throughout the organization. Such elements in place at Quest include the following:

- Management's philosophy and operating style
- Organization structure and management control
- Policies and practices

Management's Philosophy and Operation Style

Excellence in products and services to Quest's clients is the top priority for the Quest and QMS management team. Quest believes that high-quality production and service from its staff is facilitated by a healthy workplace. A work environment that is flexible, encourages open communication, emphasizes fairness, recognizes good work performance, and respects the differences and rights of individuals optimizes Quest staff's health and performance. Motivation to achieve excellence is maximized when staff is treated with decency, trust, and respect.

Management Structure

The Chief Executive officer (CEO) of Quest is responsible for the overall strategic direction and accountability of the company. The Senior Management Team members report directly to the CEO in fulfillment of their job responsibilities.

- Chief Financial Officer
- Chief Operating Officer
- Chief Technology Officer
- Director of Marketing
- Director of Customer Service
- Director of Purchasing
- Director of Infrastructure Services

Each of the above members of the management team has a distinct, separate responsibility within the company. Segregation of duties is an important part of the company's organizational structure.

The Chief Operating Officer (COO) is responsible for the overall daily operations of the company. The Director level management team reports directly to the COO in fulfillment to their job responsibilities.

The Chief Technology Officer (CTO) oversees IT operations and is responsible for the management team which provides IT Services, Managed Services and Co-location services to Quest's clients.

Management Control

Quest's senior management team is charged with establishing administrative policy and providing day-to-day management. Senior Managers from representative departments attend regularly scheduled meetings to obtain enterprise, division and departmental information and priorities. Annually, the Senior Managers determine and formulate QMS' strategic direction and goals to meet the strategic plan for the enterprise; and prioritize the corresponding long-term and short-term projects.

The Senior Management Team provides management review and oversight of projects. Project charters are submitted to those members of the Senior Management Team participating as project sponsors for review, approval and prioritization. Senior Managers provide periodic project updates via Division email, team meetings, and status reports. Senior Managers host weekly status meetings where project status is discussed.

Personnel Policies and Procedures

Quest has formal hiring procedures that are designed to ensure that new employees are qualified for their job responsibilities. Once hired, the new employee is provided with an employee orientation. At that time, they are given a Quest Employee Handbook, a safety manual and a tour of the facility. The hiring department manager is responsible for filling the position, while the department's most senior manager provides oversight. It is the policy of Quest to recruit, hire, and promote employees without discrimination because of race, color, creed, sex, marital status, age, national origin or ancestry, physical or mental disability, medical condition including genetic characteristics, sexual orientation or any other consideration made unlawful by federal, state or local laws. Quest also prohibits unlawful discrimination based on the perception that anyone has any of those characteristics or is associated with a person who has or is perceived as having any of those characteristics. Employees are treated on a non-discriminatory basis with respect to compensation, training, opportunities for advancement and all other conditions of employment. Offers of employment are extended by managers of the department and are contingent upon successfully passing a criminal history background check, drug-screening for selected positions, verification of previous employment history, and educational credentials.

Training of personnel is accomplished through supervised on-the-job training and job shadowing. Quest utilizes a mentor approach to ensure that each employee is successful in the tasks to which he or she is assigned. Once an employee has shown that he or she is ready to function independently, more latitude is given. Department managers are responsible for encouraging training and development to continue to qualify personnel for their functional responsibilities. Quest provides ongoing training and makes available educational certification programs offered through many of our technology vendors. In addition to general certifications, network professionals can enhance their core networking knowledge by achieving specialist certification in technologies such as security, network, IP Telephony, wireless, etc. through our vendors' authorized certification "Training Track" programs.

Quest does not have a formalized plan for performance reviews. Quarterly goals are established for Quest and employee performance is monitored relative to those goals but there is no formal evaluation process. Employees who are performing in a sub-standard manner may be recommended for corrective action by the department manager, which is reviewed by the personnel manager. Further action, such as termination, is initiated by the department manager and is reviewed by the personnel manager and approved by the CEO.

RISK ASSESSMENT

Quest recognizes the importance of risk management in properly managing corporate and client assets and in providing high quality, cost effective, reliable services to its clients. The senior management team oversees the assessment of risk with respect to Quest's client-facing data management services and applications, as well as the Company's internal operations. The QMS team reviews the results of operations and meets regularly to identify any new risks and develops and implements appropriate measures to address these risks.

CONTROL ACTIVITIES

Internal controls have been designed by QMS management to mitigate identified risks that might prevent QMS from accomplishing its identified control objectives. See *Overview of IT General Controls* and *Control Objectives, Related Policies and Procedure, and Tests of Operating Effectiveness.*

INFORMATION AND COMMUNICATION

Quest has implemented various methods of communications to verify that all employees understand their individual roles and responsibilities over the provision of service to clients and to promote efficient and timely communication of significant events. These methods include:

- Weekly scheduled Production and Sales meetings
- Facility Service and Maintenance email notifications
- Dedicated QMS email address for client's correspondence
- Periodic departmental, general staff and management meetings

MONITORING

Quest has established controls that oversee risk assessment and monitoring activities for all entities within Quest. Ongoing risk assessments and feedback from management are used to determine specifically internal and external audit activities needed at Quest. Quest's management designates personnel to monitor selected key controls and report of their effectiveness on a periodic basis as part of their controls assessment. To assist them in this monitoring, QMS has developed a series of management reports that measure the results of various processes involved in daily internal activities and the delivery of the client's services.

OVERVIEW OF IT GENERAL CONTROLS

Physical Security

Quest's Service Delivery Centers utilize a multi-layered security architecture including key cards and biometrics to prevent unauthorized access to the building and the data center. Client equipment is secured in locked cabinets, cages or suites that reside behind areas that are secured by a key card reader and/or biometric reader within selected areas of the data center. Keys are secured and maintained in the NOC facility and only issued to personnel that have authorization to access client's cabinets, cages and suites. Access to Quest's Service Delivery Centers is based on need and at the sole discretion of QMS management. Only individuals properly displaying the Quest ID badge are allowed access. Only approved visitors properly displaying the Quest Visitor badge and escorted at all times by an authorized Quest individual are allowed on the premise.

Access within the facility is further restricted requiring a badge swipe and/or biometric reading to gain access. Only those NOC employees who have a defined need to access a particular area are authorized access.

The facilities are monitored as well by a sophisticated series of IP video surveillance and recording equipment located throughout the premise and surrounding areas.

The state-of-the-art facilities are constructed of foundation-to-ceiling steel mesh reinforced concrete wall structures. Each data center has a raised floor: grade level 18" deep, dedicated for air movement.

Environmental Controls

Power

Primary electrical power is supplied to the Service Delivery Centers via a dedicated power feed and backed up either by a redundant power grid and/or diesel generators. Regulated power is distributed through power distribution units (PDUs) with attached uninterruptible power supplies (UPS) to the cabinet level. In the event of a utility power loss, supplementary power comes from the diesel generators via an Automatic Transfer Switch (ATS) with capacity to provide stand-by power for up to 72 hrs.

Cooling

The climate is controlled by way of precision air condition systems. Each of the data centers are cooled with computer room air conditioning (CRAC) units. Each CRAC unit provides an average of 20 tons of cooling capacity. Multiple CRAC units are installed in each of the data centers in a redundant configuration. The CRAC units are set to a 77 degree set-point and continuously monitor the data center environments within a 4 degree tolerance and add humidity or cool as needed to maintain that set point condition. Temperature and humidity are measured internally round the clock by Automatic Logic Controls (ALC).

Smoke/Heat/Fire Detection and Suppression

The facilities are equipped to monitor Smoke, Heat and Fire through a Monitored Fire Suppression Two Stage Activation System – (Two Stage Dry Pipe located in plenum, grade and sub-floor). Smoke and Heat detection sensors are located as well in plenum, grade and sub-floor. Fire extinguishers are located throughout the building and are checked regularly for accurate gauge readings. Service and testing is conducted by an outside agency in accordance to the national fire protection act and all local ordinances.

Monitoring

Critical components and equipment on site are monitored by the building management Automatic Logic Controls or by separate monitoring devices that monitor key points and reports with alarm alerts either at the monitoring station or by a satellite station within the NOC. If an alarm sounds, NOC personnel are alerted to the status condition, and respond appropriately to remedy the condition back to normal operation status based on our response and escalation procedures. In addition, every 4 hours, NOC personnel will perform walk-through visual inspections of all facility areas to observe current conditions and log exceptions. In conjunction, real time IP video surveillance and recording is being conducted throughout the facility and surrounding areas. Regular periodic maintenance is performed on environmental equipment throughout the year either by the manufacture or by a third party maintenance company. Service records are reviewed and kept by the facility manager.

Logical Access and Network Security

Quest has developed and communicated an information security policy to all its employees. All users are assigned a user-id and password to gain access to the network and security platform. Clients have full access to all of their devices, but all changes must strictly adhere to the QMS's change management procedures. QMS authorized personnel connect into the client infrastructure via a trusted internet access or virtual private network (VPN).

Information System Security Policies

Quest has developed information system security policies for the changing of administrator passwords on network and security platforms, new employee electronic access, and employee termination.

Quest's security policies and procedures are in place to ensure that separated personnel's access is removed and all administrator account passwords are changed. Clients who were managed by the separated employee are notified of the termination as well.

QMS has many processes and procedures in place that are in line with the Committee of Sponsoring Organizations (COSO) standards. "Business Continuity Plan", "Change Management", "Incident Response", "Problem Management", "Disaster Recovery Test Plan" and "Security Policy" are all part of this effort.

Network, Server and Security Configuration

The network, server and security platforms are configured to require a user ID and password to gain access. Devices monitored through the server consist of all devices contained in the Service Level Agreement (SLA) between the client and QMS. Clients will have full access to their devices, however all changes must strictly adhere to QMS's change management procedures. QMS gains access to monitor and manage the devices via a trusted Internet access (or VPN). Software vendors have maintenance access to their devices for performing upgrades and/or maintenance. Access is provided via Virtual Private Network (VPN). The VPN connection is not active unless upgrades/maintenance is required.

Firewall and Network

Firewalls are in place at all externally facing access points to control access to all network and security platforms. The firewalls have been configured to allow Quest to administer the devices and servers remotely as well as allowing email and Internet traffic to pass through. Firewall activity is monitored on a daily basis through the use of reports generated from various software utilized, including E-Security and Silverback. Quest utilizes many tools and techniques to secure infrastructure. Access control lists, active directory, Intrusion Detection System (IDS) internal and external, host ids, multiple Adaptive Security Appliances (ASAs), DeMilitarized Zones (DMZs) are some of the ways in which this is accomplished.

Vulnerability Testing

Quest's security engineers perform quarterly vulnerability tests. Quest employs an outside security firm to execute annual external penetration tests and internal vulnerability assessments. An executive summary with test and assessment results is available by request to validate the execution of these processes. Servers are monitored regularly for updates, utilizing the same tools that are used to monitor client patch requirements. Servers are updated with patches as identified. Quest also subscribes to many vendor notification services to maintain awareness of these issues. Each user has a desktop version of anti-virus software. In addition several Host/Client IDS types of tools are utilized to monitor for threats. Social engineering was unsuccessfully attempted in gaining access to the managed services facility. Further, the vendor performing the assessment had requested, and was denied, remote access to the environment.

Change Management

The change management discipline provides the necessary controls to ensure the integrity of the IT environment. It provides the process to safeguard existing services during system, network, and/or application modifications and safely introduces new systems, services, and/or applications to the environment. The change disciplines are a set of processes for the coordination, authorization, and communication required to ensure the appropriate personnel have an opportunity to review and approve a change to the IT infrastructure or services. The critical steps for implementing a change management request are documented in Quest's "Change Management' manual also available on-line to personnel.

Incident and Problem Management

All incidents and alerts are logged, tracked and maintained through a ticketing system. Incidents are entered manually into the system and given a ticket number after a customer calls, emails, or faxes in their problem. The ticketed incident is classified, assigned a severity level and given to the appropriate engineering personnel for resolution. If the incident is unable to be resolved, it is escalated to QMS management for resolution. Recurring incidents and incidents where a workaround was applied are investigated further through the Problem Management analysis team. Detailed components of the work flow process are described in Quest's "Incident Response", "Client Call Process" and "Problem

Management" manuals which are part of Quest's on-line documentation available for review at any time by personnel.

Security Management

Quest utilizes a variety of software, including E-Security and Silverback, to monitor the network traffic for clients. The monitoring service provided by Quest addresses both proactive and reactive security management needs which include:

- 24x7 network IDS management, monitoring and reporting.
- 24x7 host IDS management, monitoring and reporting.
- 24x7 firewall management, monitoring and reporting.
- Enterprise threat management, correlation, and reporting.
- Server patch watch.
- Monthly security advisories and reports of the security platforms.
- Signature file updates.
- Incident isolation and corrective measure (remote remediation).
- Daily review of incidents, with client notification as necessary.
- Monthly security conference-call status review with client.
- Monthly reporting of tickets.
- On-site security meeting scheduled per client SLA.
- Client real-time web access to view all device alerts.
- Management applications are generally licensed on a base + number of devices method.
- Quest maintains 24x7 maintenance support contracts with the vendors of the core managed services security applications and devices.

Network Management

In addition to Security Management, Quest addresses both proactive and reactive network management needs which include:

- 24x7 real-time monitoring and response.
- 24x7 enterprise performance management.
- Network device management.
- Monthly reporting of tickets.
- Monthly conference-call status review with the client.
- Client real-time web access to view all device alerts.
- Management applications are generally licensed on a base + number of devices method.
- Quest maintains 24x7 maintenance support contracts with the vendors of the core managed services network applications and devices.

Policies and Procedures

Quest has established information system processing procedures for the control environment in which Quest's monitoring efforts are conducted. These processes documented in the "Quest Processes and Procedures Documentation Manual" outline the controls established to ensure appropriate procedures are followed. Sections closely associated with this report included the: "Business Continuity Plan", "Change Management", "Incident Response" and "Problem Management" procedures.

Backup and Recovery Procedures

QMS provides a sophisticated network data backup, storage and recovery system in order to backup Quest's critical systems as well as providing the client's backup, storage and recovery needs.

Utilizing the latest storage technology of disk to disk and virtualization from two of the leading storage and recovery companies in the industry, Quest backup procedures encompass several varieties of full and incremental backups to secure Quest's and client's data on a continual basis.

This technology allows Quest the opportunity to maintain a higher level of service in terms of multiple data depositories, off site vault storage, increase speed of data retrieval and the flexibility to be interchangeable depending on the client's needs. In conjunction, and where specified in the client's SLA, QMS provides additional off-site backup facilities to provide a secondary copy of the appropriate backups, further diminishing the risk of data loss.

Customer Service and Implementation

As part of Quest's commitment to providing quality customer service, QMS uses and provides an array of communication methods and procedures to communicate and process the interactions between the client and QMS personnel and engineers. Policies and procedures are consistently adhered to in order to provide top level service.

In order to ensure that Co-location services are provisioned according to customer specifications, QMS has developed a standardized methodology for new customer implementations. Policies and procedures have been developed that outline the process for gathering customer requirements, receipt, and storage of customer equipment and implementation.

Service Level Agreement

QMS has developed a Managed Services Service Level Agreement which addresses Security Management, Network Management, Consulting Services, Installation Support, Devices Covered, Procedures for Incident Handling and Change Management, Access Controls, Billing Terms, a Confidentiality Disclosure, Quest's Responsibilities, Client's Responsibilities, and Restrictions. Quest's management must approve any changes to the standard Service Level Agreement.

Managed Services Implementation

QMS, through the Service Level Agreement, identifies the items that will be necessary to implement Managed Services for the client. The items include:

- Identification of all devices to be covered.
- Signed Service Level Agreement.
- Installation of remote monitoring capabilities for security platform.
- Access to internet routers and firewall devices.
- Simple Network Management Protocol (SNMP) configuration.
- Appropriate customer contact information.

At the time all items necessary for implementation are satisfied, the client is established through the Network Operations Center.

Monitoring Documentation

Quest has developed a variety of reporting mechanisms to inform its clients of the results of the daily monitoring activity. These reporting mechanisms include client notification via telephone within 15 minutes of incident determination, hard copy reports of incidents delivered to the client within two business days, monthly security conference calls for status review, monthly reporting of tickets and an on-site security meeting with the client when necessary.

In addition to the hard-copy reports, Quest has established a portal through which the clients can obtain real-time web access to view all alerts and security threats.

Quality Assurance

Quest will perform an internal audit following the "Go Live" implementation of a new managed service client engagement to ensure that all levels of the contractual services have been implemented and are operating correctly.

In addition, periodic internal audits are carried out with each existing managed service client to review any addendums to the contract and to ensure that the expected level of service is continually achieved. Periodic internal security scans of the Quest managed service environment are performed in order to identify and mitigate any unforeseen security risks.

Quest also assigns an engagement manager to each managed service client to serve as a client advocate and to monitor and/or manage individual projects and services.

An escalation contract list for Quest and each managed service client has been established and is documented. The escalation list is utilized to indicate the appropriate personnel to be contracted in the event of a disaster and/or high severity alerts.

Customer satisfaction surveys are sent out to gather client feedback regarding the level of service received, as well as comments and suggestions for improvements, if needed.

Call Response – Customer Service

Quest has documented its customer support procedures within the *Quest Managed Services Client Call Process V1.10* manual. The procedures include, but are not limited to, the following:

- Incoming calls answered 24x7 by NOC technical staff.
- Each call is logged by the technical staff and the client's automated case file is reviewed for an existing case related to the current problem.
- The case file is updated to reflect the pertinent details of the call and the resolution process started.

If case cannot be resolved, the case is assigned to the Specialist Support Group for resolution.

Quest receives customer support information via email and telephone. Quest uses a trouble-ticketing application to manage all client and internal trouble tickets and change management issues. The application provides:

- Support ticket management.
- Standard problems and resolutions.
- Speed Search.
- Reporting.
- Knowledge management.
- Escalation management.
- Web self-service option.

COMPLIMENTARY USER ENTITY CONTROLS

Quest's processes were designed with the assumption that certain controls would be implemented by the customer's organization. In certain situations, the application of specified controls at the customer's organization is necessary to achieve certain control objectives included in this report.

This section describes controls that should be in operation at the customer's organization to complement the controls at Quest. Auditors reviewing the customer's environment should consider whether the following controls have been placed in operation at the customer's organization.

Customer responsibilities include, but are not limited to the following:

1. Customers are responsible for the accuracy and completeness of the Customer Design Requirement (CDR) data gathering form at the time of implementation.
2. Customers are responsible for providing the list of personnel authorized to gain physical access to the Quest's Data Center as well as providing timely updates as roles and responsibilities change (such as new hires, transfers, and terminated employees).
3. Customers are responsible for verifying security is sufficient for applications and hardware, network, firewall, and router configurations that are not managed by Quest.
4. Customers are responsible for protecting the combination for cabinet locks.
5. Customers should ensure presence of perimeter security (i.e., firewall) and verify firewall and/or router configuration changes are adequately reviewed for risk and correctness.
6. Customers who do not choose to implement a multi-site solution (hot/cold or hot/hot) should realize and understand the consequences of a disaster at one of the Quest data centers.
7. Customers are responsible for ensuring that they have reviewed their environment for risks and have taken advantage of standard and optional redundancy provided by Quest; such as dual network drops, power, high availability server, firewall, and switch configurations. Customers must have sufficient hardware to support dual Ethernet feeds otherwise the SLA is violated.
8. On a regular basis, customers should review the contact lists and any special instructions on file with Quest to assure that they are current and accurate. Corrections should be reported to the Network Operations Center.
9. Customers are responsible for ensuring the completeness and accuracy of data transmissions and the suitability and accuracy of application processing.

SECTION IV: Information Provided by Service Auditor

Control Objective, Related Policies and Procedures, and Tests of Operating Effectiveness

Information Provided by the Service Auditor

Objectives and Scope of Report

In addition to the tests of operating effectiveness of specific control activities described in the following tables, our procedures included reviewing the following relevant elements of Quest's entity-controls:

- Control Environment
  - Management's Philosophy and Operation Style
  - Management Structure
  - Management Control
  - Personnel Policies and Procedures
- Risk Assessment
- Information and Communication
- Monitoring

Such Tests included inquiry of appropriate management, supervisory, and staff personnel; inspection of Quest documents and records; and observation of Quest's activities and operations. The results of these tests were considered in planning the nature, timing and extent of our testing of the control objectives tested as outlined in the following tables.

User Control Considerations

Quest's processes and underlying applications were designed with the assumption that certain controls would be implemented by user organizations (i.e., clients). In certain situations, the application of specific controls at user organizations is advisable and/or necessary, in conjunction with Quest's controls, to ensure user control objectives are accomplished.

The user organization (client) control considerations presented in Section III do not represent a comprehensive list of all controls that should be employed by user organizations. Other controls will likely be required in each of these areas to mitigate financial, operational, and compliance risks to an acceptable level.

Control Objectives, Controls and Tests of Operating Effectiveness

Our tests of operating effectiveness of controls included such tests as were considered necessary in the circumstances to evaluate whether the controls were operating in a sufficient manner to provide reasonable, but not absolute, assurance that the specified control objectives were achieved during the period from January 1, 2011 through December 31, 2011. Our tests of the operating effectiveness of the controls were designed to cover a representative number of transactions throughout the period. In selecting particular tests of operating effectiveness of the controls, the following were considered: (a) the nature of the items being tested, (b) the types and competence of available evidential matter, (c) the nature of the audit objectives to be achieved, (d) the assessed level of control risk, and (e) the expected efficiency and effectiveness of the test.

IV CONTROL OBJECTIVES, RELATED POLICIES AND PROCEDURES, AND TESTS OF OPERATING EFFECTIVENESS

The Division has specified its control objectives and identified its policies and procedures to achieve these objectives as determined by management. For each control objective, there are control policies and procedures that are designed to achieve the stated control objective.

Control Objective 1: Organization & Management	
Controls should provide reasonable assurance that policies and procedures are defined, communicated, and followed to ensure that personnel perform their duties correctly.	
Controls Specified by QMS	**Testing Performed by Boden Klein & Sneesby**
Functional and administrative job responsibilities are defined for key positions and are formally segregated by appropriate function, with management providing leadership and accountability for their respective areas.	*Inspected* Division organization charts to ensure that adequate separation among various departments existed and user roles and responsibilities were segregated. *Observed* Division personnel performing assigned roles and responsibilities noting adequate segregation of duties. *Reviewed* personnel files for active and separated employees to ensure that they were complete and policies and procedures were followed.
Supervisory positions and approval levels exist within the IT and accounting components of the organization to provide adequate supervisory control of operations.	*Inquired* with Division personnel about supervisory controls and observed operations during the review period to ensure supervisory controls exist in each functional area. *Observed* Division personnel reporting to appropriate levels of management for resolution.
Employees receive an employee handbook summarizing Quest's policies and procedures. The employee handbook is current and up-to-date.	*Reviewed* the employee handbook to determine that policies and procedures were current and were available to employees. *Confirmed* with several employees to ensure that they had received the employee handbook.
Liability insurance policies are maintained to protect Quest and employees in key positions.	*Reviewed* Quests' corporate liability insurance coverage for Directors and Officers to determine that they existed and were current.
Results of Tests Performed	
No relevant exceptions noted.	

Control Objective 2: Physical Security	
Controls should provide reasonable assurance that the QMS facilities are protected from unauthorized personnel and environmental hazards.	
Controls Specified by QMS	**Testing Performed by Boden Klein & Sneesby**
The Division's monitoring hardware and technical equipment reside in secured cages at the QMS facilities and is properly segregated from other clients.	*Observed* that the Division hardware and technical equipment reside in segregated and locked cages within the QMS facilities.
Access to the QMS facilities is limited to authorized personnel through the use of access key cards.	*Observed* that all personnel are required to identify and authenticate themselves through the use of an access key card prior to entering the data center.
Access key cards are only given to authorized Division personnel.	*Confirmed* that card-key access is monitored and administered by the QMS facilities. Upon receiving the Division's authorization, the QMS facilities grants and modifies access to the facilities. *Reviewed* the list of Division employees with card key access to the QMS facilities *and confirmed* that the list was inclusive of active Division employees.
Visitors are required to present identification and sign in. Visitors must be accompanied by a QMS employee at all times.	*Observed* that visitors are required to present identification and sign in and sign out. *Observed* that visitors are escorted by authorized personnel at all times.
The QMS facilities are protected from environmental hazards through environmental systems, including, but not limited to, air conditioners, temperature control and monitoring systems, humidity and water detection systems, fire detection systems, and fire suppression systems.	*Observed* the QMS facilities and verified that the facilities were equipped with environmental controls such as water detection, fire extinguishers, air conditioners and a raised floor. *Reviewed* documentation to support testing of environmental controls.

Control Objective 2: Physical Security (Continued)	
Controls should provide reasonable assurance that the QMS facilities are protected from unauthorized personnel and environmental hazards.	
Controls Specified by QMS	**Testing Performed by Boden Klein & Sneesby**
The QMS facilities are equipped with a combination of uninterruptible power supply devices, and backup generators to provide continuous power in the event of a power failure.	*Inquired* as to the presence of uninterruptible power supply devices and backup generators
The QMS facilities provide their employees with documented information guides, which outline the operating center policies and procedures.	*Reviewed* the QMS facilities information guides to determine that policies and procedures were current with the information provided and observed at the operating center facility.
Results of Tests Performed	
No relevant exceptions noted.	

Control Objective 3: Logical Security	
Controls should provide reasonable assurance that access to the network and security platform is restricted to authorized individuals.	
Controls Specified by QMS	**Testing Performed by Boden Klein & Sneesby**
The Division has developed formal policies and procedures to address information security.	*Inquired* as to the information policies and procedures for server configuration and changing the administrator password on the network and security platforms.
Logical access controls have been implemented to deter unauthorized access to the IT resources, the Division network, applications and data.	*Inquired and confirmed* with the Division personnel that logical access control procedures are installed on the Division servers.
Procedures are followed to adequately remove separated employee's access from the respective servers.	*Obtained* and *reviewed* a selected sample of separated employees to determine that rights were disabled in a timely manner.
Procedures are followed to adequately remove client access from the respective Division servers.	*Reviewed* a sample of client termination requests and ensured that the access was removed from the respective servers.
System generated firewall reports are monitored and reviewed by the Division's personnel to detect any potential network security issues.	*Obtained* a copy of the firewall report and logs noting that the Division's group is monitoring the firewall for possible intrusions by unauthorized individuals.
Quest utilizes its documented "Quest Change Management Process" to document all changes to the infrastructure, including managed services applications.	*Reviewed* Quests' change management process documentation.
Results of Tests Performed	
No relevant exceptions noted.	

Control Objective 4: QMS Operations	
Controls should provide reasonable assurance that procedures are in place to ensure that incidents appropriate to Security Internet Infrastructure are identified and reported.	
Controls Specified by QMS	**Testing Performed by Boden Klein & Sneesby**
The client information and reports are organized and compiled in MS client reference folder stored in MS shared data files.	*Obtained* and reviewed a sample of the reports, folder contents and data files to determine that Division clients were being monitored and incident reports were generated, documented and stored properly by QMS facilities operations personnel.
The Division has implemented formal policies, standards and procedures for Division operations.	*Inquired* of the CTO that standard operating procedures have been implemented within the Division. *Reviewed* the procedure manual, which addresses the QMS facilities operations and operational duties, client setup/change policy, daily/frequent tasks, periodic tasks and billing procedures.
Support is available to handle processing problems for Division clients.	*Inquired* and *confirmed* with the CTO, Operations Lead and NOC Technicians that support Division clients.
Formal procedures are implemented at the Division to ensure that customer support needs are logged and addressed to ensure the continuous support of the QMS facilities and the Division's clients.	*Inquired* and *confirmed* with the CTO and the Operations Lead the control procedures for tracking and resolving client needs to determine they are properly followed. *Reviewed* Managed Services support procedures for logging customer information, ticket recording and escalation policy and procedures.
Quest *Managed Services* has defined and developed more precise communication processes with their clients by greatly expanding the escalation detail for each client and adding the escalation lists to their MS exchange server for greater accessibility. This has increased the response time and refined escalation to the appropriate client IT management team.	*Reviewed* the escalation lists and confirmed policies are in place.

Control Objective 4: QMS Operations (Continued)	
Controls should provide reasonable assurance that procedures are in place to ensure that incidents appropriate to Security Internet Infrastructure are identified and reported.	
Controls Specified by QMS	**Testing Performed by Boden Klein & Sneesby**
Quest *Managed Services* has examined and further defined the appropriate severity level assignments to each incident in order to provide correct levels of action for each event and consulted with each client to identify which incidents are business-critical and which are not.	*Obtained and reviewed* a sample of the QMS tickets to verify that appropriate severity levels are properly assigned.
Improvements pertaining to the appropriate ticket documentation in several areas have been implemented through technology enhancements, training, and audit verifications, including deficiency-event time stamp on non-security events.	*Inquired and confirmed* with the CTO and the Operations Lead these processes are in place.
Recorded problems are logged, assigned to appropriate group for resolution and periodically reviewed to determine corrective actions and/or procedures.	*Reviewed* a sample of customer support tickets to ensure that they were documented and adequately tracked.
Customer support should be available to resolve client problems in a timely manner.	*Obtained* a copy of the client ticketed support needs and noted that support issues were recorded in the Division's trouble-ticketing application and were resolved in a timely manner.
The Division monitors customer support call volume and email.	*Confirmed* that customer support monitors call volume and response times. *Reviewed* tickets for customer support issues.
The Division utilizes a variety of reports to monitor security and network activity and identify potential problems.	*Obtained* monthly "Security Reports" and "Daily Incident Reports" used to identify and report information security breaches.
Management applications licenses are kept current.	*Reviewed* the application software license agreements.

Control Objective 4: QMS Operations (Continued)	
Controls should provide reasonable assurance that procedures are in place to ensure that incidents appropriate to Security Internet Infrastructure are identified and reported.	
Controls Specified by QMS	**Testing Performed by Boden Klein & Sneesby**
The Division backup procedures encompass several varieties of full and incremental backups to secure the Division's and client's data on a continual basis. Full backups are performed daily according to the client's SLA. Only authorized employees have access to backups.	*Inquired* about the Division's backup policies and procedures. *Confirmed and observed* the process for securing the appropriate backups and also observed that daily backups are performed daily.
The Division backs up both a previous and a current configuration file on all internet security devices. Backups are performed daily. A previous and a current backup of the configuration file are stored by the Division. Only authorized employees have access to backups.	*Inquired* about the Division's backup policies and procedures. *Confirmed and observed* that daily backups are performed daily.
The Division archives limited client data for the period specified in the Service Level Agreement between Managed Services and the client. Upon expiration of the period, the data is purged.	*Inspected* a sample of backup logs to determine that current and previous version of backup are maintained.
Results of Tests Performed	
No relevant exceptions noted.	

Control Objective 5: Customer Service	
Controls should provide reasonable assurance that procedures are adequate to provide customer satisfaction.	
Controls Specified by QMS	**Testing Performed by Boden Klein & Sneesby**
The Division has a formal Managed Services Service Level Agreement and Mutual Non-Disclosure and Confidentiality Agreement that must be signed by the client.	*Reviewed* a sample of clients to ensure that the agreements existed.
Formal procedures have been developed outlining procedures for receiving client information and establishing clients at the QMS facilities.	*Inspected* the procedures for receiving client information and establishing clients at the QMS facilities. *Inquired* and *observed* the QMS facilities process for establishing a new client to identify the procedures currently in place.
Service Level Agreements and installation procedures exist to ensure that contracts are authorized, tracked and properly implemented.	*Inspected* a sample of active Service Level Agreements to verify that the contract was completed and that the necessary information was recorded.
All clients have real-time access to monitor alerts and security threats.	*Confirmed* that active clients have been established through portal to give them real-time web access to monitor alerts and security threats. *Obtained* and *reviewed* copies of the monitoring reports that are provided to each client.
Customer support should be available to resolve client problems in a timely manner.	*Obtained* a copy of the client telephoned support needs and noted that support issues were recorded in the Division's trouble-ticketing application and were resolved in a timely manner.
The Division monitors customer support call volume and email.	*Confirmed* that customer support monitors call volume and response times. *Reviewed* tickets for customer support issues.
Results of Tests Performed	
No relevant exceptions noted.	

SECTION V: Additional Information Provided By Quest

INFORMATION PROVIDED BY SERVICE ORGANIZATION (ADDITIONAL)

Continuity Planning and Recovery

Quest places a high value on providing continuity of service to its clients. The plans are designed to address issues that could arise assuming a worst-case scenario were to take place. Use of this strategy alleviates the need to plan for a myriad of situations, and degrees of severity, which can never be fully defined is considered a best practice planning approach. This philosophy yields a capability whereby each situation can be readily assessed and actions tailored as required to address the issues at hand. Quest's disaster recovery plans stand ready to be activated should an event affect the Service Delivery Center and cause a disruption.

Quest's disaster recovery philosophies emphasize disaster prevention, mitigation, and recovery. The work environments are regularly reviewed to identify potential sources of risk. Management continually strives to reduce potential single points of failure as part of this process through an analysis of the operations monitoring procedures. Technology personnel also evaluate changes made to the environment or whenever new services are introduced. Continuity plans and solutions are implemented wherever necessary, and improved on when possible, to reduce the likelihood of significant interruptions in service capabilities.

Disaster Recovery Plan

QMS has developed a Disaster Recovery Test Plan for its Service Delivery Center. The plan addresses the following: Goals and Objectives, Roles and Responsibilities, Disaster Recovery Test Scope, Resource Coordination, Recovery Site Setup, Hardware Configuration, Application Recovery, and Application Functionality Testing. The test plan is designed to ensure the appropriateness of the disaster recovery and business continuity processes and procedures through validation and verification (testing) and to ensure that the program/project team is aware of these processes and is prepared to implement them when needed. Frequent and comprehensive testing is performed to ensure that Quest is fully prepared to respond to an actual disaster event. Furthermore, the testing is used to validate the accuracy and efficiencies of the support documentation.

In the event that the NOC is lost, the corporate office may be used to temporarily provide security and network monitoring services.

Quest's Disaster Recover Plan is included within Quest's "Business Continuity Plan" (BCP). The procedures included within the Disaster Recovery Plan included: Disaster Declaration, Managed Services Disaster Recovery Teams, Backup Strategy, Recovery Plans, Non-Catastrophic Recovery Plans, Task Cross-Reference, Operations Procedures and Training. Recovery of the client configuration is performed to enable security monitoring as quickly as possible. Once all systems are recovered, the recovery team moves to the validation phase to ensure the integrity of the system. As a final point, recovery support is performed until all systems are fully stabilized.

Quest DR Plan addresses their operational systems only. It does not cover client systems. The recovery of the clients systems are addressed per their individual SLA.

F.2.11 HMMH Real Contours V2

HARRIS MILLER MILLER & HANSON INC.

RealContours™ v2

RealContours™ revolutionizes airport noise modeling by automating all aspects of airport noise contour generation, management and display. By automatically generating noise contours using the Federal Aviation Administration (FAA) aircraft noise model, the Integrated Noise Model (INM), and radar flight track data, RealContours™ provides a fast and flexible alternative to the laborious technique of preparing INM inputs manually.

Available as a remotely hosted web system, RealContours™ greatly reduces the effort of preparing, processing, and displaying INM contours.

Built by HMMH

Harris Miller Miller & Hanson Inc. (HMMH) has over 30 years of aviation noise consulting experience, having assisted more than 200 airports worldwide on a comprehensive range of noise modeling assignments. HMMH aviation consultants are expert in the setup and running of the INM, and are active members of the INM design- review group, participating in the review of all INM versions before release.

HMMH offers an INM training course several times a year at locations in the U.S. and abroad. Our course has attracted approximately 400 professionals, from FAA headquarters and regional offices, numerous consulting firms, major airframe manufacturers, and other aviation industry entities.

We have incorporated our consulting experience and know-how into the design of RealContours™ to create a uniquely capable product unavailable elsewhere.

Flexible Design

RealContours™' flexible design allows users to choose different noise models for computation (INM or AEDT) and different forms of data output. In addition, RealContours™ is compatible with any flight track data format. Airports that have a flight track monitoring system or a noise and operations monitoring system (NOMS) can easily export data for RealContours™, which provides a powerful noise contour processing system. Results from RealContours™ are then available on a remotely hosted website for display and analysis.

RealContours™ is generating noise contours for many major and general aviation airports throughout North America, including airports in the following cities: Boston, Los Angeles, Ontario, Van Nuys, San Diego, Louisville, Greensboro, Reno-Tahoe and Raleigh Durham. RealContours™ can be used as an independent system, or coupled with any of the major airport monitoring systems available today.

RealContours™ utilizes a separate remotely hosted Microsoft SQL Server database to store operations and flight track data. This stand-alone database enables RealContours™ to function separately from a NOMS, and it allows users to perform analysis and prepare reports with PC-based tools like Microsoft Excel and GIS systems. The web interface of RealContours™ allows users view the program and results anywhere there is an internet connection.

Services

Noise and Vibration
Air Quality
Airport and Airspace Planning
Climate and Energy
Program Planning and Management

Markets

Airports
Federal
Highway
Rail/Transit
Climate/Energy
Entertainment/Recreation
Commercial/Industrial

Office Locations

Burlington, MA
Sacramento, CA
Washington, DC
Richmond, VA

Year Founded

1981

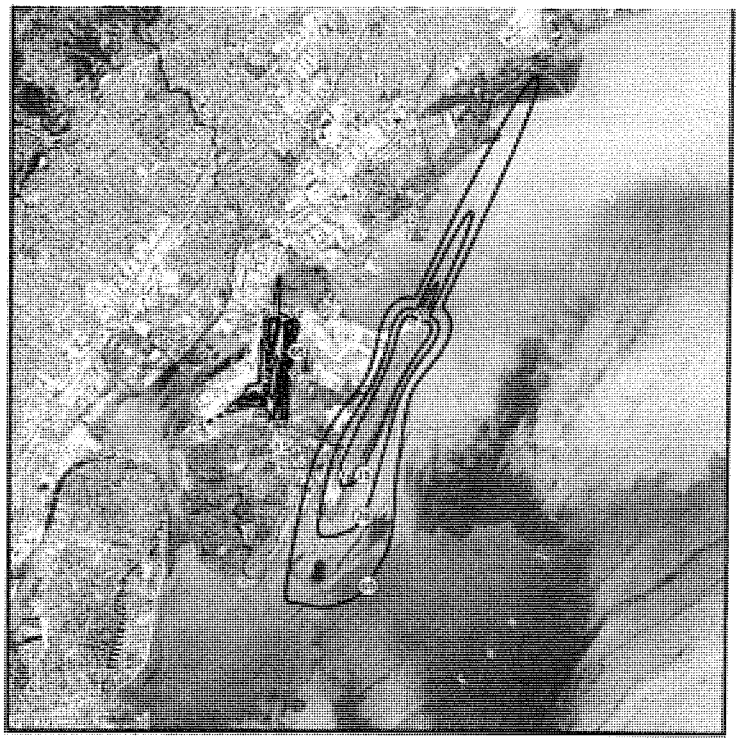
RealContours™ generates daily contours that can be combined into weekly, monthly, quarterly, and/or annual noise contours using the AddGrids module, which allows users to average numerous contours sets. Every individual aircraft flight track for a given day that meets noise model input criteria is run through the FAA noise model to produce daily aircraft noise exposure. To produce an annual DNL noise contour, the 365 daily DNL values obtained from the model are averaged together. The daily contour runs are automated and annual contours can be generated with a few simple mouse clicks at the user's discretion or as scheduled.

The system incorporates detailed USGS terrain data and uses Google Earth mapping for 3D viewing of noise modeling results.

Data Output

RealContours™ can produce contours for several noise metrics including DNL, CNEL, LDEN, SEL, Lmax, and time above (N70). To satisfy FAA modeling requirements, RealContours™ outputs all the data used in each run to enable re-creation of the INM runs for validation and acceptance.

The RealContours™ web interface allows the user to easily view contours for each day at each airport. Contours can be compared and daily animation of the contours can be setup for easy review or for presentation. Results can also be downloaded from the site and incorporated into an airport GIS system and/or airport monitoring system to provide display and report of aircraft noise exposure – one such example is provided below.



Oakland International Airport
Oakland, California

Fourth Quarter 2009 Noise Contours

Annual Community Noise Equivalent Level (CNEL) contours representing the fourth quarter 2009 aircraft operations. Since the Port of Oakland began using RealContours™ to prepare the contours for their quarterly reports in 2007, the contours required no adjustment to match the measured noise levels in the communities (measurement locations shown with red triangles), which is a requirement of California noise regulations.

HMMH RealContours™ Fact Sheet – January 2013

Proven Technology

RealContours™ is the only system in the United States that has provided proven results to support multiple airport and FAA-accepted studies and projects. The system has been used to produce noise contours to support annual noise reports for the following airports:

- Louisville International Airport (since 2009)
- Boston Logan International Airport (since 2004)
- Palm Beach International Airport (2001 -2008)
- Raleigh Durham International Airport (since 2009)

The system has been used to produce quarterly noise reports for several California airports such as:

- Los Angeles International Airport (since 2004)
- Ontario International Airport (since 2004)
- Van Nuys Airport (since 2009)
- San Diego International Airport (since 2005)
- Oakland International Airport (since 2007)

RealContours™ has also been used for the following FAA funded projects:

- Baltimore Washington International Part 150 Update
- T.F. Green Airport Part 150 Update
- San Diego International Part 150 Update
- Louisville International Part 150 Update
- T.F. Green Airport Improvement Program EIS
- Portland International Airport Runway Extension EA

Given the ability to process huge amounts of data efficiently and provide highly reliable results, the system is currently supporting two on-going ACRP research projects where aircraft noise based on actual aircraft operations and multiple airports over extended periods of time is required. RealContours™ was also used for a NASA funded INM model evaluation study, which was the first research study to utilize the systems unique ability to efficiently process a large number of flight tracks.

Our Commitment

HMMH staff work with the system and INM (and other aircraft noise models) to continuously improve its functionality and capabilities. HMMH staff members are also part of the AEDT Design Review Group and have been adapting the system to seamlessly work with AEDT when it is released in 2014. RCV2's flexible design allows the system to transition with each new release of INM to ensure airports are able to use the latest technology.

HARRIS MILLER MILLER & HANSON INC.

RealContours™ Version 2 System
Los Angeles World Airports, California

HMMH Client

Los Angeles World Airports

Project Owner

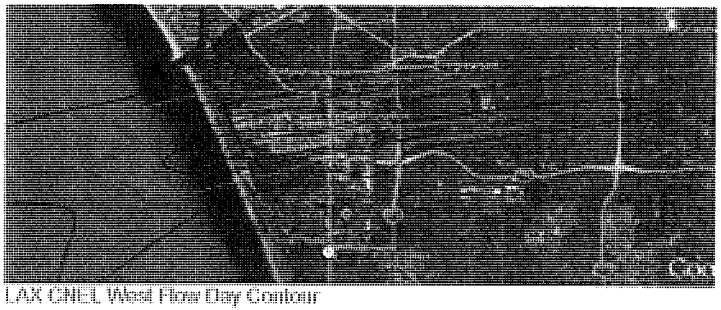
Los Angeles World Airports

Project Duration

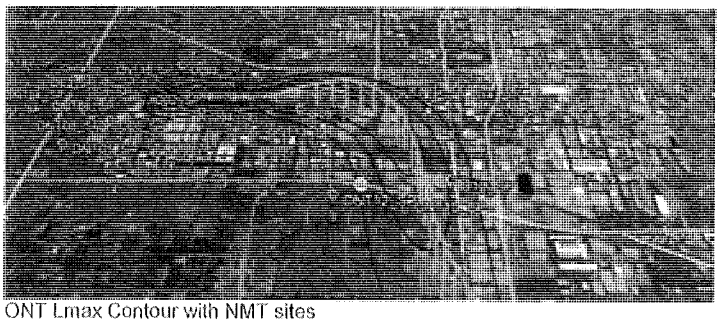
2004 thru Present

HMMH Role

Consultant responsible for system installation and support



LAX CNEL West Flow Day Contour



ONT Lmax Contour with NMT sites

In 2004, HMMH installed a RealContours™ (RC) system in the Noise Management seciont for Los Angeles World Airports (LAWA). This system automatically pulls radar data daily for three LAWA operated airports (LAX, VNY and ONT). This data is then imported into RC and daily noise contours are produced for each 24hr period using the Integrated Noise Model (INM).

In 2010, the system was upgraded to RealContours™ Version 2 (RCV2) a remotely hosted site. The system is provided aircraft flight track and identification data directly from the B&K ANOMS™ system.

The RCV2 system converts each radar track to a noise model track, selects the best modeled aircraft type match based on registration data (if available) and the best flight profile match. This data is then provided to the INM model which develops the requested noise metric data.

At Van Nuys, helicopter traffic and pattern activity are a large part of the modeling. RCV2 splits pattern tracks so each piece can be modeled in INM. Helicopter tracks are separated to the various helicopter pads and modeled. The RCV2 system stores these data and allows the Noise Management section staff to retrieve and compute average daily contours for any selected time period. RCV2 also allows LAWA staff to select specific flight tracks to model from the historical database.

Contacts:

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F 916.368.1201
ereindel@hmmh.com
HMMH Project Number: 800450

F.2 Attachment D – Proposer Reference Form

ATTACHMENT D - PROPOSER REFERENCE FORM

Name of Proposer: Bruel & Kjaer EMS Inc.

Please provide a list of references on the firm's performance of similar work within the last five years, including all current contracts. Use additional sheets as necessary.

Include the following information for each reference:

Customer Name: Los Angeles World Airports - LAX, ONT, VNY
Address: 7301 World West Way; Los Angeles, CA 90045
Contact Name and Title: Mr. Scott Tatro - Environmental Affairs Officer
Phone and Fax Numbers of Contact: (p) 424.646.4499 (f) 524.646.9260
Contract date(s): August 2005 - June 30, 2011; July 1, 2011 - June 30, 2014
Contract cost: $4,750,401.00 ↑
Description of work:
Develop and installation of an aircraft noise & monitoring & management system. Installation of permanent, portable NMTs, ARTS direct connection, ANOMS 8 (deployed), WebTrak for LAX, ONT, VNY Airports. In process of upgrading to hosted services. Contracted services, support and annual maintenance.

Customer Name: Denver International Airport
Address: 8500 Pena Boulevard · Denver, CO 80249
Contact Name and Title: Mr. Mike McKee - Noise Abatement Manager
Phone and Fax Numbers of Contact: (p) 303.342.2361 (f) 303.342.2366
Contract date(s): Customer since 1995; December 2011 - 2013
Contract cost: $1,385,500.00 ↑
Description of Work:
Upgrade & retrofit existing Noise Monitoring Terminals, install hosted WebTrak Services & hosted Secure Radar Gateway. Contracted Services, Support and annual maintenance.

Customer Name: Toronto Pearson International Airport
Address: 3111 Convair Drive · Toronto AMF Ontario, L5P 1B2
Contact Name and Title: Ms. Francine Donaldson - Acting Manager Noise Programs
Phone and Fax Numbers of Contact: (p) 416.776.5198 (f) 416.776.5047
Contract date (s): October 2012 - 2015;
Contract cost: $1,082,771.00 ↑
Description of work: Upgrade, retrofit and install new Noise Monitoring Terminals, install hosted ANOMS 8 software services and WebTrak services. Contracted services, support and annual maintenance.

ATTACHMENT D - PROPOSER REFERENCE FORM

Name of Proposer: Bruel & Kjaer EMS Inc.

Please provide a list of references on the firm's performance of similar work within the last five years, including all current contracts. Use additional sheets as necessary.

Include the following information for each reference:

Customer Name: City of Chicago - Department of Aviation Enviroment (ORD & MDW)
Address: 10510 West Zemke Road; Chicago, IL 60666
Contact Name and Title: Mr. Aaron Frame - Assistant
Phone and Fax Numbers of Contact: (p) 773·686·3563 (f) 773·686·4980
Contract date(s): Customer since 1996; January 2008 - December, 2013
Contract cost: $ 6,065,324.00
Description of work:
Install & upgrade Noise Monitoring Terminals at both Chicago O'hare Intl. Airport and Midway International Airport. Install and upgrade ANOMS 6 software system to ANOMS 8 software. Contracted services, support and annual maintenance.

Customer Name: San Diego International Airport
Address: Third Floor, Commuter Terminal; 3225 North Harbor Dr.; San Diego, CA 92101
Contact Name and Title: Mr. Dan Frazee - Director Airport Noise Mitigation
Phone and Fax Numbers of Contact: (p) 619·400·2785 (f) 619·400·2789
Contract date(s): Customer since 2001 → October 2013
Contract cost: $ 833,000.00
Description of Work:
Install and retrofit Noise Monitoring Terminal locations, install ANOMS 6, upgrade to ANOMS 8 software (deployed), install WebTrak Services. Contracted services, support and annual maintenance.

Customer Name: Port of Oakland - Oakland International Airport
Address: 1 Airport Drive; Oakland, CA 94621
Contact Name and Title: Mr. Wayne Bryant - Sr. Noise Abatement Specialist
Phone and Fax Numbers of Contact: (p) 510·563·2885 (f) 510·569·9017
Contract date (s): Customer since 1995 - NMT Project 2010
Contract cost: $ 1,279,000.00
Description of work: Upgrade, and retrofit existing Noise Monitoring Terminals to Bruel & Kjaer NMTs. Contracted services, support and annual maintenance for ANOMS 8, WebTrak and NMTs.

ATTACHMENT D - PROPOSER REFERENCE FORM

Name of Proposer: Bruel & Kjaer EMS Inc.

Please provide a list of references on the firm's performance of similar work within the last five years, including all current contracts. Use additional sheets as necessary.

Include the following information for each reference:

Customer Name: Austin Bergstrom International Airport
Address: 3600 Presidential Boulevard, Suite 411; Austin, TX 78719
Contact Name and Title: Mr. Stephen Dick – Research Analyst
Phone and Fax Numbers of Contact: (p) 512.530.5541 (f) 512.530.6630
Contract date(s): Customer since 2003 – 2011; June 2011 3yr. contract
Contract cost: $392,000.00 ; & $857,000.00 ↑
Description of work:
May 2012 completion of ANOMS 8 upgrade and upgrade, retrofit existing NMT's. Contracted services, support and annual maintenance.

Customer Name: Burbank Glendale Pasadena Airport Authority – Bob Hope Airport
Address: 2627 North Hollywood Way; Burbank, CA 91505
Contact Name and Title: Mrs. Monica Newhouse-Rodriguez: Deputy Exec. Director Facilities & Planning
Phone and Fax Numbers of Contact: (p) 818.840.8840 (f) 818.440.9207
Contract date(s): December 2010 – 2016
Contract cost: $838,000.00 ↑
Description of Work:
Install 20 Bruel & Kjaer NMT's, install ANOMS 8 software, with a deployed service, backup services hosted by Bruel & Kjaer EMS Inc. Contracted services, support and annual maintenance.

Customer Name: Centennial Airport
Address: 7800 South Peoria St., Englewood, CO 80112
Contact Name and Title: Mr. Mike Fronapel – Deputy Director, Planning & Development
Phone and Fax Numbers of Contact: (p) 303.790.0598 (f) 303.790.2129
Contract date (s): August 2011 – 2016
Contract cost: $1,176,603.00 ↑
Description of work: Install new Noise Monitoring Terminal locations with Bruel & Kjaer NMT's, hosted ANOMS 8 software & hosted WebTrak services. Contracted services, support & annual maintenance.

ATTACHMENT D - PROPOSER REFERENCE FORM

Name of Proposer: Brüel & Kjaer EMS Inc.

Please provide a list of references on the firm's performance of similar work within the last five years, including all current contracts. Use additional sheets as necessary.

Include the following information for each reference:

Customer Name: Boca Raton Airport Authority - Boca Raton Airport
Address: 3701 FAU Boulevard Ste. 205 Boca Raton FL 33431
Contact Name and Title: Ms. Kim Singer - Office Manager & Public Affairs
Phone and Fax Numbers of Contact: (p) 561.391.2202 x 205 (f) 561.391.2238
Contract date(s): June 2004-2009; January 2009 - 2013
Contract cost: $ 777,183.00
Description of work:
Install new NMT locations to include Noise Monitoring Terminals, install hosted ANOMS 8 software, install hosted WebTrak services. Contracted services, support and annual maintenance.

Customer Name:
Address:
Contact Name and Title:
Phone and Fax Numbers of Contact:
Contract date(s):
Contract cost:
Description of Work:

Customer Name:
Address:
Contact Name and Title:
Phone and Fax Numbers of Contact:
Contract date (s):
Contract cost:
Description of work:

F.3 Management Proposal for PANYNJ
RFP 31644

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

F.3 Management Proposal

January 2013

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1 Introduction

This document is the Brüel & Kjær F.3 Management Proposal for the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

Brüel & Kjær is the world's leading supplier of goods and services for airport noise and flight track monitoring solutions, with more than 230 customers worldwide. Brüel & Kjær's customers include some of the world's largest airports – Los Angeles, Denver, London Heathrow and Amsterdam.

Brüel & Kjær provides 24x7 system hosting, system support, maintenance, noise office reporting and other advanced professional services for major airports around the world, including Denver, Toronto Pearson and London Heathrow.

Local US staff are backed by the global support organisation, with more than 40 specialist aircraft noise and operations support staff, making it one of the world's largest aircraft environmental noise management offices. These specialists provide help desk services, remote technical support and configuration management. These staff are backed more than 1500 Brüel & Kjær employees, with offices in North America, Europe and Asia, including the world's leading aircraft noise and operations management software designers and developers.

2 NOMS Management Plan

Describe your Company's plan to manage the NOMS Contract for all five Airports, including the quality and effectiveness of your M/W/SBE plan

Brüel & Kjær has developed rigorous implementation and deployment methods for delivering noise monitoring systems in a cost and time efficient manner. These methods, based on PRINCE2 and PMI project management methodologies, have been tried and tested on green field installations, replacement and upgrades for multi-airport environments. Brüel & Kjær's corporate knowledge, gained through installing systems at airports around the globe, ensures Brüel & Kjær's ability to identify and manage risks early, leading to successful project outcomes for key stakeholders.

Brüel & Kjær has the largest pool of experienced NOMS staff of any vendor worldwide, mobilising a dedicated Integrated Project Team (IPT) to ensure that the project scope of work is delivered professionally, within the proposed timeline and to the agreed specifications.

Brüel & Kjær uses the proven best practises and low risk approaches that delivered the best outcomes for the project. During the project initiation and mobilisation phase Brüel & Kjær will define and establish how Brüel & Kjær and The Port Authority will work together to:

- Deliver the contractual milestones within the timescales and comply with the technical requirements defined by The Port Authority and agreed in Brüel & Kjær's response to the tender.
- Define the tasks to undertake within the scope of this project.
- Define a detailed schedule recording the tasks, resources and dependencies.
- Agree on the method to invoice the payment milestones.
- Manage the project in an efficient way, ensuring The Port Authority is kept informed of project progress, any issues, risks or potential delays.
- Maximise the synergy with The Port Authority to successfully deliver the project.
- Clarify the roles and responsibilities to avoid conflict.
- Provide the contact details of team members and key personnel for delivery of the project.
- Define and agree on a communication plan to ensure stakeholder engagement.
- Ensure an optimum control and monitoring of the project.

The F.2.09 Detailed Implementation Plan, records in detailed the project methodology and best practises that make Brüel & Kjær a mature project delivery organisation that understands and lives the project management methodology, having the capability of adapting its principles to the needs of an airport environment.

Our Global Delivery Team members are passionate Project Managers with a wide experience in the aviation and airport industry. We have successfully implemented systems around the world with high customer satisfaction.

Brüel & Kjær is committed to the objectives of the Port Authority of New York and New Jersey Minority, Women and Other Business Enterprise Program and its initiatives to maximize the participation of suitably qualified local contractors who are registered as MBE or WBE.

It is Brüel & Kjær's policy of to involve Small, Minority, Women and Other Business Enterprises to the greatest extent feasible in our contracts. The intent and purpose of our policy is to ensure that these firms have the opportunity to compete for contracts without discrimination on the basis of race, color, religion, national origin, age, sex or handicap. We believe that maximizing opportunities for Disadvantaged Business Enterprises is an integral part of our role as a good corporate citizen.

Following a comprehensive search, Brüel & Kjær selected Paul Carpenter Associate, Inc. (PCA) - a highly skilled firm specializing in relate noise monitoring solutions – for noise monitoring terminal installation and support. Please see document I – M/WBE Plan for more details.

3 Detailed Project Schedule

Include detailed project schedules as set forth in Attachment C, Scope of Work. The Proposer shall provide key milestone dates on the "milestone schedule" and describe all task interdependencies. (While not required, Proposers are encouraged to use GANTT charts and highlight critical path activities). The project schedule shall indicate when Authority-required tasks, including but not limited to providing test hardware, providing connectivity, etc., need to be performed.

A detailed project schedule(in Gantt chart form), the list of key milestones and dependencies, the outlined tasks required the Port Authority input, as well as a detailed sequenced deployment plan have been recorded in F.2.09 Detailed Implementation Plan.

4 Recent Contract Experience

The Proposer shall describe in detail its experience, including relevant contracts performed during the last three (3) years, its financial capability, management structure and proposed staffing, detailing technical training, certifications, applicable licenses, skills and experiences and capability of proposed staff and other supporting documentation demonstrating its ability to perform the work.

4.1. Relevant Contracts

A selection of relevant contracts performed during the last three (3) years includes:

Company Name	Address	Duration of the contract	Dollar Amount
Los Angeles World Airports	California USA	2005 to present	4.75 MUSD to July 2011
Denver International Airport	Colorado USA	1995 to present	1.4 MUSD since Dec 2011
Greater Toronto Airport Authority	Ontario Canada	2012 to present	1 MUSD since Oct 2012
City of Chicago	Illinois USA	1996 to present	More than 6 MUSD
San Diego International Airport	California USA	2001 to present	833kUSD
Port of Oakland	California USA	1995 to present	1.3MUSD

For more details and a comprehensive list, please see F.2 Attachment D – Proposer Reference Form

4.2. Financial Capability:

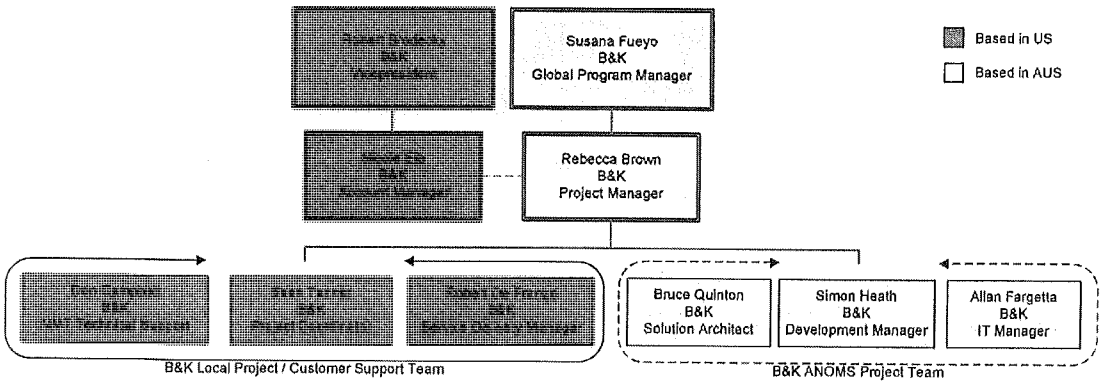
Brüel & Kjær is the world's leading supplier of goods and services for airport noise and flight track monitoring solutions, with more than 230 customers worldwide. Brüel & Kjær's customers include some of the world's largest airports – Los Angeles, Denver, London Heathrow and Amsterdam.

Brüel & Kjær is a wholly owned division of Spectris plc. Spectris develops and markets productivity-enhancing instrumentation and controls and is listed on the London Stock Exchange (symbol SXS). In 2011 Spectris had sales of £1,106.2 million, and it employs around 7,500 people worldwide. Spectris is a member of techMARK, the London Stock Exchange's index for technology companies, and the FTSE4Good index of socially-responsible companies.

4.3. Management Structure

The management structure implemented by Brüel & Kjær consists on a dedicated Integrated Project Team (IPT) mobilised to deliver this project and to ensure that the project scope of work is delivered professionally, within the proposed timeline and to the agreed specifications.

The proposed structure for the team and the staffing is recorded in the Team Organization Chart. The F.2.08 Project Key Members Resumes, include their skills and qualifications.



The highly qualified and experienced IPT will interact with the designated Port Authority personnel and they will establish a robust communication plan to ensure the engagement with all the project stakeholders is optimal. During the project initiation and analysis/design phase, the administration, monitoring and the project communications will be shared between the following individuals:

- To Be Confirmed (Project Manager, The Port Authority)
- Rebecca Brown (Project Manager, Brüel & Kjær)

All formal communications relating to commercial issues, project scope, project schedule and administration matters will take place between these two individuals.

In order to facilitate and expedite the communications, there will be additional communication channels in the following areas:

Monthly Steering Meeting - a monthly steering report will be provided to The Port Authority on project progress two (2) days before the steering meeting is held;

Weekly conference calls will be held between the Project Managers of both companies. Technical issues may also be discussed during these conference calls with the attendance of the system users and project coordinator. Ad-hoc attendance of the IT and development members of the team can be requested; and

Regular e-mail communication between team members.

Brüel & Kjær will be responsible for arranging, chairing and minuting the meetings.

	Meeting objective	Artefacts	Meeting Attendants
Weekly Project Meeting	Work in progress, status of the deliverables and tasks Review the project milestones Dependencies and Risks Any other business	Project Action Log Previous meeting minutes / actions	PA NYNJ Project Manager Rebecca Brown Technical Experts ad-hoc
Monthly Steering Meeting	Work in progress, status of the deliverables and tasks Review the project milestones Dependencies and Risks Review of key strategic or escalation matters	Monthly Steering Report Updated project schedule Minutes from the previous meeting	PA NYNJ Contract Director PA NYNJ Project Manager Rebecca Brown Susana Fueyo Nicole Eib

5 Detailed Implementation Plan

The Proposer shall provide a Detailed Implementation Plan that addresses all the requirements of Attachment C, Scope of Work, and anticipates a short-term transition from the current hosting vendor and environment to the proposed implementation for hosted managed services and administration of the NOMS. The Proposer should describe the methodology they have used successfully in the past and describe how existing system integrity will not be lost. The Contractor must propose how it will guarantee the Authority's access to all data in the event of the termination or expiration of the new contract.

The F.2.09 Detailed Implementation Plan, records in detail the project methodology and best practices that make Brüel & Kjær a mature project delivery organisation that understands and lives the project management methodology, having the capability of adapting its principles to the needs of an airport environment.

All data is stored in our redundant and secure data centers. All data is owned by the Authority and will be transferred back to the Authority in a usable format at the end of the Contract.

6 Pre-Employment Procedures

The Proposer shall provide detailed descriptions of its pre- employment screening procedures; safety and emergency procedures including, but not limited to, disaster recovery plans.

The F.5 Background Screening Plan document provides details of pre-employment procedures.

6.1. Disaster Recovery Plan

Brüel & Kjær has established two data centers – the primary center is in Sacramento, California and the secondary center is located in Melbourne Australia.

The two sites are connected via a high speed secure VPN connection which allows us to establish a duplicate system in the secondary site. The SANs are configured to replicate data from the primary to the secondary on a continuous basis.

In the event the primary site was unavailable for an extended period the VPNs could easily be redirects to the secondary site.

Brüel & Kjær will work with the Authority to establish the Disaster Recovery plan to effects this capability.

Prior to the completion and acceptance of the System Inspection and Test Brüel & Kjær will submit for the Authority's Contract Manager's approval, a disaster recovery plan to recover all System components and data operating as part of this Contract, to ensure continuity of operations in case a catastrophic event eliminates one or more of the locations where the System is housed.

7 Organisation Chart, Staffing Plan and Job Titles

7.1. Organisation Charts

The Proposer shall include a detailed organizational chart identifying key staff

During the project implementation phase, the following organisation will be responsible for delivery of services to the Authority, with oversight by the Brüel & Kjær Account Manager.

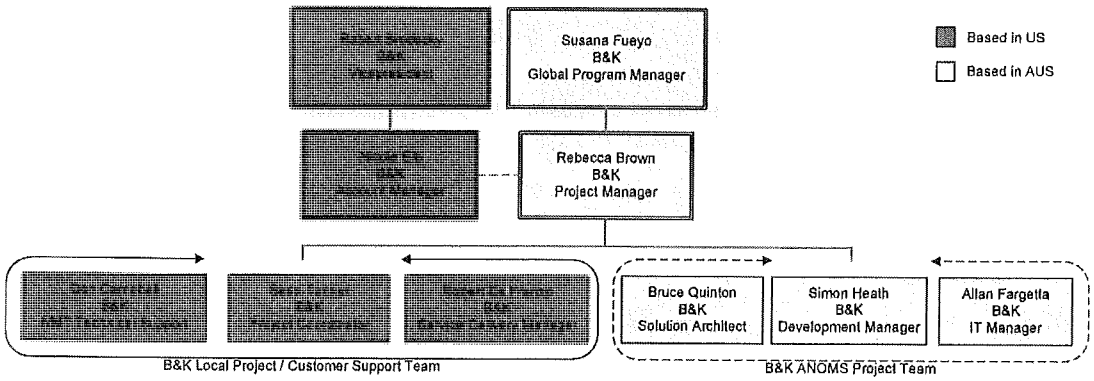


Figure 1. Project Organisation Chart

The local US and Global Teams will be dedicated to the project and will manage all the aspects of the project, including (but not limited): the coordination of the dependencies from the stakeholders, the delivery of equipment, the delivery of system documentation, the contractual and scope management of subcontractors, the procurement of the feeds and system data inputs, the software deployment, the delivery of the training and the implementation of the company's standard acceptance and delivery of a functional system.

Project Title	Name	Contact Number	Email Address	Location
B&K				
Contract Manager	Nicole Eib	Direct: +1 916 265 7703 Cell:	nicole.eib@bksv.com	Sacramento USA
Global Program Manager	Susana Fueyo	Direct: +61 3 9508 4996 Cell:	susana.fueyo@bksv.com	Melbourne, Australia
Project Manager	Rebecca Brown	Direct: +61 3 9508 4947 Cell:	rebecca.brown@bksv.com	Melbourne, Australia
Project Coordinator	Sean Tanner	Direct: +1 916.265.7708 Cell:	sean.tanner@bksv.com	Sacramento USA
IT/VPN Lead	Allan Fargetta	Direct: +61 3 9508 4956 Cell:	allan.fargetta@bksv.com	Melbourne, Australia
Solution Architect	Bruce Quinton	Direct: +61 3 9508 4910 Cell:	bruce.quinton @bksv.com	Melbourne, Australia
Product Ordering	Ravi Nagarajah	Direct: + 61 3 9508 4944 Cell:	ravi.nagarajah@bksv.com	Melbourne, Australia
NMT Technical Lead	Don Campbell	Direct: +1 954 437 8497 Cell:	don.campbell@bksv.com	Florida USA
Service Delivery Manager	Robert De Franzo	Direct: +1 916 265 7711 Cell:	robert.defranzo@bksv.com	Boston USA

Figure 2. Project Contact List

Following acceptance by the Authority of the live system, responsibility for the contract and delivery of services will be handed to the services organisation, with oversight by the Brüel & Kjær Account Manager.

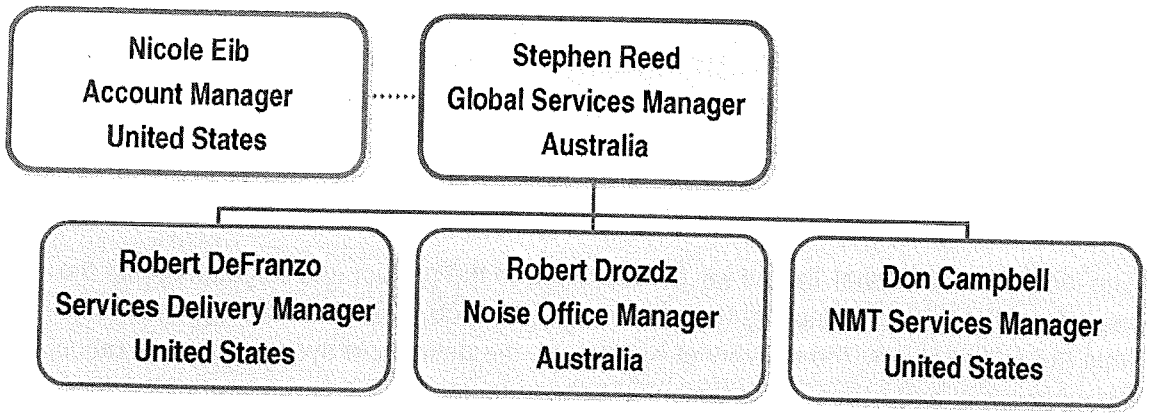


Figure 3. Services Organisation Chart

7.2. Staffing Plan

The Proposer shall provide a staffing plan that clearly outlines staffing needed to perform each function as described in the Scope of Work and submit training requirements for all technical employees. The Proposer shall describe how availability and response time requirements will be achieved. The Proposer shall describe the anticipated location of staff as well as the planned locations of the Proposers nearest offices

7.2.1. Key Project Management Members

Susana Fueyo Suarez – Global Program Manager

Susana is responsible for the global delivery of Brüel & Kjær environment monitoring projects, assuming overall responsibility and accountability for the project portfolio worldwide. She is a Certified Associate in Project Management with the Project Management Institute (PMI), and has a long track record of project management with companies such as Rolls-Royce and Airbus.

Her experience includes:

- Program manager overseeing several multi-airport projects including Air Services Australia recent upgrade of 8 airports nationally, and Swedavia (Sweden) upgrade and implementation of 16 airport system.
- Program Manager for Australian Department of Defense installation at 5 Air Force bases.
- Project Manager for the upgrade of the NOMS system for Amsterdam Schiphol airport and upgrade of the NMT communications.
- Project Manager for Barcelona SIRBCN project, Palma de Mallorca GEMS to ANOMS upgrade and implementation of a multi-airport centralised system for three airports managed by AENA.
- As Project Manager for Prague Airport, successfully delivered green field project in the shortest timescale ever managed by the company.

Rebecca Brown – Project Manager

Rebecca is an experienced Project Manager with over seven years of Project Management experience. She is holding an MBA focused on Aviation Management as well as a Bachelor of Business Administration and Bachelor of Aerospace Engineering, Rebecca's career includes working with Civil Aviation Safety Authority, QinetiQ Aerostructure, Airservices Australia and Brüel & Kjær EMS.

As a Senior Project Manager within Brüel & Kjær, Rebecca has successfully delivered numerous noise monitoring systems to airports around the word, including: a new

ANOMS system to Hong Kong airport in record timescales, the ANOMS NoiseDesk system for London Southend airport, a conversion from a 7804 system to ANOMS for Copenhagen airport, a multi-airport (4 airport) ANOMS system for ANA - Aeroportos de Portugal and a hosted ANOMS system for Eindhoven airport.

Sean Tanner – Local Project Coordinator

Sean is responsible for Local Project Coordination as well as duties in areas of I.T. and Airport Noise System Installation/Implementation. with over 25 years of customer oriented work experience accustomed to taking initiative, following up and following through, he managed a local and expanded regional employee base of over 75 people.

As experienced Project Coordinator, he achieved enhanced workplace efficiency by designing and implementing a statistical analysis system and by introducing an improved team process structure, he is also experienced at training individuals as well as large groups

He is an experienced user of ANOMS8, iView, WebTrak, Footprints, Bijingo Project Management, Microsoft Office Professional (Outlook, Word, Excel, PowerPoint, Visio, some Access), Scansoft Paperport, ActiveSync & Windows Mobile, Microsoft SharePoint, Remedy Call Tracking System, Captivate, Navision, Online Timesheet Software, Antivirus (variety), Symantec Ghost, Quickbooks, Quicken, Lotus Notes and the Internet (multiple browsers) and many other software packages.

Alex Fluken – Solution Trainer

Alex is the specialist ANOMS 8 solution trainer for North America, as well as services delivery manager for several customers in North America.

Alex has comprehensive knowledge of the industry, the challenges that customers face within communities, and a strong understanding on how ANOMS can help facilitate community and stakeholder engagement.

Alex provides full ANOMS 8 training to new and upgrading customers, and has is also responsible for internal employee training.

Alex recent experience includes development and delivery of ANOMS 8 training to major airports, training of products and services to internal staff, and providing advanced ANOMS training and presentations at the annual Brüel & Kjær EMS North America User Forums.

Prior to joining Brüel & Kjær EMS, Alex worked in the noise office at San Jose International Airport. In this role, Alex used ANOMS to log, investigate, and respond to the local community. In addition, he investigated and documented curfew violations and was involved in the notification to the airlines.

Alex has a Bachelor of Science from San Jose State University, CA, USA

7.2.2. Key Services Members

Robert DeFranzo - Service Delivery Manager

Robert is a senior Services Delivery Manager, with primary responsibility for US East Coast airport customers, as well as providing support to other service delivery managers.

Robert DeFranzo joined Brüel & Kjær EMS (formerly Lochard) from the MASSPORT Noise Abatement Office at Logan Airport where he was an intern for 2 years. At Logan, Rob gained a greater understanding of the role of a Noise Abatement Office as well as the need for having supportable software to assist in providing for the needs of the community.

Robert plays a crucial role in new system installations, and has supported projects at Austin, Lehigh Valley, Las Vegas, and Honolulu airports.

Robert has a strong understanding of the ANOMS product suite and has trained clients on many different aspects of the product.

Robert is:

- Responsible for ensuring the delivery of services meets contracted requirements on a day to day basis
- The escalation point for all service issues
- Responsible for providing assistance and product support of the ANOMS System
- Responsible for delivery of monthly reports, including data on tickets
- Liaison with the Field Engineering staff to resolve short and longer term NMT issues; and
- Liaison with the Account Manager in contract and financial negotiations

Robert will visit the customer every quarter to discuss issues, enhancements and upgrades.

Robert Drozdz – Noise Office Manager

Robert is the Brüel & Kjær Noise Office Manager, and is responsible for monitoring and analysing flight paths in and around major international airports, as well as the impact of aircraft noise in and around various domestic and international airports,

Robert is responsible for the generation and validation of Flight and Noise Document Reports, which are released to the airports and published to the public and data integrity and validation are also under his responsibility.

Don Campbell – NMT Service Manager

Don is responsible for contract execution, assessment of technical specifications, and overall contract compliance during and after the project including acceptance test, and is also a key liaison with third party suppliers, vendors.

Don has over thirty years of experience in computer-based instrumentation system design, sales, and marketing including division project management. Don has significant experience in government computer based systems, strong technical engineering and systems development skills.

Don is a recognized performer with a record of consistent and effective responsibility in development, project implementation and management, cost control and custom system design, with a speciality in airport solutions.

Don is a former Division Manager for Brüel & Kjær Condition Monitoring Systems and a Major Program Manager for government projects.

Don holds BSc EE & ME from Western New College, Springfield, Ma.

7.3. Job Titles, Responsibilities, Qualifications and Work

Proposers shall submit a list of the job titles, responsibilities, qualifications and work associated with each job position listed in Supplemental Work

Title	Responsibilities	Work
Contract Manager (Services Delivery Manager)	The Service Delivery Manager is responsible for ensuring the delivery of services meets contracted requirements on a day to day basis.	• Escalation point for all service issues • Assistance and product support of the ANOMS system • Monthly reports, including data on tickets • Liaison with the Field Engineering staff • Liaison with the Account Manager in contract and financial negotiations • Quarterly customer visit
Project Manager	On time, on-budget and on-quality delivery of supplemental work	• Management of delivery of services in accordance with the agreed scope of work
Software Developer/Engineer	Development and configuration of software	• Development of software customisations or configuration of existing software to meet the supplement work scope of work
Trainer	Development and delivery of training	• Development of training materials • Delivery of training
Report Writer	Production of custom reports	• Production of custom reports
Installation Technician	Installation of Noise Monitoring terminals	• Installation and on-site calibration of noise monitoring terminals
Technical Support	Level 1 remote technical support	• Responding and resolving tickets raised through the on-line problem ticket system, including escalation to level 2 (configuration) and level 3 (system and software) support if required

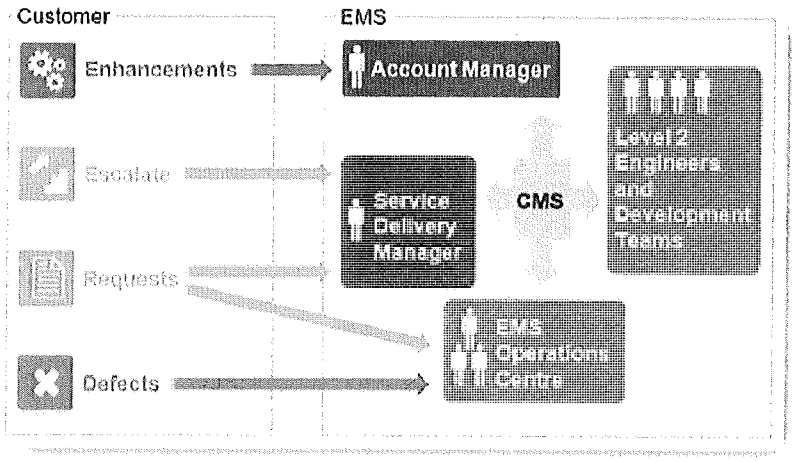
Upon the request of the Authority for any supplemental work Brüel & Kjær will submit a proposal that describes the work to be performed, contain a detailed estimate of the labour involved, job titles, responsibilities and qualifications associated to each position, a lump sum price and a proposed schedule for the supplemental works.

8 Support Team

8.1. Roles & Responsibilities

Describe the roles and responsibilities of the support team members that will be assigned to this contract

The Brüel & Kjær Services team consists of more than 40 staff who are dedicated to providing support services to our clients.



Brüel and Kjær will appoint a Service Delivery Manager to manage the services provided and act as the escalation point for any service issues.

The Service Delivery Manager will also include the following activities:

- A monthly review of the service provided detailing key result areas
- Quarterly reporting against agreed service levels
- Quarterly visit to review performance, and discuss system issues

The Service Delivery Manager has full access to all of the support teams and tools and will act as the Single Point of Contact.

In addition to the Service Delivery Manager Mr Don Campbell will be appointed to manage the service of the NMTs installed as part of the project.

EMS Operations Center (EMSOC) – Is staffed from 5:00pm Sunday till 8:00pm Friday and is available during these times for telephone support. The EMSOC also responds to automated alerts and handles all support requests that are received by email. The EMSOC performs initial problem investigation, priority assessment and if necessary assigns the ticket to the Level 2 engineers

Level 2 Engineers – Responsible for investigating issues and identifying defects that will be resolved by the development teams

8.2. Qualifications

Provide qualifications of support team members

Name	Title	Qualifications
Nicole Eib	Account Manager	Business partner with UC Davis Noise Symposium, Airports Council International – North America and American Association of Airport Executives
Robert DeFranzo	Service Delivery Manager	BSc Computer Science
Robert Drozdz	Brüel & Kjær Noise Office Manager	BSc Airspace Engineering
Don Campbell	NMT Services Manager	BSc EE & ME

9 Technical Customer Services

Describe technical customer services experience and capabilities

Brüel & Kjær's NoiseOffice services have been specifically designed to provide high performance tools for operations staff to efficiently respond to community complaints with precise and accurate information. NoiseOffice lowers the burdens of IT support or maintenance by airport noise management staff. NoiseOffice also provides a wealth of information to optimize operations and marketing programs.

Brüel & Kjær is the world's leading supplier of goods and services for airport noise and flight track monitoring solutions, with more than 230 customers worldwide. Brüel & Kjær's customers include some of the world's largest airports – Los Angeles, Denver, London Heathrow and Amsterdam.

NoiseOffice provides the information needed for the airport noise management program, including:

- Reliable & precise monitoring of noise impact
- Routine reports and investigation tools needed to engage stakeholders
- On-going access to the technology needed

NoiseOffice offers noise management operations support including:

- Data integrity & validation, audit ability and long term records management
- Compliance and routine reporting
- Interactive investigation tools

NoiseOffice is the product of over 19 years experience working with recognized industry innovators in airport environment management, from the smallest general aviation strips to the world's largest hubs.

For the life of the maintenance agreement, Brüel & Kjær will provide the following services:

Service management

- Service Reporting – Service Delivery Manager
- System Support – help desk and trouble ticketing management

- Customer Visits – 2 annual visits
- User Forum – annual participation in American user forum

Maintenance Services

- Fault management – Brüel & Kjær is responsible for fault management of the solution
- Software upgrades and patches – of Brüel & Kjær provided software
- Hardware Repair – for Brüel & Kjær supplied hardware, and existing LD Noise Monitors
- Annual On-Site maintenance for each NMT– Brüel & Kjær supplied and existing LD Noise Monitors
- Scheduled Preventive Maintenance
- On-Call Remedial Maintenance

Technology Management Services

- Backup and Restoration - Brüel & Kjær is responsible for weekly system backup and system restoration.

Subscription Services

- Application Subscription – WebTrak
- Reference Data – such as annual updates for vector street maps

Professional Services

- Professional Services – ad hoc services provided on a quotation basis

10 Contract Management

Identify the Account Manager and Contract Manager

Account management is provided by the Brüel & Kjær Account Manager. The Account Manager provides quarterly commercial review and annual strategic review meetings.

Day to day contract management is provided by the Brüel & Kjær Service Delivery Manager. The SDM provides regular reports on service performance and status of tickets, which allows the Authority to assess performance of the contract, including achievement of the M/WBE Plan.

Strategic review meetings are typically conducted as part of the annual American Airport User Forum that is arranged each year where Brüel & Kjær brings the airports and industry experts together to share and exchange knowledge and best practice in aircraft noise and flight tracking monitoring and management.

10.1.1. Nicole Eib – Account Manger

Nicole is responsible for managing existing North and South America Airport accounts as well as new customer business development for Brüel & Kjaer EMS Inc.

Nicole is responsible for contractual, commercial and strategic management, conducting regular (quarterly) account management meetings to ensure the relationship between Brüel & Kjær and the Authority is continually managed and enhanced.

Nicole has more than five years of experience in the implementation of airport noise and flight tracking solutions, including systems for Chicago O'Hare & Midway International Airport, Denver International Airport, Toronto Pearson International Airport and Austin International Airport.

Nicole is a key business partner with UC Davis Noise Symposium, Airports Council International – North America and American Association of Airport Executives.

10.1.2. Robert DeFranzo – Contract Manager

Robert DeFranzo will be the Service Delivery Manager (SDM) for the Authority and will act as contract manager.

The SDM is the key contact for day to day service management in accordance with the contract. The SDM is responsible for making the capability of Brüel & Kjær available to the Authority, in accordance with the services and service levels agreement.

The SDM provides regular reports on service performance and status of tickets, which allows the Authority to assess performance of the contract. The SDM will also provide quarterly reporting on achievement of the M/WBE Plan.

System faults are resolved through the ticket management systems embedded in the Brüel & Kjær NoiseOffice services, with escalation to the Brüel & Kjær Service Delivery Manager.

The SDM is responsible for ensuring the delivery of services meets contracted requirements on a day to day basis, be the escalation point for all service issues, provide assistance and product support of the ANOMS System, deliver monthly reports collating data on tickets, visit the customer every quarter to discuss issues, enhancements and upgrades. The SDM liaises with Field Engineering staff to resolve short and longer term NMT issues and liaise with the Account Manager in contract and financial negotiations

11 M/WBE Plan

The Proposer shall submit a M/WBE Plan in accordance with the section of this RFP entitled "M/WBE Subcontracting Provisions." The Proposer shall be required to report on actual achievement against plan goals on a quarterly basis.

The Brüel & Kjær M/WBE plan is included as document I - M/WBE Plan.

Brüel & Kjær is committed to the objectives of the Port Authority of New York and New Jersey Minority, Women and Other Business Enterprise Program and its initiatives to maximize the participation of suitably qualified local contractors who are registered as MBE or WBE.

Following extensive engagement and assessment of candidate companies, Brüel & Kjær will achieve provide M/WBE participation in the contract through subcontracting of monitoring site civil works, noise monitoring installation and noise monitoring maintenance to Paul Carpenter Associate, Inc.

The Brüel & Kjær Services Delivery Manager will report on actual achievement against plan goals as part of quarterly services performance reporting.

12 Environmental Certification

The Proposer's Certified Environmentally Preferable Products/Practices Form ensuring compliance with all applicable federal, state and local standards in their business practices, in accordance with the Certified Environmentally Preferable Products/Practices Provision.

The Certified Environmentally Preferable Products / Practices is attached to this document as document F.3 Attachment F – Certified Environmentally Preferable Products/Practices.

13 Transition Planning

The Proposers proven transition planning approach that covers transitions at contract commencement; during the course of the agreement and upon contract termination.

The Project deployment phase, mobilisation of the IPT and transition from the contract manager is triggered by the **Sales to Projects Handover Process**. This handover follows a standard process where the contract scope is reviewed and any contract negotiation items are communicated. A quality assurance check is undertaken to ensure that the full extent of the scope, the subcontract agreements and the proposal information is available and all the IPT members are briefed and engaged. The contract manager will remained engaged throughout the whole deployment phase and it will ensure that there is no discontinuity from the contract execution until the commencement of the services.

Subsequently, the deployment phase commences with a face to face Kick-off Meeting with the Port Authority to review the detailed deployment plan, scope of work, dependencies and schedule.

During the deployment phase the Project Manager will be the key point of contact and it will remain engaged in all the detailed aspects of the system delivery until the **Project to Services Handover Process** takes place. Prior to this handover and to ensure a seamless transition from the deployment into services, the Service Delivery Manager (SDM) for The Port Authority gets involved in the delivery of the training and the system inspection and acceptance (while the deployment project is still active). This approach provides the SDM and the Port Authority with the right environment to build the working relationship key for the successful deliver of the services' offering. Furthermore, it also ensures that the training and acceptance process are adequately delivered under the experienced and watchful eye of the SDM. At this stage the system is treated by Brüel & Kjær as if it were an operational system and the automatic 24/7 system monitoring and the administration of the system commences. Concurrently the corporate tools for stake holder engagement and incident resolution (i.e. FOCUS and Footprints) are enabled and access is granted to the PA NYNK personnel.

Upon successful completion of the project deliver and system acceptance by the Port Authority, the Project to Services Handover Process takes place and the Service Level Agreement commences.

All data is owned by the Authority and will be transferred back to the Authority in a usable format at the end of the Contract.

F.3 Attachment F – Certified Environmentally Preferable Products Practices

ATTACHMENT F - Certified Environmentally Preferable Products/Practices

Proposer Name: Briel & Kjaer EMS Inc **Date:** January 25, 2013

In line with the Port Authority's efforts to promote products and practices which reduce our impact on the environment and human health, Proposers are encouraged to provide information regarding their environmentally preferable/sustainable business practices as they relate to this contract wherever possible. Proposers **must** complete this form and submit it with their response, if appropriate. Proposers **must** submit appropriate documentation to support the items for which the Proposer indicates a "Yes" and present this documentation in the proper sequence of this Attachment.

1. Packaging

Has the Proposer implemented any of the following environmental initiatives? **(A checkmark indicates "Yes")**

____ Use of corrugated materials that exceed the EPA recommended post-consumer recycled content

yes Use of other packaging materials that contain recycled content and are recyclable in most local programs

yes Promotes waste prevention and source reduction by reducing the extent of the packaging and/or offering packaging take-back services, or shipping carton return

____ Reduces or eliminates materials which have been bleached with chlorine or chlorine derivatives

____ Eliminates any packaging that may contain polyvinyl chloride (PVC), or polystyrene or heavy metals

If yes, a description of the practices being followed must be included with the submission.

2. Business Practices / Operations / Manufacturing

Does the Proposer engage in practices that serve to reduce or minimize an impact to the environment, including, but not necessarily limited to, the following items? **(A checkmark indicates "Yes")**

yes Recycles materials in the warehouse or other operations

____ Use of alternative fuel vehicles or vehicles equipped with diesel emission control devices for delivery or transportation purposes

yes Use of energy efficient office equipment or signage or the incorporation of green building design elements

____ Use of recycled paper (that meets federal specifications) in their marketing and/or resource materials

____ Other sustainable initiative

If yes, a description of the practices being followed must be included with the submission.

3. Training and Education

Does the Proposer conduct/offer a program to train or inform customers and employees of the environmental benefits of the products to be offered under this contract, and/or does the Proposer conduct environmental training of its own staff?

☐ Yes ☒ No If yes, Proposer must attach a description of the training offered and the specific criteria targeted by the training.

4. Certifications

Has the Proposer or any of its manufacturers and/or subcontractors obtained any of the following product / industry certifications? **(A checkmark indicates "Yes")**

____ ISO 14000 or adopted some other equivalent environmental management system

____ Other industry environmental standards (where applicable), such as the CERES principles, LEED Certification, C2C Protocol, Responsible Care Codes of Practice or other similar standards

____ Third Party product certifications such as Green Seal, Scientific Certification Systems, Smartwood, etc.

If yes, Proposers must attach copies of the certificates obtained.

5. Other Environmental Criteria

Proposers are encouraged to respond to criteria specifically indicated in this RFP as "Management Approach" (and attach the appropriate documentation) to receive consideration in the evaluation.

I hereby certify, under penalty of the law that the above statements are true and correct.

ROBERT BROBECK **Name** 1.25.2013 **Date**

Brüel & Kjær

24 January 2013

Brüel & Kjær Certified Environmentally Preferable Products/Practices

Brüel & Kjaer recognizes the principle of sustainable development, and has consequently established an Environmental Management System with the purpose of; managing all significant environmental aspects of activities, products and services, and thereby controlling the environmental impact from our activities and preventing pollution, continually improving the overall environmental performance and encouraging suppliers to do the same. In this way B&K commits to environmental responsibility in order to meet all legal requirements as well as the requirements of our customers.

For our Noise Monitoring Terminals, the Environmental Management System is certified to fulfill the requirements of the following standard for our Noise Monitoring Terminals:

Sound & Vibration Measurement: **ISO 14001:2004** with the scope "Development, production, sales and servicing of technical equipment for measurement and analysis of sound and vibration"

Vibration Test Systems: **ISO 14001:2004** with the scope "The development, production, sales, technical support of and training in vibration test and acoustic measurement and analysis systems"

Certified Environmentally Preferable Products/Practices

1. **Packaging**

   Use of other packaging materials that contain recycled content and are recyclable in most local programs: Brüel & Kjaer EMS Inc. purchases packaging material which is easily reused or recycled. Additionally, all packaging material that comes into the Brüel & Kjaer offices is broken down and stored so that it can be reused at a later date.

2. Business Practices / Operations / Manufacturing

Recycled materials in the warehouse or other operations: Brüel & Kjaer EMS Inc. encourages all employees to recycle. We have recycling stations set up in a common area to recycle batteries, paper, aluminum and plastics.

Use of energy efficient office equipment or signage or the incorporation of green building design elements: We take three approaches to reducing electricity use: encouraging users to turn off equipment at night; enabling the power management features found in ENERGY STAR® equipment; and influencing office equipment purchasing to include the ENERGY STAR® logo.

Det attesteres hermed, at ledelsessystemet hos
This is to certify that the Management System of

Gyldigt fra / *Valid from*
2012.04.18

Gyldigt til / *Valid until*
2015.04.23

Brüel & Kjær Sound & Vibration Measurement A/S
Skodsborgvej 307
2850 Nærum

DS-certificeret siden / *DS certified since*
2009.04.23

Certifikat
Certificate
010724

DS/EN ISO 14001:2004

Certifikatets gyldighedsområde er

Udvikling, produktion, salg og service af teknisk måle- og analyseudstyr til anvendelse inden for lyd- og vibrationsmåling

The scope of the certificate is

Development, production, sales and servicing of technical equipment for measurement and analysis of sound and vibration

Niels Falk
Adm. Direktør
Managing director

DS Certificering A/S
Kollegievej 6
DK 2920 Charlottenlund
Denmark

The Danish text of the certificate is considered to be legally binding in case of doubt with regard to the correctness of the translation.

Certifikatets danske tekst betragtes som den juridisk gældende i tilfælde af tvivl om oversættelsens korrekthed.

DS CERTIFICERING

DANAK

Certificate of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2004

This is to certify that:

Bruel & Kjaer VTS Ltd
Jarman Way
Royston
SG8 5BQ
United Kingdom

Holds Certificate No: **EMS 555980**
and operates an Environmental Management System which complies with the requirements of ISO 14001:2004 for the following scope:

The development, production, sales, technical support of and training in vibration test and acoustic measurement and analysis systems.

For and on behalf of BSI:

Gary Fenton, Global Assurance Director

Originally registered: **09/05/2011** Latest Issue: **01/03/2012** Expiry Date: **09/05/2014**

UKAS ENVIRONMENTAL MANAGEMENT 003

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.
An electronic certificate can be authenticated online.
Printed copies can be validated at www.bsigroup.com/ClientDirectory

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 845 080 9000
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.
A Member of the BSI Group of Companies.

F.5 Contractor Identity Check/ Background Screening Plan

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

F.5 Contractor Identity Check / Background Screening Plan

January 2013

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2 EMPLOYMENT SCREENING 4
3 CONTRACTOR IDENTITY CHECK 5
4 EMPLOYEE SAFETY AND SECURITY 6
5 DISASTER RECOVERY 7

1 Introduction

This document F.5 Contractor Identity Check / Background Screening Plan forms part of the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

This document describes the Brüel & Kjær approach to contractor identity checking and background screening of employees intended to work on the contract. It also describes safety and emergency procedures for the offices of Brüel & Kjær EMS Inc and disaster recovery.

The Proposer shall submit a Contractor Identity Check / Background Screening Plan, which demonstrates how the Proposer will ensure that only employees who were successfully pre-screened and properly credentialed perform the services herein. This Plan shall be applicable to all years of the Contract and shall include, but not be limited to, the following:

The length of time researched for the identity check/background screening on new hires, which shall be at a minimum of 10 years of employment history or verification of what an employee documented they have done in the last 10 years preceding the date of the investigation, resources utilized to perform this, and the frequency at which it is performed on current employees.

The Proposer shall provide detailed descriptions of its pre-employment screening procedures; safety and emergency procedures including, but not limited to, disaster recovery plans.

2 Employment Screening

Brüel & Kjaer EMS Inc. recruits new employees through placement agencies, newspaper advertising, word of mouth and internal advertising. Candidates are interviewed by the relevant manager, and by other personnel depending upon the nature of the position being offered.

Offers of employment are generally confirmed in writing in a letter which outlines the terms of the offer, including salary, vacation, holiday, and insurance benefits.

Brüel & Kjaer EMS Inc. generally contacts recruiting sources for minorities, females and disabled persons. Brüel & Kjaer EMS Inc. is committed to diversity and specifically seeks out women, minority and disabled candidates. Unsolicited requests for employment are dealt on a case-by-case basis depending on a candidate's qualifications and potential for developing markets related to Brüel & Kjaer EMS Inc.'s business. Hiring is done to fit the needs of the company.

Brüel & Kjaer EMS Inc. is fully committed to a policy of equal employment opportunity without regard to race, religion, color, gender, national origin, disability, age or sexual orientation.

Upon hire, Brüel & Kjaer EMS Inc. follows The Department of Homeland Security, US Citizenship and Immigration Services requirement to complete and verify all documents on Form I-9, Employment Eligibility Verification.

3 Contractor Identity Check

Upon official notice in writing by an authorized representative on behalf of the Port Authority that Brüel & Kjaer EMS' Inc. has been accepted, we will begin the enrolment process with Secure Worker Access Consortium (S.W.A.C).

Brüel & Kjaer EMS Inc. will internally appoint the Designated Security Representative (DSR) and Designated Account Contact (DAC). Both these responsibilities will be handled by only one Brüel & Kjaer EMS Inc. employee.

Brüel & Kjaer staff working on this contract locally will individually enrol by reporting to a SWAC Processing Center or Remote Mobilization Processing performed by S.W.A.C. with required government-issued documents.

Local staff will be required to renew membership every three years. Should an employee which is a part of this contract no longer be employed with Brüel & Kjaer EMS, the DSR will immediately complete the necessary steps to terminate the S.W.A.C relationship.

Upon completion of the project only on-site and necessary personnel will have continued S.W.A.C membership; all other memberships will be terminated by the DSR.

Brüel & Kjaer EMS Inc. will only submit passed and credential employee's details to Port Authority for reimbursement as an out-of-pocket expense.

For the identified staff working on the project remotely, Brüel & Kjaer is proposing to use staff with extensive and known work histories, as can be seen in F.2.08 Key Staff Resumes.

4 Employee Safety and Security

In the interest of employee safety and security, as well as the safety and security of those visiting our office, only employees, those people who are soliciting the firm for legitimate business reasons, and those invited by employees (within reason) are allowed on Brüel & Kjaer premises.

Brüel & Kjaer EMS Inc. office is located in a two-story commercial building in Sacramento California. The building has three exit doors which are electronically locked during non-business hours. During non-business hours the only entry into the building is by security card access. The building is furnished with fire sprinklers and smoke detectors. In addition, the Brüel & Kjaer EMS suite is secured by Sonitrol Security requiring a secure code for entry as well as a separate "panic" code sending alarm directly to the County Sheriff. Our suite is also supplied with fire extinguishers which are checked by the Sacramento metro Fire Department on a regular basis

This capability ensures the Brüel & Kjær only pre-screened employees and contractors are able to gain access to our IT infrastructure and information, so that we are able to protect our customers' data and provide secure support and processes.

5 Disaster Recovery

Brüel & Kjær has established two Data Centers – the primary center is in Sacramento, California and the secondary center is located in Melbourne Australia.

The two sites are connected via a high speed secure VPN connection which allows us to establish a duplicate system in the secondary site. The SANs are configured to replicate data from the primary to the secondary on a continuous basis.

In the event the primary site was unavailable for an extended period the VPNs could easily be redirects to the secondary site.

Brüel & Kjær will work with the Port Authority to establish the Disaster Recovery plan to effects this capability.

Prior to the completion and acceptance of the System Inspection and Test Brüel & Kjær will submit for the Authority's Contract Manager's approval, a disaster recovery plan to recover all System components and data operating as part of this Contract, to ensure continuity of operations in case a catastrophic event eliminates one or more of the locations where the System is housed.

F.6 Business Risk

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

F.6 Business Risk

January 2013

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2.1. Financial and Commercial Risk 4
2.2. Implementation and Ongoing Support Risk 4
2.3. Succession Plans 5
2.4. Summary 5

1 Introduction

This document F.6 – Brüel & Kjær Business Risk part of the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

The Proposer shall submit risk assessment and succession plans to the Contractor and the Port Authority, that assess the business risk in taking on the significant amount of new work that will be required under this Contract. The risk assessment plan should take into account all work currently under contract, as well as work that is under contract to companies which the Proposer owns, controls or has an interest.

Bruel & Kjaer is confident that we have the financial capability, experience and staff to manage the business risk and provide the products and services to meet the requirements of the Port Authority.

2 Risk Assessment

2.1. Financial and Commercial Risk

Brüel & Kjær EMS Inc is a member of the Brüel & Kjær group, which is a wholly-owned subsidiary of Spectris plc, a company listed on the London Stock Exchange.

For the half year ended June 30, 2012 Spectris reported sales of GBP 597 million and after tax profit of GBP 58 million – an increase of 8% compared to the corresponding 2011 period. Spectris' financial reports can be found at http://investors.spectris.com/financial-reports.

Relative to the existing portfolio of business undertaken by Spectris, the work required for the Port Authority Airport Noise and Operations Management System will not cause significant additional business risk.

2.2. Implementation and Ongoing Support Risk

Brüel & Kjær has provided aircraft noise and operations management solutions for more than twenty years, and is certified to ISO9001.

Of the world's top 30 busiest airports, Brüel & Kjær supplies noise monitoring management solutions to half, and provides noise monitoring equipment to 80%.

Brüel & Kjær successfully supplies major new aircraft noise and operations management systems each year through excellent project delivery, most recently including:

- 2012 Toronto Pearson International Airport (Canada)
- 2012 Copenhagen Airport (Denmark)
- 2012 Helsinki Airport (Finland)
- 2012 Brussels Airport (Belgium)
- 2012 ANA Aeroportos de Portugal (Portugal)
- 2011 Korea Air Force (Korea)
- 2011 Taipei Songshan Airport (Taiwan)
- 2011 London Southend Airport (United Kingdom)

In addition to new customers and new system projects, Brüel & Kjær provides continuous support, system upgrades and new features to more than 200 airports worldwide, through long term support agreements.

Brüel & Kjær is confident that we have the experience to deliver the work required for the Port Authority Airport Noise and Operations Management System without significant additional business risk.

2.3. Succession Plans

Brüel & Kjær has more than 1500 employees in 55 offices worldwide.

Our local staff and subcontractors are supported by a global network of specialists, including experts in noise monitoring technology, software development, noise office management, and aircraft noise and operations management system support.

Our staff are developed to ensure that Brüel & Kjær has the capability to grow the business to meet the needs of our customers, and to seamlessly transfer responsibilities both short term (during periods of leave or training) or permanently as staff careers progress.

As part of the wider Spectris group, there many opportunities for our talented staff, which are supported by thorough succession planning.

Brüel & Kjær is confident that we have the staffing succession plans support delivery and ongoing support of the Port Authority Airport Noise and Operations Management System without significant additional business risk.

2.4. Summary

Bruel & Kjaer is confident that we have adequate financial capability, experience and staff to manage the business risk and provide the products and services to meet the requirements of this contract.

G. ACKNOWLEDGMENT OF ADDENDA

G.1 Acknowledgment of RFP 31644
Addendum 1

THE PORT AUTHORITY OF NY & NJ

PROCUREMENT DEPARTMENT
2 MONTGOMERY STREET, 3RD FL.
JERSEY CITY, NJ 07302

12/20/2012

ADDENDUM # 1

To Prospective Proposers On RFP # 31644 for Airport Noise & Operations Management System Contract For John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) and Teterboro (TEB) AIRPORTS.

[X] Due back on 1/15/2013, no later than 2.00 PM.

I. CHANGES/MODIFICATIONS

The following changes/modifications are hereby made to the solicitation documents:

- Attachment B, Part II – Cost Proposal Form is deleted in its entirety and replaced with the attached Attachment B, Part II – Cost Proposal Form dated December 20, 2012.

- Section 5, Evaluation Criteria and Ranking, Subsection B, "Technical Expertise" is modified to "Technical Approach and Expertise".

Additional changes to Section 5, Evaluation Criteria and Ranking, Subsection B "Technical Approach and Expertise"

- Delete first paragraph: "The extent to which the Proposer demonstrates its ability to execute the required services, including, but not limited to:"

- Bullet (2) is deleted in its entirety.

This communication should be initialed by you and annexed to your Select Type upon submission.

In case any Proposer fails to conform to these instructions, its Proposal will nevertheless be construed as though this communication had been so physically annexed and initialed.

THE PORT AUTHORITY OF NY & NJ

PS11All

KATHY LESLIE WHELAN, MANAGER
PURCHASING SERVICES DIVISION

Select Type FIRM NAME: Brüel & Kjær EMS Inc.

INITIALED: [illegible]

DATE: January 25, 2013

QUESTIONS CONCERNING THIS ADDENDUM MAY BE ADDRESSED TO JEANETTE ANDERSON, WHO CAN BE REACHED AT (201) 395-3430 or at jeanette.anderson@panynj.gov.

PS11All

G.2 Acknowledgment of RFP 31644
Addendum 2

THE PORT AUTHORITY OF NY & NJ

PROCUREMENT DEPARTMENT
2 MONTGOMERY STREET, 3RD FL.
JERSEY CITY, NJ 07302

1/4/2013

ADDENDUM # 2

To prospective Proposer(s) on **RFP # 31644 for AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY INTERNATIONAL (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS.**

☒ **Due back on 1/29/2013, no later than 2:00PM**

☐ Originally due on 1/15/2013, no later than 2:00PM

I. CHANGES/MODIFICATIONS

The following changes/modifications are hereby made to the solicitation documents:
Last paragraph of Section IX.A.3 Operational Flexibility is being replaced with the following:

In the event that Operational Availability fails to meet, the percentage stipulated herein, and is not responded to or repaired within requirements stipulated in Section IX.C, Time to Repair, the damage amounts for unavailability for operation are as specified in Attachment B (General Contract Provision) 11. Liquidated Damages.

The due date of this RFP is extended until 1/29/13, no later than 2:00 P.M

II. PROPOSER'S QUESTIONS AND ANSWERS

The following information is available in response to questions submitted by prospective Proposers. The responses should not be deemed to answer all questions, which have been submitted by Proposers to the Port Authority. It addresses only those questions, which the Port Authority has deemed to require additional information and/or clarification. The fact that information has not been supplied with respect to any questions asked by a Proposers does not mean or imply, nor should it be deemed to mean or imply, any meaning, construction, or implication with respect to the terms.

The Port Authority makes no representations, warranties or guarantees that the information contained herein is accurate, complete or timely or that such information accurately represents the conditions that would be encountered during the performance of the Contract. The furnishing of such information by the Port Authority shall not create or be deemed to create any obligation or liability upon it for any reason whatsoever and each Proposer, by submitting its Proposal, expressly agrees that it has not relied upon the foregoing information, and that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever. Accordingly, nothing contained herein and no representation, statement or promise, of the Port Authority, its Commissioners, officers, agents, representatives, or employees, oral or in writing, shall impair or limit the effect of the warranties of the Bidder required by this Proposal or Contract and the Proposer agrees that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever.

The Questions and Answers numbering sequence will be continued sequentially in any forthcoming Addenda that may be issued.

Question # 1	In section 7. Reporting Requirements, point 2 x), What details does the Event Log Report contain? What information does it provide?
Answer # 1	The Event Log Report is a daily report emailed to a System Administrator and/or a user providing the following information for the previous day: 1) Total number of flights uploaded to the System database for each airport listing, total number of arrivals, and departures and runways used, 2) Status of each Noise Monitoring Terminal NMT detailing whether the noise event downloaded successfully or failed, 3) Possible reason for download failure such as communication line down or power outage etc., 4) Total number of noise events recorded at each NMT site, 5) and other useful info about each NMTs status.
Question # 2	Please confirm the level of security background check, standard, medium or high for on-site workers as well as off-site workers.
Answer # 2	On-site work entails working at NMT sites including the permanent units mounted on utility poles as well as portable units installed at private and/or residential properties. There is no airport airside work required. Please see the he security background check as set forth in Page 8 of the RFP document (www.secureworker.com).
Question #3	Please confirm the removal of computer server, which is will be located in the NY Tracon. Due to the FAA changes, this should be disconnected in the future. Will this requirement remain in the RFP?

Answer # 3	References to NY Tracon have been removed from the Cost Proposal Form as reflected in Addendum #1 dated 12/20/12
Question #4	What are the response limitations in terms of pages or word counts?
Answer # 4	There is no limit.
Question #5	Map limits definition street and imagery?
Answer # 5	This question is unclear but in general, the System shall provide maps that portray satellite imagery, street map and hybrid of both satellite imagery and maps.
Question #6	Can we reuse existing scanners at TEB for ATC logging?
Answer # 6	No. As referenced in SOW, Section C.1., page 6 of 44, new scanners are required to be installed since the existing ones are approximately 20 years old.
Question #7	Confirm Historical Data Conversion years 10 years of data or 50 years of Data (10 years * 5 airports).
Answer # 7	As referenced in the SOW, Section D.3, page 20 of 44, historical data conversion would be required for past 10 years for JFK, LGA, EWR, and TEB while only 5 years for SWF. This would add up to total of 45 years of data.

Question #8	What current % of runway assignments do they currently achieve? (Attachment C, Section III, part D, item 2)
Answer # 8	The current System provides about 98% accuracy for runway assignments.
Question #9	Is there an existing interface to the D-ATIS system, and if not, is there a suggested way to do it? (Attachment C, Section III, part D, item 6.i)
Answer # 9	No there is no existing interface to D-ATIS system. The hourly weather data for each airport shall be available as part of the System database when running queries and reports, however, the source does not have to be solely the D-ATIS. Weather data can be acquired from other official and reliable sources.
Question #10	Will a Brüel & Kjaer Systems Engineer be able to gain access to the existing NMT's for inspection of the existing infrastructure and site

	conditions? If unable to accommodate this particular day, would the Port Authority of New York be able to offer an alternate date and time?
Answer #10	There are total of 23 NMT sites and it will be logistically difficult if not impossible to visit every single site. Sixteen (16) NMT sites out of 23 are publicly accessible and are located on utility poles. The address of each NMT was provided at the Pre Proposal meeting on December 20, 2012. Proposers who wish to visit the NMT site can do so on their own.
Question #11	Please clarify the total number of NMTs by type (permanent and portable) to be included in the proposal.
Answer #11	PANYNJ is requesting the delivery of 22 new NMTs as part of this RFP. Out of the new 22 NMTs, 17 will need to be installed by replacing NMTs currently deployed consisting of following: JFK – 10 NMTs (6 permanents and 4 portables) LGA – 4 NMTs (2 permanents and 2 portables) EWR – 3 NMTS (3 permanents) Five (5) of the delivered NMTs will be placed in storage for future installations or for use as spare units. There are total of 7 NMTs currently at TEB and none of them will be replaced as part of this Contract.
Question# 12	Section C Subsection 2 item i) calls for accuracy of less than + 0.1 dB, do they really mean resolution? That accuracy is beyond the IEC and ANSI standards for Type 1 instruments.
Answer # 12	Yes, the 0.1dB value refers to resolution and not accuracy of the instrument.
Question# 13	When can we expect the answers in the written addenda?
Answer # 13	The answers to all questions received are being provided in this written addenda and any additional questions received before the due date will be answered in a future Addenda posted to the website
Question# 14	Cost Proposal Form - Table 2 – Software Services. Does the Web Site Hosting line item include all backup, data retrieval, and other data storage requirements?

Answer # 14	Table 2 – Website Hosting for General Noise Information is in reference to Scope of Work Section D.4.vii) which lists the website requirements and all background elements of running a website such as data backup, data retrieval and storage requirements and all other necessary functions shall be included in the cost.
Question# 15	1) SOW Page 8 of 44 3ii says 11 permanents and 10 portables but Appendix B Cost Proposal Form Table 1D says 10 portables. What is the total NMT count?
Answer # 15	See the response to Question No. 11 above. Table 1 D shall provide cost for installation for 6 portable NMT units. The remaining five units shall be delivered and will be placed in storage.
Question#16	Page 8 Section M. Contractor Staff Background Screening - What level of staff is required to undergo background checks? Is it just the staff that will be working on or at PANYNJ premises, key personnel, or all personnel, including incidental personnel such as contracts, finance, mail room, etc.? Is this limited to just direct staff and not indirect? For a larger company with every changing staffing screening all employees from accounting, contracts and finance who may come in contact with this contract is impossible. On prior contracts with the PANYNJ only key personnel were required to be screened and those employees that worked on one of the facilities.
Answer # 16	Only employees engaged directly with the PANYNJ contract shall be subject to the Background Screening requirements. This includes key employees assigned to work on PANYNJ contract, including employees with access to PANYNJ database and those performing work at PANYNJ NMT sites and PANYNJ offices.
Question# 17	Page 8 Section M. Contractor Staff Background Screening -With respect to the background checks, current employees have already been vetted and screened by our company. Why does the PANJNY want to incur the costs of screening up to a 100 of our indirect employees who have limited contact with the day to day operations of this contract, and simply administer the contract or complete the invoices or mail the documents to the PANYNJ?

Answer #17	See the response to Question No. 16 above.
Question #18	Page 8 Section M. Contractor Staff Background Screening - What type of background check is actually being performed by the PANYNJ? Is it a reference check, a criminal check, credit, felonies, misdemeanors? Can the PANYNJ please define what scope is covered under the Background check?
Answer #18	Requirements for background screening can be found at following website: www.secureworker.com
Question #19	Paragraph 3: Operational Availability starting on page 38 Operational Availability last paragraph references damages due to failure to meet PANYNJ requirements, those damages are specified herein "Is the Authority Referencing Liquated Damages"?
Answer #19	The last paragraph of Operational Availability has been revised as shown in Section I above.
Question #20	Who carries the current Toll Free Complaint Hotline?
Answer #20	The current toll free complaint hotline is provided by the PANYNJ's current contractor for collecting noise complaints online and via phone calls.
Question #21	Can PANYNJ provide security levels which are required for on-site or off site work personnel?
Answer #21	On-site work entails working at NMT sites including the permanent units mounted on utility poles as well as portable units installed at private and/or residential properties. There is no work that will be done at any of the airports. Please see the security background check as set forth in Page 8 of the RFP document (www.secureworker.com).
Question #22	We would like to obtain an actual sample file of the Historical Data for conversion.
Answer #22	Historical data sample files for one month consisting of weather data, flight tracking data and noise event data is available upon request via email to: jeanette.anderson@panynj.gov
Question 23	By Airport, how many complaints are received via hotline, web

	complaint form, e-mail, etc. monthly?
Answer #24	Following are the average monthly count of noise complaint by Airport: JFK – 200 LGA – 200 EWR – 50 TEB – 125 SWF – 5 About 50% of noise complaints are received via web complaint form online and the rest are received via noise complaint hotline.

Question# 25	At TEB, do the current NMT's use D Weighting?
Answer # 25	No, the TEB NMTs use A weighting.
Question#26	How many Larson Davis NMT's are at TEB?
Question# 26	There are total of 7 Larson Davis NMT units (Model No. 831) for TEB. Six of the units are installed as permanent and one unit is in storage for portable use upon request.
Question# 27	Should we need further clarification or have additional questions after cutoff date and time of December 21, 2012, 3pm, will PANYNJ be accepting them and provide a response?
Answer# 27	At the discretion of the Authority, questions may be answered after the due date.

This communication should be initialed by you and annexed to your Proposal upon submission.

In case any Proposer fails to conform to these instructions, its Proposal will nevertheless be construed as though this communication had been so physically annexed and initialed.

THE PORT AUTHORITY OF NY & NJ

KATHY LESLIE WHELAN, MANAGER
COMMODITIES & SERVICES DIVISION

PROPOSER FIRM NAME: Bruel & Kjaer EMS Inc.

INITIALED: _____

DATE: January 25, 2013

QUESTIONS CONCERNING THIS ADDENDUM MAY BE ADDRESSED TO Jeanette Anderson, WHO CAN BE REACHED AT (201) 395-3430 or at jeanette.anderson@panynj.gov.

G.3 Acknowledgment of RFP 31644
Addendum 3

THE PORT AUTHORITY OF NY & NJ

PROCUREMENT DEPARTMENT
2 MONTGOMERY STREET, 3RD FL.
JERSEY CITY, NJ 07302

1/8/2013

ADDENDUM # 3

To prospective Proposer(s) on **RFP # 31644** for **AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY INTERNATIONAL (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS**

Due back on 1/29/13, no later than 2:00PM

I. CHANGES/MODIFICATIONS

The following changes/modifications are hereby made to the solicitation documents:

RFP, Section 5, page 10, "Evaluation Criteria and Ranking": The first and second criterions are equally weighted.

II. PROPOSER'S QUESTIONS AND ANSWERS

The following information is available in response to questions submitted by prospective Proposers. The responses should not be deemed to answer all questions, which have been submitted by Proposers to the Port Authority. It addresses only those questions, which the Port Authority has deemed to require additional information and/or clarification. The fact that information has not been supplied with respect to any questions asked by a Proposers does not mean or imply, nor should it be deemed to mean or imply, any meaning, construction, or implication with respect to the terms.

The Port Authority makes no representations, warranties or guarantees that the information contained herein is accurate, complete or timely or that such information accurately represents the conditions that would be encountered during the performance of the Contract. The furnishing of such information by the Port Authority shall not create or be deemed to create any obligation or liability upon it for any reason whatsoever and each Proposer, by submitting its Proposal, expressly agrees that it has not relied upon the foregoing information, and that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever. Accordingly, nothing contained herein and no representation, statement or promise, of the Port Authority, its Commissioners, officers, agents, representatives, or employees, oral or in writing, shall impair or limit the effect of the warranties of the Bidder required by this Proposal or Contract and the Proposer agrees

that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever.
The Questions and Answers numbering sequence will be continued sequentially in any forthcoming Addenda that may be issued.

Question #28	If the company submitting the bid is a public company, traded on the NYSE, and all financial records are reported via 10-Ks and 10-Qs, can this be substituted for certified financial statements?
Answer # 28	No.
Question# 29	The proposal asks for the residential addresses of the officers of any Company. As a public Company we do not and cannot release residential address of our officers. Can we provide office addresses?
Answer # 29	No. Residential addresses are requested for the officers of the company.
Question #30	In the RFP it states that all bidders must sign the Agreement of Terms of Discussions with no changes. However, the Terms of Discussions states that nothing provided to the PANYNJ is given in confidence and can be used for any purposes The PANYNJ records Act provides exclusions from release that: (1) "if disclosed, would impair, or give a competitive advantage in connection with, present or imminent awards or negotiations of … leases... contract, or other agreements, open procurement matters, contracts not yet awarded…"; (2) "trade secrets…which if release would cause injury to the competitive position of the subject enterprise, including resumes of individuals submitted by unsuccessful bidders, internal business protocols, systems or strategies specific to the commercial enterprise or the project, as well as technology or equipment that the unsuccessful bidder has developed". . ; and (3) personal identification information. However, much of the data being provided to the PANYNJ, including pricing (line item pricing) and certain solutions are trade secrets and company proprietary. How can a bidder ensure that such items as line item pricing, trade secrets, personal employee information and company proprietary information (including Human Resource Policies) are not released to the general public as they would be excluded on the PANYNJ Records Act? (Act Attached – I printed out a copy of the new changes).

Answer # 30	Please refer to the following link: http://www.panynj.gov/corporate-information/pdf/foi-code.pdf.
Question #31	In the RFP Section L Multiple Contract Awards - the PANYNJ states that it reserves the right to award multiple contracts. Is the PANYNJ planning to issue the award as a multiple award contract with task orders for each task? Or is the PANYNJ reserving the right to make multiple awards and divide up the work, award specific tasks to one contractor and other tasks to a different contractor?
Answer #31	The Authority intent is to award to a single vendor however, the Authority reserves the right to make multiple awards.
Question #32	Would the PANYNJ provide a word copy of the General Contract Provisions to the bidders to allow them to redline that, rather than providing requested changes on separate sheets of paper?
Answer #32	No.
Question #33	Will a bidders requested changes to the General Contract Provisions be an evaluation factor in the award as any requested changes are for negotiating purposes, as in general contract terms are negotiated with the parties after award?
Answer #33	Proposers will be evaluated based on the evaluation criteria detailed in the RFP Section 5, "Evaluation Criteria and Ranking", page 10.

This communication should be initialed by you and annexed to your Proposal upon submission.

In case any Proposer fails to conform to these instructions, its Proposal will nevertheless be construed as though this communication had been so physically annexed and initialed.

THE PORT AUTHORITY OF NY & NJ

KATHY LESLIE WHELAN, MANAGER
COMMODITIES & SERVICES DIVISION

FIRM NAME: Brüel & Kjær EMS Inc.

INITIALED: _____ DATE: January 25, 2013

QUESTIONS CONCERNING THIS ADDENDUM MAY BE ADDRESSED TO Jeanette Anderson AT (201) 395-3430 or jeanette.anderson@panynj.gov.

H. ACCEPTANCE OF STANDARD CONTRACT TERMS AND CONDITIONS

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

H – Acceptance of Standard Contract Terms and Conditions

January 2013

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2 EXCEPTIONS TO GENERAL CONTRACT PROVISIONS 4

1 Introduction

This document H – Acceptance of Standard Terms and Conditions forms part of the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

The Port Authority has attached to this RFP as Attachment B, General Contract Provisions governing the Contract. The Proposer is expected to agree with these General Contract Provisions. However, if the Proposer has any specific exceptions, such exceptions should be set forth in a separate letter included with its response to this RFP. After the proposal due date, the Proposer will be precluded from raising any exceptions unless such exceptions are justified by and directly related to substantive changes in the business or technical requirements and are agreed to by the Proposer and the Port Authority.

As requested by the Port Authority, this document lists the specific exceptions of Brüel & Kjær to the General Contract Provisions of the Contract. For these specific exceptions, Brüel & Kjær has proposed alternative text.

2 Exceptions to General Contract Provisions

Brüel & Kjær accepts the terms of Attachment B General Contract Provisions proposed to govern the contract for the airport noise and operations management system for the Port Authority, with the following specific exceptions:

Item	Clause	Suggested revision	Notes
A	9. Payments	In clause A, the following text "Payment for hardware will be made within thirty (30) days after operational acceptance of each hardware unit." is replaced with the following text: "Payment for hardware will be made within thirty (30) days after delivery of each hardware unit."	Brüel & Kjær policy to be paid for hardware when title passes to the customer, as per clause 28. Title to Equipment.
B	9. Payments	In clause A, append the following text: "Project Services are one-time services delivered during the Phase A and Phase B Implementation Periods, and will be paid according to defined Project Services Payment Milestones defined in the Cost Proposal."	Brüel & Kjær policy that project services should be paid as the project progresses, rather than in the following calendar quarter.
C	20. Default, Revocation and Suspension of Contract	Change clause C.2 to replace "five (5) days" with "twenty (20) business days"	
D	24. Insurance Procured by the Contractor	In paragraph 4, delete "Moreover, the Commercial General Liability Policy shall not contain any provisions for exclusions from liability other than provisions for exclusion from liability forming part of the most up-to-date ISO form or its equivalent unendorsed Commercial General Liability Policy."	In accordance with Brüel & Kjær insurance policies.
E	24. Insurance Procured by the Contractor	Delete Paragraph 6 (beginning "The insurer(s) shall not, without obtaining the express advance written permission from the General Counsel ...").	In accordance with Brüel & Kjær insurance policies.

Item	Clause	Suggested revision	Notes
F	24. Insurance Procured by the Contractor	In paragraph 8, replace "thirty (30) days' prior written notice" with "reasonable prior written notice"	In accordance with Brüel & Kjær insurance policies.
G	32. Indemnification and Risks Assumed by the Contractor	Add the following text to clause 32 "Contractor's maximum aggregate liability under this Contract whether arising in contract, tort (including negligence) or otherwise, shall in no event exceed $5,000,000, SAVE THAT nothing in this Contract shall exclude or limit Supplier's liability to the Authority, its commissioners, officers, representatives and employees for fraud, death or personal injury caused by the Contractor's negligence or any other liability to the extent that the same may not be excluded or limited as a matter of law."	In accordance with corporate policy, Brüel & Kjær is obliged to cap liabilities.
H	37. Authority Access to Records	Delete "All Contractor records shall be kept in the Port District (as defined in McKinney's Unconsolidated Laws §6403).	Paper copies of records will be stored in the offices of Brüel & Kjær EMS Inc, located in Sacramento California.
	New Appendix to the General Contract Provisions	Append H.1 Brüel & Kjær NoiseOffice Services as appendix to General Contract Provisions	Brüel & Kjær has attached H.1 Brüel & Kjær NoiseOffice Services, which defines the ongoing support and maintenance services to be provided to the Authority.

H.1 Brüel & Kjaer NoiseOffice Services

APPENDIX / ATTACHMENT XXX

NOISEOFFICE SERVICES (DRAFT)

FOR

THE PORT AUTHORITY OF NEW YORK & NEW JERSEY

FOR

JOHN F. KENNEDY INTERNATIONAL (JFK)
LAGUARDIA (LGA)
NEWARK LIBERTY INTERNATIONAL (EWR)
STEWART INTERNATIONAL (SWF) AND
TETERBORO TEB
AIRPORTS

DRAFT

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1 Preamble

These services will be provided by **Brüel & Kjær EMS Inc** (hereinafter called "Supplier") for **The Port Authority of New York & New Jersey** (hereinafter called "Customer").

Subject to the terms and conditions set forth in the Agreement and its schedules and attachments, Supplier and Customer agree that Supplier will provide to Customer the Services described herein:

2 Definitions

Term	Definition
Agreement	this Noise Office Services Agreement.
Effective Date	the date that this Agreement comes into effect as specified in Clause 1.
Customer Country	USA
Hosted Systems	the Customer equipment and applications listed in the table "System Hosting Services" in Schedule D.3.
NMT	Noise Monitoring Terminal
Prescribed Terms	terms and conditions and warranties implied by law in contracts for the supply of goods or services.
Reference Data	the list of reference information shown Schedule C.6
Responsible Party	the person(s) or organisation responsible to address a specific issue of fault with the System. This could be a Customer contact or, depending on the scope of the Services, it could be a Supplier contact or a third party contact.
SDM	Service Delivery Manager - the Supplier-appointed person assigned to act as a single point of contact for matters relating to the provision of the Services.
Service Fees	the fees specified in Schedule F:
Service Levels	the performance levels defined in Schedule E:
Services	the services provided by Supplier including subcontractors under this Agreement.
Special Clauses	the obligations and liabilities defined in Schedule G:
Specifications	the manuals, system descriptions or other published documentation describing the functionality and performance of the Supplier Hardware, Supplier Software, Subscribed Applications, or Subscribed Data.
Subcontractor	third party engaged by the Supplier to provide all or part of the Services
Subscribed Applications	the list of applications listed in Schedule C.5
Subscribed Data	the list of data services listed in Schedule C.4
Supplier Software	software listed in Schedule C.3 as having Brüel & Kjær as the author.
Supplier Spare Parts	the list of System components shown in Schedule C.2
Support Request	a request in writing from Customer to Supplier for work to be performed under this Agreement as defined and in the form described in Clause 4.2
System	the hardware, software, on site spares, subscribed applications and subscribed data listed in Schedule C:
System Component	one of the items comprising the System.
System Upgrade	once off hardware and software upgrade of the System
Termination Services	the services described in Schedule F.1.
Third Party Software	software listed in Schedule C.3 as having an author other than Brüel & Kjær.
User Forum	user group meeting, which Supplier may organize from time to time, to discuss technical issues related to airport noise and the use of Supplier products and services.

Term	Definition
Working Day	Monday through Friday inclusive, excluding local public holidays in the main place of business of Customer.
Working Hours	between 8:30am and 5:30pm local time in the main place of business of Customer on any Working Day.

3 Scope of Work

a The Services shall be provided according to the applicable Service Levels.

b The Services apply only to the System. Correct operation of the System may depend on correct operation of other systems (including data feeds, power supplies, and communication links), which are the responsibilities of Customer. Supplier's obligations under this Agreement shall be excused if, and to the extent that, the System does not work correctly as a result of the failure of these other systems.

c When Customer becomes aware of an interruption to a system or service which is likely to cause interruption to the System or Services which are the subject of this Agreement, Customer shall notify Supplier where reasonably practical to do so:

(i) Seven (7) calendar days in advance of any planned outage; and

(ii) Within four (4) working hours of an unplanned outage.

d Supplier's obligations under this Agreement shall be excused if, and to the extent that, Customer fails to deliver the obligations listed in Clause 12, below.

4 Service Management

4.1 Service Reporting:

a Supplier shall assign an SDM and shall advise Customer of the name of the assigned SDM.

b Supplier shall provide a quarterly report on the utilization of the Services provided under this Agreement and the performance against the Service Levels.

4.2 System Support

a Supplier shall provide support in the form of advice by telephone or email in response to a telephone call or email from Customer in relation to the operation of the System.

b Supplier's telephone/email support services shall operate during Working Hours.

c Support requests shall be advised to Supplier by email to the contact details for Customer Support listed in Schedule B:. When advising requests, the following information shall be provided:

(i) Request title, which will be used as the "Title" of the request for subsequent tracking.

(ii) Customer reference number (if any)

(iii) Customer contact details, including email address, phone number etc.

(iv) The Airport and location of items which are the subject of the request

(v) Date and time of the request

(vi) A description of the request including, as attachments, any screenshots, error logs, etc. as may be useful to assist in Supplier response.

(vii) An indication of the urgency or severity of the request; for example; 1= Urgent – Data Loss, 2= Major Loss of Function, 3= Loss of Function, 4= Minor Anomaly, 5=Request for Assistance.

d Supplier will enter this information into the Supplier's ticket management system and a reply will be sent acknowledging the request and identifying the unique ticket number that is to be used in all future communication concerning this request.

4.3 Customer Visits

a The SDM or a delegated alternate shall meet with Customer at least as often as specified in Schedule D.1. Such meetings shall be at a location and have an agenda and duration mutually agreed upon and predetermined by Customer and Supplier. Each day of such meetings shall be for a maximum of eight (8) hours per day.

4.4 User Forum

a On request from Customer, Supplier will provide the number of tickets specified in Schedule D.2 each year of this Agreement to any User Forum.

b Customer shall be responsible for the travel expenses (transportation, lodging etc.) and meal expenses (except for meals provided as part of the official User Forum activities) of its attendees at User Forums.

5 Maintenance Services

5.1 Fault Management

a Supplier will rectify faults in the System during the term of this Agreement and as required to return the System to operating within substantial conformity with the Specifications.

b If a fault is detected or suspected, Customer shall perform initial fault finding and diagnosis prior to contacting Supplier. Such fault finding and diagnosis may require Customer staff to travel to remote equipment sites to assess local conditions and to reboot/restart equipment as necessary.

c All faults shall be advised to Supplier by email or by fax to the contact details for Customer Support listed in Schedule B: and in the form described in Clause 4.2 above.

d Supplier will enter this information into the Supplier's ticket management system and a reply will be sent identifying the unique ticket number that is to be used in all future communication concerning this fault report.

e Customer shall assist Supplier in diagnosing the fault by, if requested, supplying evidence of the fault such as listings of output, photographs, or other data. Such evidence may also include information about and from equipment other than the System.

f If requested, Customer shall explain how the fault prevents substantial conformity of the System with the Specifications.

g Supplier shall carry out remedial work either remotely or on Customer locations at Supplier's discretion and in line with the Service Levels.

h Supplier will use best efforts to resolve all faults and requests in a fast and efficient manner with a minimum disruption to Customer's operation.

i Supplier will not be required to carry out remedial work or to carry out remedial work in accordance with the Service Levels if:

(i) It has not received a Support Request;

(ii) Customer has changed the configuration of the System and this has caused, or contributed to the cause of, the fault;

(iii) The fault is caused by incorrect Customer operation of the System or by a failure in consumable equipment.

5.2 Software Upgrades and Patches

a Customer shall be entitled, at no additional license fee, to patches and upgrades to the Supplier Software that Supplier shall, from time to time, develop and make available where such patches and upgrades relate to features of the Supplier Software currently supplied and/or licensed to Customer.

b Supplier shall notify Customer of upgrades to Supplier Software when they are made available for

general distribution. Customer may or may not choose to install the upgrade.

c When an upgrade to Supplier Software requires an upgrade to Third Party Software, Supplier will advise Customer accordingly.

d Customer acknowledges that an upgrade or new version of Third Party Software during the term of this Agreement, may require new or upgraded hardware and any additional cost of new hardware or software to support the upgrade is not included in this Agreement.

e Customer acknowledges that the application of an upgrade to Supplier Software or Third Party Software may require engineering effort, additional hardware, travel expenses, or end user training and that, unless specified elsewhere in this Agreement, costs associated with the provision of these items are not included in the scope of this Agreement.

f On request from Customer, Supplier shall provide a quotation for the works described in Clause 5.2.e and the rates applicable for that work shall be as defined in Schedule F.3.

g Supplier may declare a particular upgrade or set of upgrades to Supplier Software to be a new general release of the Supplier Software. Supplier reserves the right to cease supporting versions of Supplier Software that are more than two general releases older than the current general release or only to offer such support at increased service fees.

h Nothing in this Clause 5.2 shall imply that Customer is entitled to any software except the Supplier Software. In particular, Supplier may provide additional functionality as a new, and separately licensable, module of the Supplier Software, in which case the new module may be offered to Customer as defined in Clause 10

5.3 *Hardware Repair*

a The System hardware as defined in Schedule C.1 requiring physical repair will be repaired by return of the items to Supplier for repair unless explicitly stated otherwise.

b Supplier shall determine whether, in order to deliver the Services, it is necessary to return a System Component or part(s) of a System Component.

c If requested by Supplier, Customer shall securely and safely pack and dispatch such item(s) to the depot nominated by Supplier for repair or replacement and shall pay for freight and insurance to the nominated depot premises.

d Supplier shall repair or replace the item(s) according to the Service Levels and shall return the item(s) to Customer at Supplier's expense.

e Unless otherwise specified in this Agreement, Customer shall be responsible for re-installing the item(s) according the instructions from Supplier.

5.4 *Specific Exclusions*

a The following faults are not included in the scope of this Agreement and will not be rectified by Supplier

(i) Faults in power connections to equipment, except Hosted Systems.

(ii) Faults in communications between components of the System, e.g. telephone lines, network connections etc.;

(iii) Faults caused by abnormal events e.g. vandalism, lightning strikes, damage outside of Supplier's control.

6 System Management Services

6.1 *System Monitoring*

a Supplier shall monitor the System for abnormal conditions, including incomplete data downloads and out-of-band calibration results, and shall advise the Responsible Party of any detected abnormal conditions.

b Customer shall advise Supplier of the Responsible Party for various abnormal conditions where Supplier will not be the Responsible Party.

6.2 *System Administration*

a Supplier shall provide system administration services as defined in, and at the frequency stated in, Schedule D.4 System Administration Services.

b Supplier may carry out system administration services at any time during the normal business hours of Customer. Supplier may carry out system administration tasks outside of those hours by mutual agreement.

6.3 *Periodic Hardware Services*

a Supplier shall provide hardware services as defined in, and at the frequency stated in, Schedule D.5 Periodic Hardware Services.

b At the completion of each periodic hardware service, Supplier shall present a report to Customer on the status of the units, and any issues needing to be addressed.

6.4 *Supplier Spares*

a Supplier shall provide the Supplier Spare Parts at Suppliers expense, to be located on Customer premises and available to be used in fault rectification as required.

b Supplier shall inspect the Supplier Spare Parts during visits to Customer site to ensure that they can be utilized when required. Supplier shall repair or replace any Supplier Spare Parts found to be faulty.

c On termination of this Agreement, Customer shall return the Supplier Spare Parts.

6.5 *System Hosting*

a Supplier shall, in its own facilities, maintain, administer, and operate the Hosted Systems consistent with the applicable Service Levels.

b Supplier shall report performance against the Service Levels according to Clause 4.1 and shall also make recommendations on any actions or upgrades which might be necessary to improve or secure performance of the Hosted Systems.

6.6 *Backup and Restoration*

a The responsibility and frequency of system backup is stated in Schedule D.8. System Backup.

b In the event of complete system failure, Supplier will restore the System from the latest available system backup.

7 Information Management Services

7.1 *Data Processing Services*

a Supplier shall provide data processing services as defined in, and at the frequency stated in, Schedule D.6 Data Processing Services.

b Supplier will maintain a log of data processing services tasks undertaken and make that log available to Customer as part of regular service reporting.

7.2 *Report Production Services*

a Supplier shall provide report production services as defined in, and at the frequency stated in, Schedule D.7 Report Production Services.

8 Subscription Services

8.1 Application Subscription

a Supplier will provide the Subscribed Applications to Customer according to the Specifications and according to the Service Levels.

b For the term of this Agreement, Customer will have a non-exclusive right to use the Subscribed Applications subject to any limitation on user numbers or locations specified in Schedule C.5 Application Subscriptions.

c Subscribed Applications remain the exclusive property of Supplier.

d Customer will not use, or cause others to use, the Subscribed Applications or the information derived from the Subscribed Applications for the real-time control or navigation of aircraft, or for any purpose related to the real-time control or navigation of aircraft.

e The information contained within the Subscribed Application is a combination of data from a variety of sources, and may include information derived from Customer and from third party sources. Supplier does not warrant the accuracy or availability of the information within the Subscribed Applications.

f Supplier and Customer agree to abide by the terms of any third party data agreements that are required in order to provide the Subscribed Applications.

g Due to the highly visual nature of the user interfaces, Subscribed Applications may not be accessible to individuals with certain disabilities. Customer hereby indemnifies Supplier against any liability or additional expense arising directly or indirectly from a complaint, allegation or claim by a third party (including employees of the Customer) alleging that a Subscribed Application discriminates against an individual on the grounds of that individual's disability.

8.2 Data Subscription

a Supplier will provide the Subscribed Data to Customer according to the Specifications and according to the Service Levels.

b For the term of this Agreement, Customer will have a non-exclusive right to use the Subscribed Data subject to any limitation on use specified in Schedule C.4.

c Subscribed Data remains the exclusive property of Supplier.

d Customer will not use, or cause others to use, the Subscribed Data or information derived from the Subscribed Data for the real-time control or navigation of aircraft, or for any purpose related to the real-time control or navigation of aircraft.

e Supplier and Customer agree to abide by the terms of any third party data agreements that are required in order to provide the Subscribed Data.

8.3 Reference Data

a Supplier shall provide updates to the Reference Data at the frequency as shown in Schedule C.6.

9 Professional Services

a No additional services shall be performed unless Supplier provides a written quotation, which is approved in writing by Customer prior to Supplier providing such services.

b On request from Customer for additional services, Supplier shall provide a quotation for the additional services. Where applicable, the quotation shall be based on the rates shown in Schedule F.3.

10 New Modules

a Supplier shall notify Customer of new module(s) applicable to the System when they are made

available for general distribution along with the applicable additional license fees, installation fees, and/or additional Service Fees applicable to such new module(s).

b The installation fees and/or any increase in Service Fees applicable to the new module(s) shall, where applicable, be based on the rates shown in Schedule F.3.

c The new module(s) will only be made available to Customer following Customer's written acceptance of the additional license fees, installation fees, and or additional Service Fees applicable to the new module(s).

11 Obsolescence

a Supplier may undertake a review of the System 3 years after the Effective Date of this Agreement and annually thereafter and may recommend the replacement of obsolete Customer-owned equipment or Customer-owned equipment not meeting specifications. Any such replacement recommendation shall be reasonable and justified.

b If Customer does not accept the recommendations within 6 months, Supplier may cease to provide Services for the System or may only offer such support at increased service fees.

12 Customer Obligations

12.1 Compliance with License terms

a Customer's use of the System shall, at all times, be consistent with any license terms which apply to the System or any System Component.

b Supplier Software is licensed to Customer under the standard Brüel & Kjær End User License Agreement.

12.2 Storage of Equipment

a If requested by Supplier, Customer shall provide secure and adequate facilities adjacent to or in reasonable proximity to the System for the storage by Supplier of tools, documentation, and other items necessary to provide the Services.

b Customer shall provide Supplier with access to such storage facilities at all reasonable times including, but not limited to, all times during Customer's normal business hours.

12.3 Physical and Electronic Access:

a Customer shall maintain a continuous connection to the internet for the system and capable of establishing a secure virtual private network between the system and Supplier's Operations Centre. Supplier shall assist with information where necessary to establish this link.

b On request from Supplier and in a timely manner, Customer shall provide all user IDs and passwords to Supplier prior as shall be reasonably required by Supplier to perform the Services.

c Customer shall provide Supplier's service personnel with full and safe access to the System, and to spare parts storage areas, at all reasonable times for the purpose of providing the services required by this Agreement. Customer shall also provide suitable vehicle parking areas.

d The access shall include unhampered working facilities, adequate light, heating, cooling, ventilation, suitable electrical outlets and computer network connections to enable Supplier to meet its obligations under this Agreement.

e Customer shall provide Supplier's service personnel with all information, facilities, services and accessories reasonably required by Supplier to meet its obligations under this Agreement.

f Customer shall provide, on request, a suitably qualified or informed representative to accompany Supplier's service personnel and to advise Supplier on access or any other matter within Customer's knowledge or control that will assist Supplier in meeting its obligations under this Agreement.

12.4 Precedence and Severability

a The Schedules are fully incorporated into this Agreement and, in case of any conflict between the Schedules and the rest of this Agreement, the provisions of the Schedules shall prevail.

b The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement.

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Schedule A: Summary Of Services Provided

The following table lists the service line items to be provided under this Agreement.

The Services are defined in the body of this Agreement, and apply to specify System Elements and Service Elements.

Service Line Item	Clause	Schedule	Status
Service Management			
• Service Reporting	4.1	B	Included
• System Support	4.2	B	Included
• Customer Visits	4.3	D.1	Included
• User Forum	4.4	D.2	Included
Maintenance Services			
• Fault management	5.1	E.1	Included
• Software upgrades and patches	5.2	C.3	Included
• Hardware Repair	5.3	C.1	Included
Technology Management Services			
• System Monitoring	6.1		Included
• System Administration	6.2	D.4	Included
• Periodic Hardware Service	6.3	D.5	Included
• Supplier Spares	6.4	C.2	Not Included
• System Hosting	6.5	D.3	Included
• Backup and Restoration	6.6	D.8	Included
Information Management Services			
• Data Processing	7.1	D.6	Not Included
• Report Production	7.2	D.7	Not Included
Subscription Services			
• Application Subscription	8.1	C.5	Included
• Data Subscription	8.2	C.4	Included
• Reference Data	8.3	C.6	Included
Professional Services			
• Professional Services	9		Included

Schedule B: Contacts

Supplier Contacts		
Formal Notices	Name	Brüel & Kjær EMS Inc
	Address	1050 Fulton Ave, Suite 213 Sacramento, CA 95825
	Telephone	1-916-265-7700
	Fax	+1 916 265 7719
	eMail	cms@bksv.com
Routine and operational communications	Name	Service Delivery Manager
	Address	1050 Fulton Avenue, Suite 213 Sacramento, CA 95825
	Telephone	+1 916 265 7700
	Fax	+1 916 265 7719
	eMail	cms@bksv.com
Suppliers Bank Account	Account Name	Brüel & Kjaer EMS Inc.
	Account Number	921258885
	Bank	JPMorgan Chase Bank N.A
	Bank Address	Chicago, IL (No Street Address needed) Routing Number 071000013
Customer Support Centre	Telephone	+1 866 583 0280 +61 3 9508 4930
	Address	Level 14, 409 St Kilda Road Melbourne VIC 3004 Australia
	Fax	+61 3 9500 1197
	Email Support Requests	cms@bksv.com

Customer Contacts		
Formal Notices	Name	{Customer contact title} {Customer contact name}
	Address	{Customer contact address}
	Telephone	{Customer contact telephone number}
	Fax	
	eMail	{Customer contact email}
Routine and operational communications	Name	{Customer contact title} {Customer contact name}
	Address	{Customer contact address}
	Telephone	{Customer contact telephone number}
	Fax	
	eMail	{Customer contact email}
Address for Invoices	Name	Accounts Payable
	Address	{Customer invoice address}

Telephone	{Customer telephone number accounts payable}
Fax	
eMail	{ Customer contact email for invoices}

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Schedule C: System Elements

Update for

C.1. Hardware

Type	Description	Manufacturer	Model	Serial #	Location	Repair Type
EXAMPLE DATA	{Replace with customer specific hardware}					

C.2. Supplier Spares Parts

Type	Description	Manufacturer	Model	Serial#	Location
None					

C.3. Software

Item	Author	Licence Number	Users
{Replace with customer specific software}			

C.4. Data Subscriptions

Type	Description of Data	Restrictions
EXAMPLE	{Replace with customer specific information}	
Flight Data Feed – PASSUR	Aircraft position data derived from interface to radar data, fused and tracked as required, and correlated with plan data and, where possible, SkyTrak Mode S information not available from radar sources.	Data may be used as input to ANOMS and WebTrak applications.

C.5. Application Subscriptions

Type	Description	Restrictions
WebTrak	Web-based application providing the public and/or other stakeholders with access to noise and track information for historic and near-real-time operations.	Unlimited users

C.6. Reference Data

Description	Author	Frequency
D-ATIS	ARINC Incorporated	Monthly
Street Map Data	TeleAtlas North America	Annual
Satellite Imagery	TerraNOVA	None
FAA Aircraft Register	FAA	Quarterly

Schedule D: Service Elements

D.1. Mandatory Customer Support Visits

Number of Visits per Year: 4

D.2. User Forum Attendees

Number of included User Forum Attendees per year: 1

D.3. System Hosting Services

Hosted Item	Task Description
ANOMS Application	Provision of Customer's ANOMS from Supplier data centre, hosted on Supplier servers.

D.4. System Administration Services

Applies To	Task Description		Frequency
ANOMS, Rover	(i)	Apply operating system patches	As updates are available and required. Such upgrades to be agreed by Customer in writing in advance.
	(ii)	Apply upgrades and releases to the application software	
	(iii)	Install updated Reference Data.	
ANOMS, Rover	(i)	Perform System recovery in the event of a failure	On demand from Customer
ANOMS Servers	(i)	Perform Oracle database administration tasks including archiving and tuning as required.	Monthly

D.5. Periodic Hardware Services

Applies To	Task Description		Frequency
All Installed NMTs	(i)	Perform visual inspection for problems / corrosion.	Annually
	(ii)	Check operation on site.	
	(iii)	Calibration of the unit.	
	(iv)	Update of NMT firmware if necessary	
	(v)	Download and update of the configuration files	
	(vi)	Check of batteries (Note that replacement of NMT batteries is not included as part of this Service)	
	(vii)	Replacement of bird spikes and windshields as required	
	(viii)	Microphone silica gel desiccant to be replaced at each visit	
All Server Hardware	(i)	Visual inspection and preventative maintenance as suggested by the manufacturer of the hardware	Annually

D.6. Data Processing Services

Task	Task Description		Frequency
Data Completeness	(i)	Check status of downloads from NMTs and re-initiate	Business days

Processing		downloads as necessary.
	(ii)	Check completeness of radar/plan information from overnight processing and re-initiate as necessary.
	(iii)	Re-initiate batch processing as required based on data downloads.

D.7. Report Production Services

Task	Task Description	Frequency
None		

D.8. System Backup

Task	Task Description Responsible	Frequency
Backup of system software	Supplier	Weekly

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Schedule E: Service Levels

E.1. Service Requests and Fault Resolution

Category	Description	Response (Working Hrs)	Resolution Time	Target Achievement
1: Major Fault	• Loss of collection of time perishable data. • Faults that may lead to data loss or data corruption. • Unable to start the system • Loss of unrecoverable data	4 hours	2 working days, except rebuild of deployed server 5 working days for the rebuild of the deployed server	95% of all tickets to meet target response times 85% of all tickets to meet target resolution times.
2: Major Fault	• Key function inoperable • Noise monitor calibration error	4 hours	5 days	
3: Minor Fault	• Reproducible loss of functionality	2 days	31 days	
4: Minor Fault	• Minor software issues that do not affect day to day operation of NOMS	2 days	31 days – fixes agreed within scope of a future software upgrade	
5: Minor Fault	• Non-reproducible abnormalities	2 days	Ticket closed within 31 days if abnormality not reproduced	
Request	• "How do I?" questions.	1 day	31 days to answer	

Response and resolution times to be determined from the time that Supplier is notified of the request or fault.

E.2. WebTrak Subscribed Application Service

Area	Service Definition	Measurement (Monthly)	Target Achievement
Availability	Application is available if it can be loaded and the map displayed from a working internet connection which is remote from the data centre where the application is hosted.	Available hours / Expected hours Expected Hours are 24hrs x days per month – Planned Outages). Planned outage must have 7 days notice and be less than 4 hours.	96.0%
Reliability	The number of times application is unavailable in any month.	Number of failures where the application is unavailable for greater than fifteen minutes,	2

E.3. SRG Subscribed Data Service

Area	Service Definition	Measurement (Monthly)	Target Achievement
Availability	SRG is available if data is being provided to the target system (eg. ANOMS, WebTrak)	Available hours / Expected Hours Expected Hours are 24hrs x days per month – Radar Downtime Radar Downtime are the periods when no source data is being provided to SRG from the radar system.	96.0%
Reliability	The number of times data unavailable in any month.	Number of failures where the data is unavailable for greater than fifteen minutes,	1

E.4. SkyTrak Subscribed Data Service

Area	Service Definition	Measurement (Monthly)	Target Achievement
Availability	SkyTrak data service is available if data is being provided to the target system (eg. ANOMS, WebTrak)	Available hours / Expected Hours Expected Hours are 24hrs x days per month – Radar Downtime Radar Downtime are the periods when no source data is being provided to SkyTrak from the radar system.	96.0%
Reliability	The number of times data unavailable in any month.	Number of failures where the data is unavailable for greater than fifteen minutes,	1

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Schedule F: Term, Termination, and Service Fees

F.1. Termination Services

None

F.2. Service Fee Increases

Supplier shall be entitled to increase the Service Fees one-year after the Effective Date and each year thereafter on the anniversary of the Effective Date. Such variations are to be specified in writing to Customer and shall:

(i) Not exceed the movement in the weighted average Consumer Price Index for all Urban Consumers – U.S. City Average (CPI-U) of The United States of America for the relevant period as published by the US Department of Labor;

(ii) be determined utilising using a base date of the first day of the month of the Effective Date and subsequent anniversaries of that date; and

(iii) be calculated so that Adjusted Service Fee = Existing Service Fee x [1 + CPI-U]

F.3. Additional Service Fee Basis

Item	Amount (GBP)
Software Engineer, Customer Support, Consulting, Training, Programming, and other labour.	200 USD per hour, such fee subject to annual increases as defined in Schedule F.2
Third Party Software and hardware costs	At Cost plus 15%
Travel, accommodation, meals, disbursements and other expenses.	At Cost plus 15%
New Modules added to The System:	Annual Maintenance Fee:
Hardware	12% of Hardware Price
Software	12% of Module Licence Fee

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Schedule G: Special Clauses

Not used

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I. M/WBE PLAN

Brüel & Kjær

Response to

The Port Authority of New York & New Jersey

Request for Proposal

AIRPORT NOISE AND OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JFK, LGA, EWR, SWF AND TEB AIRPORTS

RFP NO.: 31644

I – M/WBE Plan

January 2013

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1 Introduction

This document I – M/WBE Plan forms part of the Brüel & Kjær response to the Port Authority of New York and New Jersey RFQ 31644 (December 2012) for Airport Noise & Operations Management System Contract for John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF) And Teterboro (TEB) Airports.

Brüel & Kjær is committed to the objectives of the Port Authority of New York and New Jersey Minority, Women and Other Business Enterprise Program and its initiatives to maximize the participation of suitably qualified local contractors who are registered as MBE or WBE.

It is Brüel & Kjær's policy of to involve Small, Minority, Women and Other Business Enterprises to the greatest extent feasible in our contracts. The intent and purpose of our policy is to ensure that these firms have the opportunity to compete for contracts without discrimination on the basis of race, color, religion, national origin, age, sex or handicap. We believe that maximizing opportunities for Disadvantaged Business Enterprises is an integral part of our role as a good corporate citizen.

2 M/WBE Good Faith Participation

The high technology nature of this project provides limited opportunities for subcontracting. The project utilizes extensive proprietary equipment, software and knowledge available only from Brüel & Kjær.

Whilst Brüel & Kjær does not use subcontractors for the key system components, it makes extensive use of WBE/MBE subcontractors to complete strictly defined and managed supply and construction activities during the project execution. Our project controls ensure that all subcontractors work to strict specifications and quality procedures, with close inspection and control by Brüel & Kjær.

As part of its commitment to the goals of the MBE/WBE program, Brüel & Kjær has dug deep to identify all components of the project that can be subcontracted to other organizations. These works include:

- Subcontractor for the installation of noise monitoring sites, including obtaining permits, trenching, concrete, mast erection, electrical, telephone and any other site support work
- Subcontractor for maintaining and servicing noise monitors

At Brüel & Kjær, we do not just pay lip-service to the goals of Disadvantaged Business Enterprises programs. We make every effort to go the extra mile in ensuring their participation.

We began our program by searching through the panynj.gov/business-opportunities websites to identify potential candidates for subcontract.

Brüel & Kjær approached a number of the candidate MBE/WBE firms, which could perform the services identified.

Firms that responded to Brüel & Kjær with interest were sent specifications according to the relevant work areas and asked to provide quotes based upon these specifications, company overviews, and references. Using these responses, Brüel & Kjær was able to determine the most suitable subcontractor for identified project components for the Noise and Flight Track Monitoring System for Port Authority of New York and New Jersey.

Brüel & Kjær has undertaken extensive research to identify suitably qualified local contractors to perform these works.

This initiative was highly successful with 100% of the available work being subcontracted to locally certified MBE/WBE contractors and Brüel & Kjær able to support the Port Authority of New York and New Jersey **goal of 17% participation being achieved** and possibly exceeded.

2.1. Selected Subcontractor – Paul Carpenter Associates, Inc.

Our subcontractor Paul Carpenter Associate, Inc. (PCA) is a highly skilled firm specializing in relate noise monitoring solutions – its experience and outstanding resume of similar projects lead to our selection of this M/WBE firm.

Please find below overview and work description to support Brüel & Kjær in delivering this project to Port Authority of New York and New Jersey.

3 Paul Carpenter Associates, Inc.

OVERVIEW

Paul Carpenter Associates, Inc. is a nationally recognized environmental consulting firm known for providing outstanding air quality and noise services. Formed in 1991, Sharon Paul Carpenter felt it necessary to create a company that would serve as a benchmark for which quality, expertise and results can be measured. PCA is a certified Women/Minority-Owned/ Disadvantaged Business Enterprise (W/M/DBE) in New Jersey, New York, Pennsylvania, Maryland, Delaware, Florida and Ohio.

PCA is uniquely qualified with highly trained staff to perform transportation-related noise studies complex mitigation designs, develop and enforce noise limits for construction-related projects, determine OSHA compliance as well as handle everyday community noise issues. PCA performs transportation-related air quality and noise studies typically required for the National Environmental Protection Act (NEPA) review process (CEO, EA, EIS).Based on the complexity and sheer number of noise walls that PCA has des1gned, their experience is unparalleled.

For over 20 years, PCA has provided professional air quality and noise services to various sectors of the Industry, Including private and public clients. PCA's mission is to provide responsive, quality services to our clients, while protecting the air quality and noise environment surrounding us.

Paul Carpenter Associates, Inc. (PCA) has been performing a wide range of noise studies for over 15 years. PCA's highly trained staff is uniquely qualified to perform transportation-related noise studies, design complex noise mitigation measures, develop and enforce noise limits for construction-related projects, determine OSHA compliance and deal with everyday community noise issues.

POTENTIAL RFP CONTRIBUTIONS

With respect to the RFP issued December 5, 2012 by the Port Authority of New York and New Jersey titled Airport Noise and Operations Management System Contract for JFK, LGA, EWR, SWF, and TEB, PCA has reviewed the Statement of Work and is qualified and prepared to support Brüel & Kjær with the following tasks:

- *III. C. 3. Hardware Installation:*
  PCA staff routinely conducts field work including hardware installation in support of our noise and air quality measurement and assessment services. More specifically, PCA is experienced with the setup and deployment of fixed and portable noise monitoring terminals (NMT). PCA staff has provided noise monitoring services for numerous projects, and stationary source noise studies.

- *VII. B. Field Acceptance Testing:*
  PCA staff has conducted field testing and validation, including stand-alone NMT testing and side-by-side noise measurements using independent sound level meters. PCA is experienced with field testing and calibration of permanent and portable noise monitors.

- *IX. A. 5. a. On-Site Maintenance:*
  PCA is qualified to assist with on-site NMT acoustical calibration and system inspection and on-going service.

For all of the above tasks, PCA is well-positioned to serve Brüel & Kjær and the Port Authority, on-site when necessary, from its office located in nearby 23 Vreeland Road, Florham Park, NJ 07932.

ADDITIONAL FIRM INFORMATION

3.1. Resumes

Sharon Paul Carpenter

Paul Carpenter Associates, Inc.

SHARON PAUL CARPENTER
Senior Project Manager / Noise Control Officer

EDUCATION
B.S., Meteorology, Rutgers University, 1985

CERTIFICATIONS
FHWA Traffic Noise Model (TNM2.0) Training, 32 hours, November 2002
OSHA, Construction Safety and Health Training, 10 hours, October 2010
PCA Noise Control Officer Training, May 2003

PUBLICATIONS
"Deviation from a Standard State Noise Wall Policy", Sharon Paul Carpenter, Paul Carpenter Associates, Inc., Jane Burns, Paul Carpenter Associates, Inc., Edward Tomaszewski, New Jersey Department of Transportation, Transportation Research Record: **Journal of the Transportation Research Board**, No. 2001; Environmental Issues 2007

PROFESSIONAL AFFLIATIONS
Institute of Noise Control Engineering (INCE), Member, April 2006
National Council of Acoustical Consultants (NCAC), Firm Member, December 2007
Transportation Research Board (TRB), Committee on Transportation-Related Noise and Vibration (ADC40) Member, Beginning February 2003
Transit Cooperative Research Program, Ground-Borne Vibration in Buildings Caused by Rail Transit; D-12 Panel Member, March 2005

KEY QUALIFICATIONS – 26 Years of Noise and Vibration Monitoring and Project Management Experience
Sharon Paul Carpenter has provided unparalleled noise and vibration consulting services for clients such as PANYNJ, NJDOT, NJTRANSIT and NJTA. She has performed thousands of monitoring hours utilizing state-of-the-art noise and vibration monitoring equipment. Ms. Paul Carpenter is proficient in performing construction-related noise monitoring and modeling tasks as well as developing project-specific noise criteria for use within contract specifications.

- **Acoustical and Noise Analysis Technical Services As Requested on a "Call-In" Basis for 2009, 2010, 2011 and 2012, All Port Facilities, PANYNJ.** Senior Project Manager responsible for administrating and overseeing 4-year noise monitoring and analysis "call-in" contract. A limited listing of projects performed by Senior Project Manager under this contract include the following:

  Bayonne Bridge Raising, PANYNJ AKB-264.039 – Senior Project Manager reviewed background noise monitoring study performed by PCA and developed construction-related noise criteria included within contract specifications. A construction noise analysis was performed for proposed construction activities associated with lifting bridge and approaches. In addition, Senior Project Manager reviewed noise sections of Environmental Impact Statement and provided comments. (2012)

(PCA 9/12)

Sharon Paul Carpenter (Continued)

SHARON PAUL CARPENTER

Continued

Lincoln Tunnel Helix, PANYNJ LT-234.026 – Senior Project Manager reviewed background noise monitoring study performed by PCA and developed construction-related noise criteria included within contract specifications. A construction noise analysis was performed for several construction cases associated with deck replacement. In addition, Senior Project Manager reviewed contractor Noise Control and Mitigation Plan and provided comments. (2011)

George Washington Bridge, PANYNJ GWB-244.045 – Senior Project Manager reviewed background noise monitoring study performed by PCA and developed construction-related noise criteria included within contract noise specifications. A construction noise analysis was performed for proposed construction activities associated with replacement of impact attenuators, guide rails and barriers. (2011)

World Trade Center Redevelopment, PANYNJ WTC Site – Senior Project Manager established remote noise and vibration monitoring system within the perimeter of the World Trade Center site. Procured noise monitoring terminals (NMTs) and vibration monitors to meet the needs of the PANYNJ facility. In addition, Senior Project Manager reviewed contractor Noise Control and Mitigation Plans and provided comments related to the River Water Pump House, WTC Path Hall as well as the Blasting Program of the WTC Vehicular Security Center (VSC). Managed day-to-day operations of the remote monitoring system from 2010 project initiation and transferred duties to Ms. Dayna Sherwood in 2011. (2010)

- **Alaskan Way Viaduct Replacement Bored Tunnel Alternative, WSDOT** – Senior Project Manager responsible for developing a remote noise monitoring system to track construction noise compliance for $3.22B SR 99 Bored Tunnel Alternative Design-Build project. As per the noise variance issued by the City of Seattle, overnight construction-related noise levels are monitored via eight remote noise monitoring terminals (NMTs) as well as field Noise Control Officers (NCOs). Once determining the needs of WSDOT and DPD, Senior Project Manager developed an innovative noise compliance website. Senior Project Manager addresses all noise complaints live with assistance from field Noise Control Officers. (2011–Present)

- **Acoustical and Noise Analysis Technical Services As Requested on a "Call-In" Basis for 2003, 2004 and 2005, All Port Facilities, PANYNJ.** Senior Project Manager responsible for administrating and performing noise monitoring duties on the 3-year noise analysis contract, which included construction noise analyses at the following facilities; PABT, LT Helix, Goethals Bridge, George Washington Bridge, WTC Building 6 Stabilization, JFK International Airport and Outerbridge Crossing.

- **Acoustical and Noise Analysis Technical Services As Requested on a "Call-In" Basis for 1999, 2000, 2001 and 2002, All Port Facilities, PANYNJ.** Senior Project Manager responsible for administrating and performing noise monitoring duties on 4-year noise analysis contract, which included construction noise analyses at the following facilities; PABT, Jamaica Station, LT Helix, Grove Street PATH Station Entrance, Bayonne Bridge, Outerbridge Crossing, George Washington Bridge Towers.

(PCA 9/12)

Tim Burns

Paul Carpenter Associates, Inc.

TIM BURNS
Noise Control Officer

EDUCATION
B.A., Economics, University of South Florida, 2007

CERTIFICATIONS
Secure Worker Access Consortium (SWAC), expires March 2013
OSHA Fall Protection Awareness Training, September 2012
FHWA Traffic Noise Model (TNM2.5) Training, 32 hours, March 2012
OSHA, Construction Safety and Health Training, 10 hours, October 2010
PCA Noise Control Officer Training, July 2006

KEY QUALIFICATIONS – Six Years of Noise and Vibration Monitoring Experience
Mr. Burns completed the PCA Noise Control Officer Training Program in 2006 and possesses experience utilizing both Type 1 and Type 2 noise level meters, including octave band analyzers and remote noise monitoring systems. He is also accountable for all PCA noise monitoring equipment and maintenance which includes tracking equipment for yearly calibration. As a Noise Control Officer, he is experienced with site selection practices, on-site equipment calibration and field safety requirements. He is responsible for documentation and data downloads for noise and vibration field work and has significant experience preparing data summaries, tables and graphs in order for quality assurance review by PCA management. Mr. Burns has a broad knowledge of noise model validation and noise level prediction utilizing Federal Highway Administration (FHWA) Traffic Noise Prediction Model (TNM2.5) as well as the Roadway Construction Noise Model (RCNM). Mr. Burns has performed noise and/or vibration monitoring/modeling tasks related to the following projects:

- **Bayonne Bridge Paint Blasting, PANYNJ AKB-173** - As part of a PANYNJ call-in noise monitoring contract, Noise Control Officer performed on-site noise monitoring in Staten Island during paint blasting activities in order to determine compliance with contract noise specifications. As work progresses, Noise Control Officer will be deployed to perform on-site noise monitoring in Bayonne. (2012-Present)

- **Bayonne Bridge Raising, PANYNJ AKB-264.039** - As part of a PANYNJ call-in noise monitoring contract, Noise Control Officer was responsible for performing a background noise monitoring study at four locations along the New York approach in Staten Island, NY and four locations along the New Jersey approach in Bayonne, NJ. PANYNJ requested the noise monitoring study to identify background noise levels for use in establishing noise level limits during future planned construction to raise the bridge and approaches. (2012)

- **Delaware River Turnpike Toll Bridge, NJTA** – At the request of the New Jersey Turnpike Authority, Noise Control Officer performed a background noise monitoring study in three areas within proposed work areas including a potential Peregrine Falcon nesting area within the bridge box beam. In addition, Noise Control Officer performed construction-related noise level measurements during rivet removal activities at upper sockets of the suspension bridge. (2012)

(PCA 9/12)

Tim Burns (Continued)

TIM BURNS

Continued

- **Northern Bridge Deck Reconstruction, NJTA** – Noise Control Officer performed long-term noise monitoring study adjacent to twelve priority bridges along the Garden State Parkway. Background noise levels were documented and existing noise level trends were identified at sensitive receptors adjacent to each structure. Construction noise levels were predicted for several heavy construction activities utilizing FHWA RCNM. Determined level of noise impact related to overnight construction and identified reasonable mitigation methods. (2011-2012)

- **Lincoln Tunnel Bus Ramp Deck Replacement, PANYNJ LT-234.174** – As part of a PANYNJ call-in noise monitoring contract, Noise Control Officer was responsible for performing a construction noise monitoring study at the Lincoln Tunnel Bus Ramps to determine compliance with noise criteria specified within the contract documents. Noise Control Officer performed short-term noise monitoring at six locations as well as compiled site photos and daily field reports for PANYNJ submittal. Currently, Noise Control Officer assists with maintenance duties of the on-site remote noise monitoring system. (2011-Present)

- **George Washington Bridge, PANYNJ GWB-244.045** – As part of a PANYNJ call-in noise monitoring contract, Noise Control Officer was responsible for performing a background noise monitoring study to develop noise criteria for construction activities in several different areas adjacent to the George Washington Bridge approach roadways. Noise Control Officer performed long-term noise monitoring at three sites, utilizing extensive noise monitoring training to calibrate, program and download monitored data. Noise Control Officer also compiled site photos, figures and graphical representations of monitored data as part of the site survey. (2011)

- **Lincoln Tunnel Helix, PANYNJ LT-234.026** – As part of a PANYNJ call-in noise monitoring contract, Noise Control Officer responsible for performing a background noise monitoring study at three locations adjacent to the Lincoln Tunnel Helix in order to assist with the development of noise criteria for anticipated long-term construction activities. In addition, Noise Control Officer assisted in installing vibration monitor along the Blvd East exit ramp. Currently Noise Control Officer is performing on-site construction noise monitoring during overnight construction activities to support the newly installed remote noise monitoring system. (2010-Present)

- **Port Authority Bus Terminal Truss Paint Blasting, PANYNJ BT-254.128** – As part of a PANYNJ call-in noise monitoring contract, Noise Control Officer performed on-site noise monitoring adjacent to the Bus Terminal during truss paint blasting activities in order to determine compliance with contract noise specifications. Noise Control Officer performed short-term noise monitoring at two locations as well as compiled site photos and daily field reports for PANYNJ submittal. (2011)

- **Lyndhurst Proposed Residential Development, J.G. Petrucci, Inc.** –As part of a Project Impact Assessment, field technician installed vibration monitors in two locations along the perimeter of the property to identify existing vibration levels. Vibration monitoring was performed for maximum peak vector sum of all three simultaneously monitored directions for each site and compared to vibration level restrictions for Category A properties. (2011)

(PCA 9/12)

Danya Sherwood

Paul Carpenter Associates, Inc.

DAYNA SHERWOOD
Noise Control Engineer / Noise Control Officer

EDUCATION
M.Eng., Acoustics, Penn State University, August 2012
B.S., Meteorology, Penn State University, May 2004

CERTIFICATIONS
OSHA Fall Protection Awareness Training, September 2012
PCA Noise Control Officer Training, May 2011
Community Noise Enforcement Certification, Rutgers University, September 2011
SoundPLAN 6.5, Navcon Engineering Network, September 2008
FHWA Traffic Noise Model 2.5 Certification, June 2006

PROFESSIONAL AFFLIATIONS
Institute of Noise Control Engineering (INCE), Member, July 2012

KEY QUALIFICATIONS – Eight Years of Noise and Vibration Monitoring/Project Management Experience
Ms. Sherwood manages day-to-day operations of all three PANYNJ remote monitoring systems. Her 8-plus years of noise experience includes conducting noise monitoring in accordance with federal and state guidelines as well as state and municipal ordinances for community noise enforcement. She also performs impact and mitigation analyses in accordance with federal and state regulations and guidelines utilizing the FHWA's Traffic Noise Model V2.5 (TNM), Roadway Construction Noise Model (RCNM) and SoundPlan 7.0. Ms. Sherwood is recognized for her experience in measuring and modeling construction noise. Dayna Sherwood has performed tasks related to the following projects:

- **World Trade Center Redevelopment, PANYNJ WTC Site** – As part of a PANYNJ "call-in" noise monitoring contract, Noise Control Engineer manages day-to-day operations related to a remote noise and vibration monitoring system installed in lower Manhattan at the PANYNJ WTC. Oversees equipment troubleshooting tasks, performs Daily and Monthly report reviews, data and report quality assurance tasks and serves as a project point of contact for the PANYNJ. (2011-Present)

- **Lincoln Tunnel Helix, PANYNJ LT-234.026** – As part of a PANYNJ "call-in" noise monitoring contract, Noise Control Engineer manages day-to-day operations related to a remote noise monitoring system within the Helix vicinity. Noise Control Engineer reviewed contractor's Noise Control and Mitigation Plan and provided comments, assisted with noise monitoring terminal (NMT) installation and was instrumental in development of Helix Noise Compliance Website. Noise Control Engineer manages Noise Control Officers deployed during overnight construction activities. Managed short-term vibration monitoring study along Blvd East. Currently supervises equipment troubleshooting tasks, performs Daily and Monthly report reviews, data and report quality assurance tasks and serves as a project point of contact for the PANYNJ. (2011-Present)

(PCA 9/12)

Danya Sherwood (Continued)

DAYNA SHERWOOD

Continued

- **Bayonne Bridge Raising, PANYNJ AKB-264.039** – Responsible for managing background noise monitoring study within the vicinity of bridge along the NJ and NY approaches. Assisted Senior Project Manager in the development of construction-related noise criteria. Noise Control Engineer performed construction noise analyses utilizing FHWA Roadway Construction Noise Model (RCNM) based on Stage I and II activities to determine whether contract noise specifications could be met utilizing reasonable mitigation measures. As part of this assignment, Noise Control Engineer reviewed construction noise sections of the Environmental Impact Statement (EIS). Provided PANYNJ with equipment specifications for a remote noise monitoring system to track contractor noise compliance during future construction activities. (2011-2012)

- **Bayonne Bridge Paint Blasting, PANYNJ AKB-173** – As part of a PANYNJ "call-in" noise monitoring contract, Noise Control Officer performed on-site noise monitoring in Staten Island during paint blasting activities in order to determine compliance with contract noise specifications. (2012-Present)

- **Lincoln Tunnel Bus Ramp Deck Replacement, PANYNJ LT-234.174** – As part of a PANYNJ "call-in" noise monitoring contract, Noise Control Engineer manages day-to-day operations related to a remote noise monitoring system installed adjacent to the PA Bus Terminal as well as Noise Control Officers deployed during high noise activities. Noise Control Engineer oversees equipment troubleshooting tasks, performs Daily and Monthly report reviews, data and report quality assurance tasks as well as serves as a project point of contact for the PANYNJ. (2011-Present)

- **Delaware River Turnpike Toll Bridge, NJTA** – Noise Control Engineer manages noise monitoring tasks associated with two high noise activities; rivet removal and paint blasting. Managed background noise monitoring study and prepared Phase A report identifying noise levels within the surrounding residential areas as well as a Peregrine Falcon nesting box at Pier 18. Noise Control Officer assisted in construction-related noise monitoring of rivet removal activities at upper panel point L22N. (2012-Present)

- **George Washington Bridge, PANYNJ GWB-244.045** – Responsible for overseeing background noise monitoring study within the vicinity of bridge along the NJ and NY approaches. Assisted Senior Project Manager in the development of construction-related noise criteria, which were included within contract plans. (2011-2012)

- **Lyndhurst Proposed Residential Development, J.G. Petrucci, Inc.** – As part of a Project Impact Assessment (PIA), managed vibration monitoring study to identify existing vibration levels. The PIA summarized a cumulative noise analysis and the vibration results. (2011)

- **Goethals Bridge Replacement Program EIS** – Responsible for conducting noise monitoring fieldwork as well as a noise impact and mitigation analysis using the FHWA's TNM2.5 for the replacement of existing Goethals Bridge in New Jersey and New York. In addition, performed a detailed assessment of construction noise impacts utilizing the FHWA Roadway Construction Noise Model (RCNM) for inclusion in the FEIS. (2005-2011)

(PCA 9/12)

3.2. PANYNJ Certification WBE 2012

THE PORT AUTHORITY OF NY & NJ

Anthony R. Coscia
Chairman

Christopher O. Ward
Executive Director

Certified

by

Office of Business & Job Opportunity

Paul Carpenter Associates, Incorporated

Certificate PA-10669

This certificate acknowledges that the above named firm is recertified as a **Woman-owned Business Enterprise.** This company has met the criteria for ownership and control as established by the Port Authority Policy for Revised Minority, Woman and Small Business Enterprise (M/W/SBE) Programs, dated June 10, 1993.

This certification will remain in effect for five years from the date of notice and may be extended only upon submission by you, and acceptance by the Port Authority of a recertification application attesting that the ownership and control of the business, on which this certificate is granted, has not changed. This office must be notified within 30 days of any material changes in the business which affect ownership and control. Failure to do so may result in the revocation of this certification and/or imposition of other sanctions.

Lash Green
Director
Certified: April 30, 2009

Rosemary Jenkins-Varela
Manager, Certification
Scheduled Re-evaluation: April 30, 2014

Form: 6/10/93 RAI

New Jersey Unified Certification Program

NJ UCP

NJ TRANSIT The Way To Go.

New Jersey Department of Transportation

THE PORT AUTHORITY OF NY & NJ

CERTIFIED

DISADVANTAGED BUSINESS ENTERPRISE
PAUL CARPENTER ASSOCIATES, INC.

This certificate acknowledges that the above named firm is certified as a Disadvantaged Business Enterprise as defined in Title 49, Part 26 of the US Code of Federal Regulations. This certificate will remain in effect for three years from the certification date and must be updated annually. **NJ TRANSIT** must be notified within 30 days of any changes in the business that may affect ownership and control.

Your firm will be listed in the NJ UCP directory under the following NAICS Code(s).

NAICS CODE	541620 Environmental Consulting Services

NJ TRANSIT certified your firm as a DBE on behalf of all NJ UCP partners.

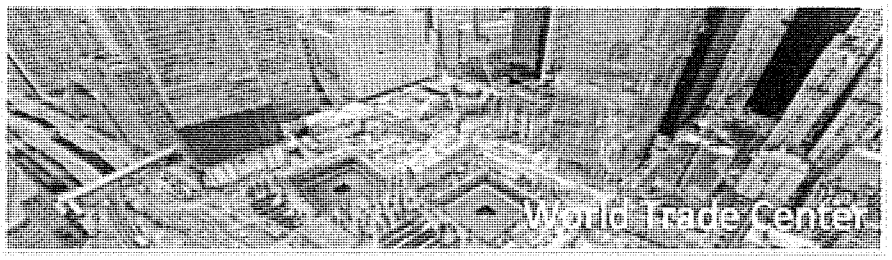
Signed: _____
Emmett Lewis, Director
Office of Business Development

Signed: Lauren Williams
Lauren Williams
Senior Business Development Specialist

CERTIFICATION DATE: June 7, 2012

EXPIRATION DATE: June 7, 2015

3.3. Paul Carpenter Associates, Inc. References



Paul Carpenter Associates, Inc. (PCA) was responsible for implementing a state-of-the-art remote monitoring system specifically for the World Trade Center (WTC) construction site. The monitoring program includes four noise and five vibration monitors within the perimeter of the WTC site that track compliance of noise and vibration Environmental Performance Commitments (EPCs).

PCA programmed the real-time noise and vibration monitoring equipment to transmit data continuously to a project-specific server via cellular technology. PCA created a customized user-friendly Compliance Website and provided training for PANYNJ inspectors. The website displays current and archived data within graphs and tables, allowing users to quickly identify real-time noise and vibration compliance.

The web interface includes several unique features including automatic e-mail alerts warning of any vibration exceedance or equipment malfunction. In addition the system also automatically e-mails Daily Reports to authorized users. During overnight periods, NMTs are programmed to record audio files once noise levels reach a specific trigger level. These audio files are automatically uploaded to the website and can be played back by users directly from the website or download for further review.

The system also provides a post-processing tool for filtering data based on surface meteorological data obtained from Newark Liberty International Airport. Filtered noise monitoring data and vibration data documented during each month are compiled into a report that is automatically generated by the system and submitted to authorized users. Noise and vibration monitors are field-inspected by PCA staff quarterly and removed/reinstalled yearly for laboratory calibration. PCA maintains all monitors, associated software, server and website. PCA has provided review and comments related to WTC-affiliated Noise Control and Mitigation Plans for the WTC Path Hall and Kowsky Plaza Water Pump House.

PANYNJ World Trade Center Site
Remote Noise and Vibration Monitoring System

Reference
Daniel Webber
PANYNJ Materials Division
201.216.2952

2010-2012 Budget / Spent
$478,000 / $295,525

Schedule
2010-2012 Meeting Milestones

Date Completed
2010-2012 Tasks: Projected 12/31/11

Relevant Tasks
Establish Remote Noise and Vibration Monitoring System
Maintain, Repair, Replace & Calibrate NMT and Vibration System
Noise Control and Mitigation Plan Review and Comment
Prepare Technical Reports

The Port Authority of New York & New Jersey (PANYNJ) requested assistance from Paul Carpenter Associates, Inc. (PCA) to perform compliance monitoring associated with PA Bus Terminal Building Truss paint blasting activities.

PCA performed a review and provided comments related to the contractor Noise Control and Mitigation Plan. Based on contract specifications, PCA provided a Noise Control Officer (NCO) to perform compliance noise monitoring during paint blasting activities in July 2011.

The blasting activities were located within a containment area along 40th Street between 8th and 9th Avenues. Vacuum trucks associated with the site were located under the Bus Terminal Building along 41st Street, between 8th and 9th Avenue. Therefore, noise monitoring was performed in five locations adjacent to nearby residential areas.

Based on contract noise criteria, the NCO documented noise level exceedances in all five monitoring locations. The NCO provided Daily Field Reports detailing construction-related noise levels and exceedances as well as a diagram detailing monitoring locations. Once the exceedances were communicated to the PANYNJ, PCA was requested to perform additional measurements to determine whether further contractor mitigation was successful in mitigating the noise exceedances. The NCO provided additional measurements subsequent to the implementation of additional mitigation measures and continued to identify exceedances of the noise criteria, which were documented within a Daily Field Report.

PANYNJ Bus Terminal Building Truss Paint Blasting Noise Monitoring: BT-254.128

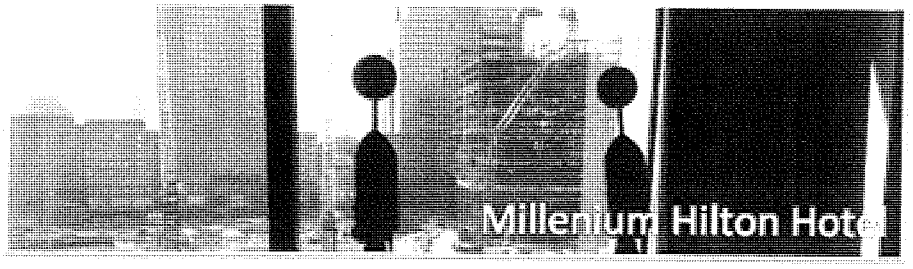
Reference
Dan Webber
PANYNJ Materials Division
201.216.2952

Budget / Spent
$75,000 / $2,287

Schedule
Met Project Schedule

Date Completed
9/1/11

Relevant Tasks
Background Noise Monitoring
Construction Noise Monitoring
Noise Control and Mitigation Plan Review and Comment
Review Local Noise Codes
Prepare Technical Reports



Paul Carpenter Associates, Inc. (PCA) was responsible for performing a building attenuation study, and sub-consultant, URS, provided a construction noise mitigation analysis for the Millenium Hilton Hotel. This luxury hotel is located directly adjacent to the World Trade Center site in Lower Manhattan. PCA performed a statistical analysis of registered guest complaints by floor, room, time and nature of complaint. During this period, construction within the World Trade Center was performed continuously 20 hours per day, 7 days a week.

The building attenuation study allowed PCA to determine the reduction in sound energy as construction noise passed through structural elements of the building. Exterior exposure within the hotel largely includes windows. Hotel management allowed PCA to occupy two adjacent rooms on specific floors to conduct noise measurements. One room was utilized to document exterior noise levels by placing the noise monitor microphone out of an operable window. The microphone was extended 5 feet from the window to minimize building reflections from the hotel façade. An additional noise monitor was placed in an adjacent room documenting interior noise levels during four test scenarios; window closed/curtains open, window closed/curtains closed, window open/curtains open and window open/curtains closed. Building attenuation values were calculated through the numerical difference between interior and exterior measurements.

Sub-consultant URS worked with the PANYNJ to evaluate the construction noise heard at night by patrons at the hotel and to design noise control measures. URS recommended noise control designs for the rooms to reduce the intrusion of the noise on hotel guests. These measures included heavy curtains and glass inserts since the exterior walls facing the construction activities are mainly glass.

PANYNJ World Trade Center
Millenium Hilton Hotel
Construction Noise
Investigation

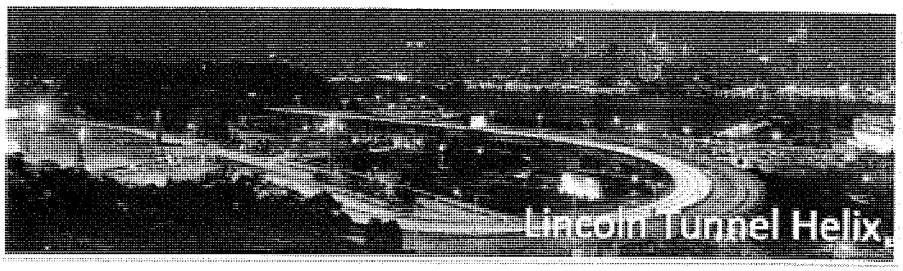
Reference
Daniel Webber
PANYNJ Materials Division
201.216.2952

Budget / Spent
$9,520 / $6,189

Schedule
Met Project Schedule

Date Completed
8/14/10

Relevant Tasks
Construction Noise Monitoring
Provide Noise Control Officers
Architectural Noise Control
Design Recommendations
Prepare Technical Reports



In 2010, Paul Carpenter Associates, Inc. (PCA) documented background noise levels adjacent to proposed work areas of the Lincoln Tunnel Helix. Based on this data, PCA developed project-specific noise criteria. Utilizing the Federal Highway Administration Roadway Construction Noise Model (RCNM), PCA predicted construction noise levels based on several construction cases, assuming reasonable mitigation measures. PCA assisted PANYNJ Public Relations personnel in identifying critical residential areas which may be subjected to high construction-related noise levels.

In 2012, PCA implemented a state-of-the-art, real-time remote monitoring system specifically for the Helix construction project, which continuously transmits data to a project-specific server. The remote monitoring system includes three NMTs to track compliance of contract noise specifications.

PCA created an innovate Compliance Website utilizing the databases from the NMTs. The website displays current and archived data within graphs and tables, allowing users to identify noise compliance in real-time. PCA also developed website data views and reporting periods based on facility requirements.

PCA reviewed and provided comments related to the contractor Noise Control and Mitigation Plan. On several occasions during project initiation, PCA provided on-site Noise Control Officers during overnight construction periods. PCA maintains all monitors, associated software, server and website.

PCA was requested to install one remote vibration monitor along Boulevard East exit ramp to obtain background vibration levels. In addition, the remote vibration monitor documented construction-related vibration levels during demolition activities. Vibration data was provided to PANYNJ within a Project Findings Report.

PANYNJ Lincoln Tunnel Helix Remote Noise Monitoring System: LT-234.026

Reference
Dan Webber
PANYNJ Materials Division
201.216.2952

2010-2012 Budget / Spent
$375,500 / $52,739

Schedule
2010-2012 Meeting Milestones

Date Completed
2010-2012 Tasks: Projected 12/31/2012

Relevant Tasks
Background Noise and Vibration Monitoring
Predict Construction-Related Noise Levels
Review Local Noise Codes
Develop Site-Specific Noise Criteria
Establish and Maintain Remote Noise Monitoring System
Noise Control and Mitigation Plan Review and Comment
Provide Noise Control Officers
Construction Vibration Monitoring
Prepare Technical Reports

THE PORT AUTHORITY OF NY & NJ

CONSTRUCTION M/WBE PARTICIPATION PLAN

PA 3749 / 05-11

Office of Business Diversity and Civil Rights

NOTE: The Contractor is required to submit to the Engineering Dept. a MODIFIED PLAN for any changes to the original plan: i.e.; subcontractor, dollar amount or work performed.
If more than 1 page is used, complete totals on last page.

PAGE 1 OF 1

Contract Number: RFP-31644

Contractor Name: Brüel & Kjaer EMS Inc.

Mailing Address: 1050 Fulton Ave., Ste. 213; Sacramento, CA 95825

Telephone Number: 916.265.7700

Contract Description: Airport Noise & Operations Management System Contract for: JFK; LGA; EWR; SWF & TEB

Contract Amount: $2,064,200.00 (3 years)

Contract Goals: MBE 12% WBE 5% DBE

Name, Address, Phone Number of PA Certified MBE/WBE/DBE subcontractor (including name of contact person)	Indicate MBE, WBE Or DBE	Description of Work, Services to be provided. Where applicable, specify, "supply" or "install or both "supply" and "install."	Anticipated date work will start and finish	*Approximate $ amount of M/W/DBE Subcontract	MBE/WBE/DBE % of Total Contract Amount
Paul Carpenter Associates, Inc. 23 Vreeland Road, Suite 204 Florham Park, NJ 07932 (973) 822-8221 x 11 Sharon Paul Carpenter, Pres.	W/M/DBE	Hardware Installation Field Acceptance Testing On-Site Maintenance	TBA	$270,000.00	13%
			TOTAL:		

Signature of Contractor: [signature]

Print Name: ROBERT BRODECKY

Title: VICE PRESIDENT Date 1.25.2012

FOR OBDCR USE ONLY
Contract Goals: ☐ Approved ☐ Waived ☐ Rejected
Reviewed by: _____
OBDCR Business Development Representative
Print Name: _____ Date _____

Distribution: Original – OBDCR; Copy 2 – Engineer of Construction; Copy 3 – Contractor; Copy 4 – Line Department
*Please Note: supplies, equipment and material men are only credited 60% towards the M/W/DBE goal. Please adjust calculations accordingly.

I.1 Attachment E – Construction M/WBE
Participation Plan PA3749/05-11

THE PORT AUTHORITY OF NY & NJ

PROCUREMENT DEPARTMENT
2 MONTGOMERY STREET, 3RD FL.
JERSEY CITY, NJ 07302

12/20/2012

ADDENDUM # 1

To prospective Select Type Proposers for **AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY INTERNATIONAL (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS.**

[X] Due back on 1/15/2013, no later than 2.00 PM.

I. CHANGES/MODIFICATIONS

The following changes/modifications are hereby made to the solicitation documents:

- Attachment B, Part II – Cost Proposal Form is deleted in its entirety and replaced with the attached Attachment B, Part II – Cost Proposal Form dated December 20, 2012.

- Section 5, Evaluation Criteria and Ranking, Subsection B, "Technical Expertise" is modified to "Technical Approach and Expertise".

Additional changes to Section 5, Evaluation Criteria and Ranking, Subsection B "Technical Approach and Expertise"

- Delete first paragraph: "The extent to which the Proposer demonstrates its ability to execute the required services, including, but not limited to:"

- Delete bullet (2) is deleted in its entirety.

This communication should be initialed by you and annexed to your Select Type upon submission.

In case any Proposer fails to conform to these instructions, its Proposal will nevertheless be construed as though this communication had been so physically annexed and initialed.

PS11All

THE PORT AUTHORITY OF NY & NJ

KATHY LESLIE WHELAN, MANAGER
PURCHASING SERVICES DIVISION

Select Type FIRM NAME: _____

INITIALED: _____

DATE: _____

QUESTIONS CONCERNING THIS ADDENDUM MAY BE ADDRESSED TO JEANETTE ANDERSON, WHO CAN BE REACHED AT (201) 395-3430 or at jeanette.anderson@panynj.gov.

THE PORT AUTHORITY OF NY & NJ

PROCUREMENT DEPARTMENT
2 MONTGOMERY STREET, 3RD FL.
JERSEY CITY, NJ 07302

1/4/2013

ADDENDUM # 2

To prospective Proposer(s) on RFP # **31644 for AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY INTERNATIONAL (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS.**

[X] Due back on 1/29/2013, no later than 2:00PM
[X] Originally due on 1/15/2013, no later than 2:00PM

I. CHANGES/MODIFICATIONS

The following changes/modifications are hereby made to the solicitation documents:
Last paragraph of Section IX.A.3 Operational Flexibility is being replaced with the following:

In the event that Operational Availability fails to meet, the percentage stipulated herein, and is not responded to or repaired within requirements stipulated in Section IX.C, Time to Repair, the damage amounts for unavailability for operation are as specified in Attachment B (General Contract Provision) 11. Liquidated Damages.

The due date of this RFP is extended until 1/29/13, no later than 2:00 P.M

II. PROPOSER'S QUESTIONS AND ANSWERS

The following information is available in response to questions submitted by prospective Proposers. The responses should not be deemed to answer all questions, which have been submitted by Proposers to the Port Authority. It addresses only those questions, which the Port Authority has deemed to require additional information and/or clarification. The fact that information has not been supplied with respect to any questions asked by a Proposers does not mean or imply, nor should it be deemed to mean or imply, any meaning, construction, or implication with respect to the terms.

The Port Authority makes no representations, warranties or guarantees that the information contained herein is accurate, complete or timely or that such information accurately represents the conditions that would be encountered during the performance of the Contract. The furnishing of such information by the Port Authority shall not create or be deemed to create any obligation or liability upon it for any reason whatsoever and each Proposer, by submitting its Proposal, expressly agrees that it has not relied upon the foregoing information, and that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever. Accordingly, nothing contained herein and no representation, statement or promise, of the Port Authority, its Commissioners, officers, agents, representatives, or employees, oral or in writing, shall impair or limit the effect of the warranties of the Bidder required by this Proposal or Contract and the Proposer agrees that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever.

The Questions and Answers numbering sequence will be continued sequentially in any forthcoming Addenda that may be issued.

Question # 1	In section 7. Reporting Requirements, point 2 x), What details does the Event Log Report contain? What information does it provide?
Answer # 1	The Event Log Report is a daily report emailed to a System Administrator and/or a user providing the following information for the previous day: 1) Total number of flights uploaded to the System database for each airport listing, total number of arrivals, and departures and runways used, 2) Status of each Noise Monitoring Terminal NMT detailing whether the noise event downloaded successfully or failed, 3) Possible reason for download failure such as communication line down or power outage etc., 4) Total number of noise events recorded at each NMT site, 5) and other useful info about each NMTs status.
Question # 2	Please confirm the level of security background check, standard, medium or high for on-site workers as well as off-site workers.
Answer # 2	On-site work entails working at NMT sites including the permanent units mounted on utility poles as well as portable units installed at private and/or residential properties. There is no airport airside work required. Please see the he security background check as set forth in Page 8 of the RFP document (www.secureworker.com).
Question #3	Please confirm the removal of computer server, which is will be located in the NY Tracon. Due to the FAA changes, this should be disconnected in the future. Will this requirement remain in the RFP?

Answer # 3	References to NY Tracon have been removed from the Cost Proposal Form as reflected in Addendum #1 dated 12/20/12
Question #4	What are the response limitations in terms of pages or word counts?
Answer # 4	There is no limit.
Question #5	Map limits definition street and imagery?
Answer # 5	This question is unclear but in general, the System shall provide maps that portray satellite imagery, street map and hybrid of both satellite imagery and maps.
Question #6	Can we reuse existing scanners at TEB for ATC logging?
Answer # 6	No. As referenced in SOW, Section C.1., page 6 of 44, new scanners are required to be installed since the existing ones are approximately 20 years old.
Question #7	Confirm Historical Data Conversion years 10 years of data or 50 years of Data (10 years * 5 airports).
Answer # 7	As referenced in the SOW, Section D.3, page 20 of 44, historical data conversion would be required for past 10 years for JFK, LGA, EWR, and TEB while only 5 years for SWF. This would add up to total of 45 years of data.

Question #8	What current % of runway assignments do they currently achieve? (Attachment C, Section III, part D, item 2)
Answer # 8	The current System provides about 98% accuracy for runway assignments.
Question #9	Is there an existing interface to the D-ATIS system, and if not, is there a suggested way to do it? (Attachment C, Section III, part D, item 6.i)
Answer # 9	No there is no existing interface to D-ATIS system. The hourly weather data for each airport shall be available as part of the System database when running queries and reports, however, the source does not have to be solely the D-ATIS. Weather data can be acquired from other official and reliable sources.
Question #10	Will a Brüel & Kjaer Systems Engineer be able to gain access to the existing NMT's for inspection of the existing infrastructure and site

	conditions? If unable to accommodate this particular day, would the Port Authority of New York be able to offer an alternate date and time?
Answer #10	There are total of 23 NMT sites and it will be logistically difficult if not impossible to visit every single site. Sixteen (16) NMT sites out of 23 are publicly accessible and are located on utility poles. The address of each NMT was provided at the Pre Proposal meeting on December 20, 2012. Proposers who wish to visit the NMT site can do so on their own.
Question #11	Please clarify the total number of NMTs by type (permanent and portable) to be included in the proposal.
Answer #11	PANYNJ is requesting the delivery of 22 new NMTs as part of this RFP. Out of the new 22 NMTs, 17 will need to be installed by replacing NMTs currently deployed consisting of following: JFK – 10 NMTs (6 permanents and 4 portables) LGA – 4 NMTs (2 permanents and 2 portables) EWR – 3 NMTS (3 permanents) Five (5) of the delivered NMTs will be placed in storage for future installations or for use as spare units. There are total of 7 NMTs currently at TEB and none of them will be replaced as part of this Contract.
Question# 12	Section C Subsection 2 item i) calls for accuracy of less than + 0.1 dB, do they really mean resolution? That accuracy is beyond the IEC and ANSI standards for Type 1 instruments.
Answer # 12	Yes, the 0.1dB value refers to resolution and not accuracy of the instrument.
Question# 13	When can we expect the answers in the written addenda?
Answer # 13	The answers to all questions received are being provided in this written addenda and any additional questions received before the due date will be answered in a future Addenda posted to the website
Question# 14	Cost Proposal Form - Table 2 – Software Services. Does the Web Site Hosting line item include all backup, data retrieval, and other data storage requirements?

Answer # 14	Table 2 – Website Hosting for General Noise Information is in reference to Scope of Work Section D.4.vii) which lists the website requirements and all background elements of running a website such as data backup, data retrieval and storage requirements and all other necessary functions shall be included in the cost.
Question# 15	1) SOW Page 8 of 44 3ii says 11 permanents and 10 portables but Appendix B Cost Proposal Form Table 1D says 10 portables. What is the total NMT count?
Answer # 15	See the response to Question No. 11 above. Table 1 D shall provide cost for installation for 6 portable NMT units. The remaining five units shall be delivered and will be placed in storage.
Question#16	Page 8 Section M. Contractor Staff Background Screening - What level of staff is required to undergo background checks? Is it just the staff that will be working on or at PANYNJ premises, key personnel, or all personnel, including incidental personnel such as contracts, finance, mail room, etc.? Is this limited to just direct staff and not indirect? For a larger company with every changing staffing screening all employees from accounting, contracts and finance who may come in contact with this contract is impossible. On prior contracts with the PANYNJ only key personnel were required to be screened and those employees that worked on one of the facilities.
Answer # 16	Only employees engaged directly with the PANYNJ contract shall be subject to the Background Screening requirements. This includes key employees assigned to work on PANYNJ contract, including employees with access to PANYNJ database and those performing work at PANYNJ NMT sites and PANYNJ offices.
Question# 17	Page 8 Section M. Contractor Staff Background Screening -With respect to the background checks, current employees have already been vetted and screened by our company. Why does the PANJNY want to incur the costs of screening up to a 100 of our indirect employees who have limited contact with the day to day operations of this contract, and simply administer the contract or complete the invoices or mail the documents to the PANYNJ?

Answer #17	See the response to Question No. 16 above.
Question #18	Page 8 Section M. Contractor Staff Background Screening - What type of background check is actually being performed by the PANYNJ? Is it a reference check, a criminal check, credit, felonies, misdemeanors? Can the PANYNJ please define what scope is covered under the Background check?
Answer #18	Requirements for background screening can be found at following website: www.secureworker.com
Question #19	Paragraph 3: Operational Availability starting on page 38 Operational Availability last paragraph references damages due to failure to meet PANYNJ requirements, those damages are specified herein "Is the Authority Referencing Liquated Damages"?
Answer #19	The last paragraph of Operational Availability has been revised as shown in Section I above.
Question #20	Who carries the current Toll Free Complaint Hotline?
Answer #20	The current toll free complaint hotline is provided by the PANYNJ's current contractor for collecting noise complaints online and via phone calls.
Question #21	Can PANYNJ provide security levels which are required for on-site or off site work personnel?
Answer #21	On-site work entails working at NMT sites including the permanent units mounted on utility poles as well as portable units installed at private and/or residential properties. There is no work that will be done at any of the airports. Please see the security background check as set forth in Page 8 of the RFP document (www.secureworker.com).
Question #22	We would like to obtain an actual sample file of the Historical Data for conversion.
Answer #22	Historical data sample files for one month consisting of weather data, flight tracking data and noise event data is available upon request via email to: jeanette.anderson@panynj.gov
Question 23	By Airport, how many complaints are received via hotline, web

	complaint form, e-mail, etc. monthly?
Answer #24	Following are the average monthly count of noise complaint by Airport: JFK – 200 LGA – 200 EWR – 50 TEB – 125 SWF – 5 About 50% of noise complaints are received via web complaint form online and the rest are received via noise complaint hotline.

Question# 25	At TEB, do the current NMT's use D Weighting?
Answer # 25	No, the TEB NMTs use A weighting.
Question#26	How many Larson Davis NMT's are at TEB?
Question# 26	There are total of 7 Larson Davis NMT units (Model No. 831) for TEB. Six of the units are installed as permanent and one unit is in storage for portable use upon request.
Question# 27	Should we need further clarification or have additional questions after cutoff date and time of December 21, 2012, 3pm, will PANYNJ be accepting them and provide a response?
Answer# 27	At the discretion of the Authority, questions may be answered after the due date.

This communication should be initialed by you and annexed to your Proposal upon submission.

In case any Proposer fails to conform to these instructions, its Proposal will nevertheless be construed as though this communication had been so physically annexed and initialed.

THE PORT AUTHORITY OF NY & NJ

PS11All

Kathy Leslie Whelan, Manager
Purchasing Services Division
Procurement Department

Select Type FIRM NAME: _____

INITIALED: _____

DATE: _____

QUESTIONS CONCERNING THIS ADDENDUM MAY BE ADDRESSED TO Jeanette Anderson, WHO CAN BE REACHED AT (201) 395-3430 or at jeanette.anderson@panynj.gov.

THE PORT AUTHORITY OF NY & NJ

PROCUREMENT DEPARTMENT
2 MONTGOMERY STREET, 3RD FL.
JERSEY CITY, NJ 07302

1/8/13

ADDENDUM # 3

To prospective Proposer(s) on RFP # 31644 for **AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY INTERNATIONAL (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS.**

[X] Due back on 1/29/13, no later than 2:00PM

I. CHANGES/MODIFICATIONS

The following changes/modifications are hereby made to the solicitation documents:

RFP, Section 5, page 10, "Evaluation Criteria and Ranking": The first and second criterions are equally weighted.

II. PROPOSER'S QUESTIONS AND ANSWERS

The following information is available in response to questions submitted by prospective Proposers. The responses should not be deemed to answer all questions, which have been submitted by Proposers to the Port Authority. It addresses only those questions, which the Port Authority has deemed to require additional information and/or clarification. The fact that information has not been supplied with respect to any questions asked by a Proposers does not mean or imply, nor should it be deemed to mean or imply, any meaning, construction, or implication with respect to the terms.

The Port Authority makes no representations, warranties or guarantees that the information contained herein is accurate, complete or timely or that such information accurately represents the conditions that would be encountered during the performance of the Contract. The furnishing of such information by the Port Authority shall not create or be deemed to create any obligation or liability upon it for any reason whatsoever and each Proposer, by submitting its Proposal, expressly agrees that it has not relied upon the foregoing information, and that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever. Accordingly, nothing contained herein and no representation, statement or promise, of the Port Authority, its Commissioners, officers, agents, representatives, or employees, oral or in writing, shall impair or limit the effect of

the warranties of the Bidder required by this Proposal or Contract and the Proposer agrees that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever.

The Questions and Answers numbering sequence will be continued sequentially in any forthcoming Addenda that may be issued.

Question #28	If the company submitting the bid is a public company, traded on the NYSE, and all financial records are reported via 10-Ks and 10-Qs, can this be substituted for certified financial statements?
Answer # 28	No.
Question# 29	The proposal asks for the residential addresses of the officers of any Company. As a public Company we do not and cannot release residential address of our officers. Can we provide office addresses?
Answer # 29	No. Residential addresses are requested for the officers of the company.
Question #30	In the RFP it states that all bidders must sign the Agreement of Terms of Discussions with no changes. However, the Terms of Discussions states that nothing provided to the PANYNJ is given in confidence and can be used for any purposes The PANYNJ records Act provides exclusions from release that: (1) "if disclosed, would impair, or give a competitive advantage in connection with, present or imminent awards or negotiations of … leases... contract, or other agreements, open procurement matters, contracts not yet awarded…"; (2) "trade secrets…which if release would cause injury to the competitive position of the subject enterprise, including resumes of individuals submitted by unsuccessful bidders, internal business protocols, systems or strategies specific to the commercial enterprise or the project, as well as technology or equipment that the unsuccessful bidder has developed". . ; and (3) personal identification information. However, much of the data being provided to the PANYNJ, including pricing (line item pricing) and certain solutions are trade secrets and company proprietary. How can a bidder ensure that such items as line item pricing, trade secrets, personal employee information and company proprietary information (including Human Resource Policies) are not released to the general public as they would be excluded on the PANYNJ Records Act? (Act Attached – I printed out a copy of the new changes).

Answer # 30	Please refer to the following link: http://www.panynj.gov/corporate-information/pdf/foi-code.pdf.
Question #31	In the RFP Section L Multiple Contract Awards - the PANYNJ states that it reserves the right to award multiple contracts. Is the PANYNJ planning to issue the award as a multiple award contract with task orders for each task? Or is the PANYNJ reserving the right to make multiple awards and divide up the work, award specific tasks to one contractor and other tasks to a different contractor?
Answer #31	The Authority intent is to award to a single vendor however, the Authority reserves the right to make multiple awards.
Question #32	Would the PANYNJ provide a word copy of the General Contract Provisions to the bidders to allow them to redline that, rather than providing requested changes on separate sheets of paper?
Answer #32	No.
Question #33	Will a bidders requested changes to the General Contract Provisions be an evaluation factor in the award as any requested changes are for negotiating purposes, as in general contract terms are negotiated with the parties after award?
Answer #33	Proposers will be evaluated based on the evaluation criteria detailed in the RFP Section 5, "Evaluation Criteria and Ranking", page 10.

This communication should be initialed by you and annexed to your Proposal upon submission.

In case any Proposer fails to conform to these instructions, its Proposal will nevertheless be construed as though this communication had been so physically annexed and initialed.

THE PORT AUTHORITY OF NY & NJ

Kathy Leslie Whelan, Manager
Purchasing Services Division
Procurement Department

Select Type FIRM NAME: _____

INITIALED: _____

PS11All

DATE: _____

QUESTIONS CONCERNING THIS ADDENDUM MAY BE ADDRESSED TO Jeanette Anderson, WHO CAN BE REACHED AT (201) 395-3430 or at jeanette.anderson@panynj.gov.

ATTACHMENT B

PART II - COST PROPOSAL FORM

COMPANY NAME _____

Vendor's pricing shall be "all inclusive" and firm for the term of the agreement. The prices shall include, but not be limited to, all delivery, installation, removal, equipment, labor, training, maintenance & support, insurance, project management and administrative services that the company provides in order to delivers Services that meet or exceed the requirements set forth in the Scope of Work of this RFP.

Entry of Prices:

1. The prices quoted shall be written in figures, in ink, preferably in black ink where required in the spaces provided on the Cost Proposal Form attached hereto and made a part hereof.

2. All Proposers are asked to ensure that all charges quoted for similar operations in the Contract are consistent.

3. Prices must be submitted for each Item required on the Cost Proposal Form.

4. All Proposers are asked to ensure that all figures are inserted as required, and that all computations made have been verified for accuracy.

5. The request for Hourly Rates apply to work associated with the Supplemental Work provision of the contract, which the Port Authority may or may not implement at its sole discretion.

6. Proposers shall identify any underlying cost-related assumptions in the section named "Assumptions", in the Cost Proposal Form.

December 20, 2012

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1A - Permanent and Portable Noise Monitoring Terminal Units

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Portable NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Grand Total ($):			

Note: Cost for Permanent and Portable NMT shall be inclusive of all accessories and peripherals including but not limited to housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – Handheld South Level Meters

Equipment	Cost ($)
Handheld Sound Level Meter (Per Unit)	
Total Cost for Two (2) Units	
Handheld Calibrator (Per Unit)	
Total Cost for Two (2) Units	
Grand Total ($):	

Note: Cost for handheld sound level meters and handheld calibrators unit shall include the carrying case for each unit.

December 20, 2012

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1C - Computer Hardware

Equipment	Cost ($)
One (1) Computer/Server for TEB to Record ATC Transmissions	
Grand Total ($):	

Note: Computer Systems for both TEB facility shall include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

December 20, 2012

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE ID – Hardware Installation

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit				11	
Installation of Portable NMT Unit				11	
Computer/Server for TEB to Record ATC Transmissions				1	
				Grand Total:	

Notes: 1. Equipment installation cost shall be inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost shall be inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

December 20, 2012

COST PROPOSAL FORM

SOFTWARE SERVICES

TABLE 2 - Software Services

Task	Cost ($)			
	Base 3 Years	**First - 2 Yr Option**	**Second - 2 Yr Option**	**Third - 2 Yr Option**
Transfer of 10 Year Historical Data		Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information				
NOMS Software (8 User Licenses)				
Web Based Software (Public Web Portal)				
Web Site Hosting for General Noise Information				
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)				
Voice To Data Transcription Service for Noise Complaints				
INM Noise Contour Calculation				
Noise Calculation at a Certain Chosen Location on a GIS Map				
Software Upgrades				
Additional User License				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

December 20, 2012

COST PROPOSAL FORM

CONTRACT SERVICES

TABLE 3 - Contract Requirements

Task	Cost ($)			
	Base 3 Years	**First - 2 Yr Option**	**Second - 2 Yr Option**	**Third - 2 Yr Option**
Contract Management and Administrative Services				
System Testing Requirements		Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation		Not Applicable	Not Applicable	Not Applicable
Ongoing Training				
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals - Training Manuals				
System Maintenance & Repair (Hardware & Software)				
System Support (On-Site Troubleshooting Support)				
Hardware and Software Warranty				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

December 20, 2012

COST PROPOSAL FORM

TOTAL COST

TABLE 4 - Estimated Total Contract Costs

		Total Cost ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	
TABLE 1B	Handheld Sound Level Meters	
TABLE 1C	Computer Hardware	
TABLE 1D	Hardware Installation	
TABLE 2	Software Services	
TABLE 3	Contract Requirements	
	Grand Total:	

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

COST PROPOSAL FORM

HOURLY RATES

Table 5 - Hourly Rates for Supplemental Work – Straight Time

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Straight time is defined as normal business hours between 8:00 AM and 5:00 PM EST

Table 6 - Hourly Rates for Supplemental Work – Overtime

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Overtime is defined as time between 5:01 PM and 7:59 AM EST

December 20, 2012

COST PROPOSAL FORM

ASSUMPTIONS

Proposers should identify any underlying cost-related assumptions in this in the space below or on additional sheets if the space provide below is insufficient.

THE PORT AUTHORITY OF NY & NJ
PROCUREMENT DEPARTMENT
ATTN: BID/PROPOSAL CUSTODIAN
TWO MONTGOMERY STREET, 3RD FLOOR
JERSEY CITY, NEW JERSEY 07302

REQUEST FOR PROPOSALS

ISSUE DATE: December 5, 2012

TITLE: AIRPORT NOISE & OPERATIONS MANAGEMENT SYSTEM CONTRACT FOR JOHN F. KENNEDY INTERNATIONAL (JFK), LAGUARDIA (LGA), NEWARK LIBERTY INTERNATIONAL (EWR), STEWART INTERNATIONAL (SWF) AND TETERBORO (TEB) AIRPORTS.

RFP NO.: 31644

SUBMIT PROPOSALS NO LATER THAN THE DUE DATE AND TIME TO THE ABOVE ADDRESS

PRE-PROPOSAL MEETING:	December 20, 2012	TIME:	10:00 A.M.
QUESTIONS DUE BY:	December 21, 2012	TIME:	3:00 P.M.
PROPOSAL DUE DATE:	January 15, 2013	TIME:	2:00 P.M.

CONTACT: JEANETTE ANDERSON

PHONE: (201) 395-3430
FAX: (201) 395-3470
EMAIL: jeanette.anderson@panynj.gov

THE PORT AUTHORITY OF NY & NJ

PROCUREMENT DEPARTMENT
ATTN: BID/PROPOSAL CUSTODIAN
TWO MONTGOMERY STREET, 3RD FLOOR
JERSEY CITY, NEW JERSEY 07302

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PRE-PROPOSAL MEETING:	December 20, 2012	TIME:	10:00 A.M.
QUESTIONS DUE BY:	December 21, 2012	TIME:	3:00 P.M.
PROPOSAL DUE DATE:	January 15, 2013	TIME:	2:00 P.M.

CONTACT: JEANETTE ANDERSON

PHONE: (201) 395-3430
FAX: (201) 395-3470
EMAIL: jeanette.anderson@panynj.gov

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1. INFORMATION FOR PROPOSERS ON THIS REQUEST FOR PROPOSALS

A. General Information: The Port Authority of New York and New Jersey

The Port Authority of New York and New Jersey (the "Port Authority" or the "Authority") is an agency of the States of New York and New Jersey, created and existing by virtue of the Compact of April 30, 1921, made by and between the two States, and thereafter consented to by the Congress of the United States. It is charged with providing transportation, terminal and other facilities of trade and commerce within the Port District. The Port District comprises and area of about 1,500 square miles in both States, centering about New York Harbor. The Port District includes the Cities of New York and Yonkers in New York State, and the cities of Newark, Jersey City, Bayonne, Hoboken and Elizabeth in the State of New Jersey, and over 200 other municipalities, including all or part of seventeen counties, in the two States. The Port Authority manages and/or operates all of the region's major commercial airports (Newark Liberty International, John F. Kennedy International, Teterboro, LaGuardia and Stewart International Airports), marine terminals in both New Jersey and New York (Port Newark and Elizabeth, Howland Hook and Brooklyn Piers); and its interstate tunnels and bridges (the Lincoln and Holland Tunnels; the George Washington, Bayonne, and Goethals Bridges; and the Outerbridge Crossing), which are vital "Gateways to the Nation."

In addition, the Port Authority operates the Port Authority Bus Terminal in Manhattan, the largest facility of its kind in the world, and the George Washington Bridge and Journal Square Transportation Center bus stations. A key link in interstate commuter travel, the Port Authority also operates the Port Authority Trans-Hudson Corporation (PATH), a rapid rail transit system linking Newark, and the Jersey City and Hoboken waterfronts, with midtown and downtown Manhattan. A number of other key properties are managed by the agency including but not limited to a large satellite communications facility (the Teleport) in Staten Island, and a resource recovery co-generation plant in Newark. Prior to September 11, 2001, the Port Authority's headquarters were located in the World Trade Center, and that complex is still owned and being partially redeveloped by the Authority.

The Port Authority is hereby seeking proposals from qualified firms to provide Airport Noise and Operations Monitoring System (NOMS), as more fully described herein.

B. Brief Summary of Scope of Work

The Port Authority is seeking proposals for a Noise and Operations Monitoring System (NOMS) to serve all of its five airports. This opportunity involves designing, furnishing, installing, maintaining and supporting a NOMS for all five airports. The Port Authority intends to modernize its NOMS capabilities by replacing the existing system (hardware and software) with a new system that has additional enhancements and technological capabilities to serve both present and future needs of Airport Staff and other stakeholders. The selected NOMS shall be

a web-based application that provides comprehensive monitoring, control, reporting, and analytical capabilities to facilitate and optimize user functionality.

C. Deadline for Receipt of Proposals

The due date specified on the cover page is the Proposal Due Date. Closing of due date is 2:00 P.M., Eastern Standard Time (EST).

The Port Authority assumes no responsibility for delays caused by any delivery service.

D. Vendor Profile

To ensure maximum opportunities, it is vitally important that Proposers keep their vendor profiles up to date with an appropriate e-mail address, as this will enable their firm to receive timely notice of advertisements, reminders, solicitations and addenda. Proposers may update their vendor profile or register as a Port Authority Vendor by accessing the online registration system at https://panynjprocure.com/VenLogon.asp.

E. Submission of Proposals

One reproducible original (containing original signatures and clearly designated as such) and Six (6) double-sided copies of the proposal must be submitted on or before the due date and time in accordance with the information on the cover page of this RFP and sent or delivered to the RFP Custodian at the address specified on the cover page. Each copy of the proposal as well as the parcel(s) used for shipping must be conspicuously marked with the Proposer's name and address as well as the Proposer's Vendor Number, if available. In addition, the outside of the package must clearly state the title of this RFP, the number of this RFP and the Proposal Due Date. Failure to properly label proposal submissions may cause a delay in identification, misdirection or disqualification of proposal submissions.

It is necessary to carry valid photo identification when attempting to gain access into the building to hand deliver proposals.

Consistent with environmentally preferable procurement practices, the Port Authority requests all documents submitted to be in a form that can be easily recycled (i.e., no plastic covers or binding) and to provide only supporting literature which directly relates to the proposal being submitted.

F. Communications Regarding this RFP

All communications concerning this RFP should be directed to the Contracts Specialist listed on the cover page. All questions regarding this RFP should be submitted in writing to the Contracts Specialist at the address or facsimile number listed on the cover page no later than **3:00 p.m. (EST) December 21, 2012.**

The Contracts Specialist is authorized only to direct the attention of prospective Proposers to various portions of this RFP so that they may read and interpret such portions themselves.

Neither the Contracts Specialist nor any other employee of the Port Authority is authorized to interpret the provisions of this RFP or give additional information as to its requirements. If interpretation or other information is required, it will be communicated to Proposers by written addenda and such writing shall form a part of this RFP.

G. Proposal Acceptance or Rejection

Acceptance shall be only by mailing to or delivering at the office designated by the Proposer in its proposal, a notice in writing signed by an authorized representative on behalf of the Port Authority specifically stating that the proposal is accepted or by execution of an agreement covering the subject matter of this RFP signed by authorized representatives of the Port Authority and the Proposer. No other act of the Port Authority, its Commissioners, officers, agents, representatives, or employees shall constitute acceptance of a proposal. Rejection of a proposal shall be only by either (a) a notice in writing specifically stating that the proposal is not accepted, signed by an authorized representative of the Port Authority and mailed to or delivered to the Proposer at the office designated in the Proposal, or (b) omission of the Port Authority to accept the proposal within 180 days after the Proposal Due Date. No other act of the Port Authority, its Commissioners, officers, agents, representatives or employees shall constitute rejection of a proposal.

H. Union Jurisdiction

Proposers are advised to ascertain whether any union now represented or not represented at the facility will claim jurisdiction over any aspect of the operations to be performed hereunder and their attention is directed to the Section of this RFP entitled "Harmony" included in the "Standard Contract Terms and Conditions" hereunder.

I. City Payroll Tax

Proposers should be aware of the payroll tax imposed by the:

a. City of Newark, New Jersey for services performed in Newark, New Jersey;
b. City of New York, New York for services performed in New York, New York; and
c. City of Newburgh, New York for services performed in Newburgh, New York and
d. Town of New Windsor, New York for services performed in New Windsor, New York.
e. County of Bergen, New Jersey for services performed in Teterboro, and Moonachie New Jersey

These taxes, if applicable, are the sole responsibility of the Contractor. Proposers should consult their tax advisors as to the effect, if any, of these taxes. The Port Authority provides this notice for informational purposes only and is not responsible for either the imposition or administration of such taxes. The Port Authority exemption set forth in the Paragraph headed "Sales or Compensating Use Taxes", in the *Standard Contract Terms and Conditions* included herein, does not apply to these taxes.

J. Pre-Proposal Meeting

1. A Pre-Proposal Meeting is scheduled for **10:00 a.m.., Tuesday, December 20, 2012**. Any questions concerning this RFP should be submitted in writing prior to the meeting so that the Port Authority may prepare responses in advance of the meeting. Additional questions may be permitted at the meeting; however, responses may be deferred and provided at a later date by written addenda.

Attendance is strongly recommended. Information conveyed may be useful to Proposers in preparing their proposals and Proposers not attending assume all risks which may ensue from non-attendance.

Attendees interested in attending should RSVP to Mr. Adeel Yousuf by phone at (212) 435-3784 or by email at ayousuf@panynj.gov no later than 12 noon (EST) of the business day preceding the scheduled date(s) to confirm their attendance and/or receive traveling directions.

K. Available Documents

Certain documents, specified below, will be made available for examination by Proposers at the Pre-Proposal Meeting or by contacting Mr. Adeel Yousuf by phone at (212) 435-3784 or by email at ayousuf@panynj.gov, Monday through Friday between the hours of 9:00 a.m. and 5:00 p.m.

These documents were not prepared for the purpose of providing information for Proposers on this RFP but they were prepared for other purposes, such as for other contracts or for design purposes for this or other contracts, and they do not form a part of this RFP. The Port Authority makes no representation or guarantee as to, and shall not be responsible for, their accuracy, completeness or pertinence, and, in addition, shall not be responsible for inferences or conclusions drawn therefrom. They are made available to Proposers merely for the purpose of providing them with such information, whether or not such information may be accurate, complete, pertinent or of any value to Proposers.

Said documents are as follows:

- Copy of Existing Airport Noise Abatement Monitoring System (ANAMS) Maintenance Contract
- Noise Monitoring Terminal (NMT)Hardware user manuals
- Pictures and Locations of NMT sites
- Summary and screen snapshot of historical ANAMS data.

L. Additional Proposer Information

Prospective Proposers are advised that additional vendor information, including, but not limited to forms, documents and other information, including M/WBE Participation Plan Submission Forms and protest procedures, may be found on the Port Authority website at:
http://www.panynj.gov/business-opportunities/become-vendor.html

M. Contractor Staff Background Screening

The Contractor awarded this contract will be required to have its staff, and any subcontractor's staff working under this Contract, authorize the Authority or its designee to perform background checks. Such authorization shall be in a form acceptable to the Authority. The Contractor (and subcontractor) may also be required to use an organization designated by the Authority to perform the background checks. The cost for said background checks for staff that pass and are granted a credential shall be reimbursable to the Contractor (and its subcontractors) as an out-of-pocket expense as provided herein. Staff that are rejected for a credential for any reason are not reimbursable.

As of January 29, 2007, the Secure Worker Access Consortium (S.W.A.C.) is the only Port Authority approved provider to be used to conduct background screening, except as otherwise required by federal law and/or regulation. Information about S.W.A.C., instructions, corporate enrollment, online applications, and location of processing centers can be found at http://www.secureworker.com, or S.W.A.C. may be contacted directly at (877)522-7922.

2. SCOPE OF WORK

The full Scope of Work is set forth in detail in Attachment C.

3. PROPOSER PREREQUISITES

Only Proposers who can demonstrate that they comply with the following should submit proposals as only proposals from such Proposers will be considered:

A. The Proposer shall have had at least five (5) years of continuous experience immediately prior to the date of the submission of its proposal in the development, installation, management, maintaining and supporting a Airport Noise & Operations Monitoring System, and shall be currently engaged in providing these services to at least one Commercial Airport and one General Aviation Airport in United States under the same or separate contract(s). The Proposer may fulfill this prerequisite if it can demonstrate that the persons or entities owning and controlling the Proposer have had a cumulative total of at least the same number of years and type of direct continuous experience immediately prior to the submission of this proposal as is required of the Proposer, or has owned and controlled other entities which meet the requirement.

B. During the time period stated in (A) above, the Proposer shall demonstrate satisfactory performance of at least two (2) contracts for similar services of similar scope.

C. The Proposer shall demonstrate that it has earned gross revenues of at least $1,000,000 a year for the last two (2) fiscal or calendar year(s) from the type of services or products described herein. Provide a statement on company letterhead signed by company's CFO or a CPA certifying that your company meets the gross revenues specified above.

In the event a proposal is submitted by a joint venture the foregoing prerequisites will be considered with respect to such Proposal as follows:

With respect to subparagraph (A) and (B) above, the prerequisite will be considered satisfied if the joint venture itself, or any of its participants individually, can meet the requirements. With respect to subparagraph (C), the gross income of the joint venture itself may meet the prerequisites or the gross income of the participants in the joint venture may be considered cumulatively to meet the prerequisite.

If the proposal is submitted by a common law joint venture, a joint venture that has not been established as a distinct legal entity, each participant of the joint venture shall be held jointly and severally liable and must individually execute and perform all acts required by this proposal. Documents signed by a common law joint venture, in connection with this proposal, shall include the names of all participants of the joint venture followed by the words "acting jointly and severally". All joint venture proposers must provide documentation of their legal status.

All Proposers must include documentation that they meet the above prerequisites. By furnishing this solicitation document to Proposers, the Port Authority has not made a determination that the Proposers have met the prerequisites or have otherwise been deemed qualified to perform the services. In addition, a determination that a Proposer has met the prerequisites is no assurance that they will be deemed qualified in connection with other proposal requirements included herein.

4. FINANCIAL INFORMATION

The Proposer will be required to demonstrate that it is financially capable of performing the contract resulting from this RFP ("Contract"). The determination of the Proposer's financial qualifications and ability to perform this Contract will be in the sole discretion of the Port Authority. The Proposer shall submit, with its proposal, the following:

A. (1) Certified financial statements, including applicable notes, reflecting the Proposer's assets, liabilities, net worth, revenues, expenses, profit or loss and cash flow for the most recent year or the Proposer's most recent fiscal year.

(2) Where the certified financial statements in (1) above are not available, then reviewed statements from an independent accountant setting forth the aforementioned information shall be provided.

Where the statements submitted pursuant to subparagraphs (1) and (2) aforementioned do not cover a period which includes a date not more than forty-five days prior to the Proposal Due Date, then the Proposer shall also submit a statement in writing, signed by an executive officer or his/her designee, that the

present financial condition of the Proposer is at least as good as that shown on the statements submitted.

B. A statement of work which the Proposer has on hand, including any work on which a bid and/or proposal has been submitted, containing a description of the work, the annual dollar value, the location by City and State, the current percentage of completion, the expected date for completion, and the name of an individual most familiar with the Proposer's work on these jobs.

C. The name and address of the Proposer's banking institution, chief banking representative handling the Proposer's account, the Proposer's Federal Employer Identification Number (i.e., the number assigned to firms by the Federal Government for tax purposes), the Proposer's Dun and Bradstreet number, if any, the name of any credit service to which the Proposer furnished information and the number, if any, assigned by such service to the Proposer's account.

5. EVALUATION CRITERIA AND RANKING

All proposals will be reviewed by the Port Authority to determine if they adhere to the format required in this RFP, if they contain all required submissions and if the Proposer meets the prerequisites required for submission of a Proposal. For Proposals meeting such requirements, the following criteria, set forth in order of importance, will be utilized in the evaluation of proposals.

A. Cost Proposal

The Cost Proposal evaluates the financial terms and fees as proposed for all required services as set forth in RFP, including:

- The degree and extent to which the Proposal is cost effective to the Port Authority and the overall cost of the service. The Contract's methods, practices, tools and techniques that will result in cost containment, and the likelihood of those methods, practices, tools and techniques being successfully deployed.

B. Technical Expertise

The extent to which the Proposer demonstrates its ability to execute the required services, including, but not limited to:

The degree to which the features and functions of the proposed solution will meet the stated functional requirements, goals and objectives as described in the Attachment C, "Scope of Work" of this RFP will be evaluated as follows:

- Staffing plans:

  The Extent to which the Proposer, and the managerial and supervisory personnel proposed to be dedicated to this Contract have the demonstrated technical expertise and understanding in implementing, maintaining and operating similar services in similar environment.

- Quality of start-up approach and business transition plan for start of contract and termination of contract.

- Approach to new hardware installation and implementation of software solutions to meet goals and objectives of Port Authority as described in Attachment C, "Scope of Work and Specifications" of this RFP.
- Standard operating procedures related to System development, installation, maintenance and support.
- Approach to Maintenance Management Reporting.
- Quality of start-up approach and business transition plan for start of contract and termination of contract.
- Approach to each heading including in the Scope of Work, Attachment C of this RFP.
- The degree to which the Proposer's Implementation Schedule meets the target dates described in Scope of Work, Attachment C of this RFP.

C. Management Approach/Customer Service

The experience, qualifications and availability of the management and staff proposed to be assigned to provide the services (including subcontractors, if any) will be evaluated in the Management Approach/Customer Service section including the following:

- Nature and quality of the Proposer's Quality Assurance/Quality Control Program.
- The Proposer's maintenance and training methodology.
- The quality and extent of financial, reconciliation and auditing procedures.
- Prior experience between firms proposing a joint venture and prime subcontractor relationship.
- The Proposer's disaster recovery plan.
- The quality and effectiveness of the Proposer's M/WBE plan and the extent to which it meets or exceeds Port Authority Standards.
- The Proposer's ability to mitigate and eliminate business risk.

E. Background Check Plan

The Proposer must submit a Background Check plan in accordance with this document, which will be considered "pass/fail."

6. M/WBE SUBCONTRACTING PROVISIONS

The Port Authority has a long-standing practice of making its business opportunities available to Minority Business Enterprises (MBEs) and Women-Owned Businesses (WBEs) and has taken affirmative steps to encourage such firms to seek business opportunities with the Port Authority. The successful Proposer will use good faith efforts to provide for meaningful participation by the Port Authority certified M/WBEs as defined in this document, in the purchasing and subcontracting opportunities associated with this contract, including purchase of equipment, supplies and labor services.

Minority Business Enterprise (MBE) - shall mean a business entity which is at least 51% owned and controlled by one or more members of one or more minority groups, or, in the case of a publicly held corporation, at least 51% of the stock of which is owned by one or more minority groups, and whose management and daily business operations are

controlled by one or more such individuals who are citizens or permanent resident aliens.

"Minority Group" means any of the following racial or ethnic groups:

(a) Black persons having origins in any of the Black African racial groups not of Hispanic origin;

(b) Hispanic persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American culture or origin, regardless of race;

(c) Asian and Pacific Islander persons having origins in any of the original peoples of the Far East, Southeast Asia, The Indian Subcontinent, or the Pacific Islands;

(d) Native American or Alaskan native persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification.

Women-Owned Business Enterprise (WBE) - shall mean a business enterprise which is at least 51% owned by one or more women, or, in the case of a publicly held corporation, at least 51% of the stock of which is owned by one or more women and whose management and daily business operations are controlled by one or more women who are citizens or permanent or resident aliens.

The Contractor shall use good faith efforts to achieve participation equivalent to 12% of the total Contract price for MBEs and 5% of the total Contract price for WBEs.

Good faith efforts to include participation by M/WBEs shall include, but not be limited to the following:

1) Dividing the services and materials to be procured into small portions where feasible;
2) Giving reasonable advance notice of specific subcontracting and purchasing opportunities to such firms as may be appropriate;
3) Soliciting services and materials from M/WBEs, which are certified by the Port Authority;
4) Ensuring that provision is made for timely progress payments to the M/WBEs and;
5) Observance of reasonable commercial standards of fair dealing in the respective trade or business.

Proposers are directed to use form PA3749B as the recording mechanism for the M/WBE participation Plan, annexed hereto as Attachment E or may be downloaded at http://www.panynj.gov/business-opportunities/become-vendor.html

The M/WBE Plan submitted by the Contractor to the Port Authority shall contain, at a minimum, the following:

- Identification of M/WBE's: Provide the names and addresses of all M/WBEs included in the Plan. If none are identified, describe the process for selecting participant firms in order to achieve the good faith goals under this Contract.

- Level of Participation: Indicate the percentage of M/WBE participation expected to be achieved with the arrangement described in the Plan.
- Scope of Work: Describe the specific scope of work the M/WBE's will perform.
- Previous M/WBE Participation: Describe any previous or current M/WBE participation, which the Proposer has utilized in the performance of its contracts.

All M/WBE subcontractors listed on the M/WBE Participation Plan must be certified by the Port Authority in order for the Contractor to receive credit toward the M/WBE goals set forth in this Contract. Please go to http://www.panynj.gov/business-opportunities/supplier-diversity.html to search for M/WBEs by a particular commodity or service. The Port Authority makes no representation as to the financial responsibility of such firms or their ability to perform Work under this Contract.

Proposers shall include their M/WBE Participation Plan with their proposals, to be reviewed and approved by the Authority's Office of Business Diversity and Civil Rights (OBDCR).

Proposers may request a waiver of the M/WBE participation goals set forth in this Contract by providing with its proposal, information in accordance with this provision and the provision entitled "M/WBE Good Faith Participation" in the Standard Terms and Conditions of this Contract.

If the Contractor wishes to subcontract a portion of the Work through a firm not listed in the Directory, but which the Contractor believes should be eligible because it is (1) an M/WBE, as defined above and (2) competent to perform portions of the Work, the Contractor shall submit an M/WBE Uniform Certification Application to the Port Authority of New York and New Jersey, Office of Business Diversity and Civil Rights (OBDCR), 233 Park Avenue South, 4th Floor, New York, NY 10003. The application is available online at http://www.panynj.gov/business-opportunities/sd-become-certified.html. In addition, to update your certification file and to advise OBDCR of changes to any information, please email these changes to OBJOcert@panynj.gov . Credit toward applicable goals will be granted only to Port Authority certified vendors. For more information about M/WBE Programs, call (212) 435-7819.

7. CERTIFICATION OF RECYCLED MATERIALS PROVISION

Proposers shall submit, with their proposal, ATTACHMENT F, the Certified Environmentally Preferable Products / Practices Form attesting that the products or items offered by the Proposer contain the minimum percentage of post-consumer recovered material in accordance with the most recent guidelines issued by the United States Environmental Protection Agency (EPA), or, for commodities not so covered, the minimum percentage of post-consumer recovered materials established by other applicable regulatory agencies.

Recycling Definitions:

For purposes of this solicitation, the following definitions shall apply:

a. "Recovered Material" shall be defined as any waste material or by-product that has been recovered or diverted from solid waste, excluding those materials and by-products generated from, and commonly reused within, an original manufacturing process.

b. "Post-consumer Material" shall be defined as any material or finished product that has served its intended use and has been discarded for disposal or recovery having completed its life as a consumer item. "Post-consumer material" is included in the broader category of "Recovered Material".

c. "Pre-consumer Material" shall be defined as any material or by-product generated after the manufacture of a product but before the product reaches the consumer, such as damaged or obsolete products. Pre-consumer Material does not include mill and manufacturing trim, scrap, or broken material that is generated at a manufacturing site and commonly reused on-site in the same or another manufacturing process.

d. "Recycled Product" shall be defined as a product that contains the highest amount of post-consumer material practicable, or when post-consumer material is impracticable for a specific type of product, contains substantial amounts of Pre-consumer Material.

e. "Recyclable Product" shall be defined as the ability of a product and its packaging to be reused, reconditioned for use, or recycled through existing recycling collection programs.

f. "Waste Reducing Product" shall be defined as any product that will result in less waste generated due to its use rather than another product designed to serve the same function with an greater waste generation rate. This shall include, but not be limited to, those products that can be reused, refilled or have a longer life expectancy and contain a lesser amount of toxic constituents.

8. PROPOSAL SUBMISSION REQUIREMENTS

In order to expedite the evaluation of proposals, the Proposer's response to this RFP shall follow the format and order of items, using the same paragraph identifiers, as set forth below.

A. Letter of Transmittal

The Proposer shall submit a letter on its letterhead, signed by an authorized representative, stating its experience and qualifications in meeting the requirements of this RFP. This letter shall include a statement on whether the Proposer is submitting a proposal as a single entity, a joint venture, or is partnering with another firm in a prime/subcontracting relationship. In all cases, information required for a single entity is required for each participant in a joint venture.

The Letter of Transmittal shall contain:

(1) Name and address of the Proposer and an original signature on the Letter of Transmittal by an authorized representative on behalf of the Proposer;

(2) Name(s), title(s) and telephone number(s) of the individual(s) who are authorize to negotiate and execute the Contract;

(3) Name, title and telephone number of a contact person to which the Port Authority can address questions or issues related to this RFP;

(4) Name and address of proposed subcontractors, if any;

(5) If a corporation: (a) a statement of the names and residences of its officers, and (b) a copy of its Certificate of Incorporation, with a written declaration signed by the secretary of the corporation, with the corporate seal affixed thereto, that the copy furnished is a true copy of the Certificate of Incorporation as of the date of the opening of the Proposals;

If a partnership: a statement of the names and residences of its principal officers, indicating which are general and which are special partners;

If an individual: a statement of residence;

If a joint venture: information on each of the parties consistent with the information requested above; if the Contract is awarded to a common law joint venture (a partnership of business entities) each member will be jointly and severally liable under the Contract.

B. Executive Summary

The Proposer shall submit a summary presenting the major features of its proposal and how the proposal satisfies the requirements contained in this RFP, as well as the special competencies and expertise of the Proposer to meet the requirements of this RFP.

C. Agreement on Terms of Discussion

The Proposer shall submit a copy of the "Agreement on Terms of Discussion," signed by an authorized representative of the Proposer. The Agreement format is included as Attachment A and shall be submitted by the Proposer without any alterations or deviations. Any Proposer who fails to sign the Port Authority's "Agreement on Terms of Discussion" will not have its proposal reviewed. If the Proposer is a joint venture, an authorized representative of each party must sign the Agreement.

D. Certifications With Respect to the Contractor's Integrity Provisions

The Proposer, by signing the Letter of Transmittal, makes the certifications in the "Contractor's Integrity Provisions," included as Section XX of this RFP. If the Proposer cannot make any such certifications, it shall enclose an explanation of that inability.

E. Documentation of Proposer Prerequisites

The Proposer shall submit documentation to demonstrate that it meets all prerequisites, if any, included herein.

F. Proposal

The Proposer must submit a proposal that details and clearly describes its experience and capability to perform the work described in this RFP, its approach to such work and the cost of such work to the Port Authority. At a minimum, the proposal shall address the following:

1. Cost Proposal

   Using Attachment B, Part II, Cost Proposal Form, hereof, the Proposer shall complete and submit a Cost Proposal. The Proposer shall describe in detail all financial compensation it expects to receive from Port Authority for the performance of the work described in the Attachment C: Scope of Work. In addition, Proposers should identify any underlying cost-related assumptions in the section titled "Assumptions", in the Cost Proposal Form.

   The Proposer must demonstrate that it is financially able to perform the requirements of this Contract, within the stated Implementation Schedule provided by the Proposer as part of its submission, including all costs.

2. Technical Proposal:

   Proposers are required to submit proposals, which describe in detail how the proposed System and Service meets the requirements set forth in Attachment C, "Scope of Work." The Proposer shall respond to each heading included in the Attachment C, "Scope of Work", describe its methodology and approach to the implementation of the NOMS, and maintenance of the NOMS including but not limited to the training, and troubleshooting support requirements. The Proposal must identify any requirements which cannot be met. It must describe any added functionality proposed that is not listed in the Scope of Work.

   The Proposal shall discuss or describe the following:

   - List all source(s) of data feed that comprise of the flight tracking and information data.
   - Methods and expected accuracy of capturing Visual Flight Rules (VFR) traffic.
   - Level of accuracy of the proposed flight tracking capabilities.
   - Level of accuracy of runway assignments for arrivals and departures.

- Method of acquiring aircraft registration numbers and also include the cost of any associated program or software and its routine upgrade and/or maintenance.

- Methods that will be used in the System to correlate noise events to a specific aircraft, the expected accuracy, and the method of allocating the noise event in situations where it is not possible to assign an event to a specific aircraft.

- Methods of assigning noise events and operations to a complaint and the expected accuracy.

- Functionality and methods of generating custom reports.

- All security features, policies and practices for the System.

- Ownership of data collected by and used for System operation. The proposal shall include a detailed description of which data will be owned by the Port Authority and which will remain in ownership of the Contractor.

- Integrity of the data used in the System, including frequency of exchange of the identified data, accuracy, timeliness and standardization of shared data, shall be described in the proposal.

- Describe the documents to be provided to the Authority's Contract Manager to validate the test results (reports, database listings, statistical analyses, message displays, etc.).

- Copy of current SAS-70 Audit, or equivalent.

- Description of proposed system architecture.

- Sample reports that will be provided.

- Detailed description of the services that will be provided.

- The extent to which the Proposer, and the managerial and supervisory personnel proposed to be dedicated to this Contract have the technical expertise and experience in implementing and managing similar services in a similar environment using the staff comparable in size to that necessary for the services to be provided hereunder, the anticipated function of each person on the Contract, a summary of the relevant experience of each person. The resumes of the individuals who are being recommended for these positions should be included in the Proposal.

- Demonstrate experience in installing, operating and maintaining the service at other airports.

- Experience of Proposer's senior management team in managing employees and conducting employee management programs, including, but not limited to:

  ✓ Staffing Plan

  ✓ Contract Management

  ✓ Proposed Maintenance Plan

- The Proposer shall submit a listing of all contracts involving the development, installation, management, testing and operation of system specifically tailored to the function of improving airport noise and operations monitoring systems that were performed by or are currently being performed by the Proposer within the last three (3) years. For each Contract list at a minimum:

  ✓ The name and address of the Contracting party

  ✓ The locations where the work was performed

  ✓ Duration of the contract (commencement date and ending date)

  ✓ The approximate dollar amount of the Contract

- The Proposer should provide a complete description of all employee management programs (covering both supervisory and non-supervisory personnel), currently utilized by Proposer, including but not limited to:

  ✓ Quality Assurance/Quality Control Programs

  ✓ Disciplinary procedures, etc. (include, if available, copies of manuals or other associated documents)

- The Proposer must demonstrate that it is financially able to perform the requirements of this Contract, with the stated Implementation Schedule, including all costs.

3. Management Proposal

The Proposer shall submit a Management Proposal with the following components:

- Describe your Company's plan to manage the NOMS Contract for all five Airports, including the quality and effectiveness of your M/W/SBE plan.

- Include detailed project schedules as set forth in Attachment C, Scope of Work. The Proposer shall provide key milestone dates on

the "milestone schedule" and describe all task interdependencies. (While not required, Proposers are encouraged to use GANNT charts and highlight critical path activities). The project schedule shall indicate when Authority-required tasks, including but not limited to providing test hardware, providing connectivity, etc., need to be performed.

- The Proposer shall describe in detail its experience, including relevant contracts performed during the last three (3) years, its financial capability, management structure and proposed staffing, detailing technical training, certifications, applicable licenses, skills and experiences and capability of proposed staff and other supporting documentation demonstrating its ability to perform the work.

- The Proposer shall provide a Detailed Implementation Plan that addresses all the requirements of Attachment C, Scope of Work, and anticipates a short-term transition from the current hosting vendor and environment to the proposed implementation for hosted managed services and administration of the NOMS. The Proposer should describe the methodology they have used successfully in the past and describe how existing system integrity will not be lost. The Contractor must propose how it will guarantee the Authority's access to all data in the event of the termination or expiration of the new contract.

- The Proposer shall provide detailed descriptions of its pre-employment screening procedures; safety and emergency procedures including, but not limited to, disaster recovery plans.

- The Proposer shall include a detailed organizational chart identifying key staff.

- The Proposer shall provide a staffing plan that clearly outlines staffing needed to perform each function as described in the Scope of Work and submit training requirements for all technical employees. The Proposer shall describe how availability and response time requirements will be achieved. The Proposer shall describe the anticipated location of staff as well as the planned locations of the Proposers nearest offices.

- Proposers shall submit a list of the job titles, responsibilities qualifications and work associated with each job position listed in Supplemental Work.

- Describe the roles and responsibilities of the support team members that will be assigned to this contract.

- Provide qualifications of support team members.

- Describe technical customer services experience and capabilities.

- Identify the Account Manager and Contract manager.
- Qualifications of support team members.
- Describe technical customer services experience and capabilities.
- The Proposer shall submit a M/WBE Plan in accordance with the section of this RFP entitled "M/WBE Subcontracting Provisions." The Proposer shall be required to report on actual achievement against plan goals on a quarterly basis.
- The Proposer's Certified Environmentally Preferable Products/Practices Form ensuring compliance with all applicable federal, state and local standards in their business practices, in accordance with the Certified Environmentally Preferable Products/Practices Provision.
- The Proposers proven transition planning approach that covers transitions at contract commencement; during the course of the agreement and upon contract termination.

  a. Transition Planning for seamless support – The Proposer shall provide detailed plan including approach methodology, number and skill set of resources (both from the Proposer side as well as from the Authority) and toolsets used for transition in the following circumstances:

     i. At the commencement of the Contract (note – As stated herein, the transition period shall under no circumstances exceed three months);
     ii. During the course of the Contract with additional integrators; and,
     iii. At the completion of the Contract – i.e., the proposers ability to work effectively and in harmony with a potential new provider.

5. <u>Contractor Identity Check/Background Screening Plan</u>

The Proposer shall submit a Contractor Identity Check/Background Screening Plan, which demonstrates how the Proposer will ensure that only employees who were successfully prescreened and properly credentialed perform the services herein. This Plan shall be applicable to all years of the Contract and shall include, but not be limited to, the following:

The length of time researched for the identity check/background screening on new hires, which shall be at a minimum of 10 years of employment history or verification of what an employee documented they have done in the last 10 years preceding the date of the investigation, resources utilized to perform this, and the frequency at which it is performed on current employees.

6. Business Risk

The Proposer shall submit risk assessment and succession plans to the Contractor and the Port Authority, that assess the business risk in taking on the significant amount of new work that will be required under this Contract. The risk assessment plan should take into account all work currently under contract, as well as work that is under contract to companies which the Proposer owns, controls or has an interest.

The Proposer shall provide any other information that is related to the requirements in this Section (Section F), that the Proposer believes would be helpful to the Port Authority in the evaluation of its proposal.

G. Acknowledgment of Addenda

If any Addenda are posted or sent as part of this RFP, the Proposer shall complete, sign and include with its Proposal the addenda form(s). In the event any Proposer fails to conform to these instructions, its proposal will nevertheless be construed as though the Addenda had been acknowledged.

If the Proposer downloaded this RFP document, it is the responsibility of the Proposer to periodically check the Port Authority website at http://www.panynj.gov/business-opportunities/bid-proposal-advertisements.html and download any addenda that might have been issued in connection with this solicitation.

H. Acceptance of Standard Contract Terms and Conditions

The Port Authority has attached to this RFP as Attachment B, General Contract Provisions governing the Contract. The Proposer is expected to agree with these General Contract Provisions. However, if the Proposer has any specific exceptions, such exceptions should be set forth in a separate letter included with its response to this RFP. After the proposal due date, the Proposer will be precluded from raising any exceptions unless such exceptions are justified by and directly related to substantive changes in the business or technical requirements and are agreed to by the Proposer and the Port Authority.

I. M/WBE Plan

The Proposer shall submit an M/WBE Plan in accordance with the M/WBE Subcontracting Provisions hereunder.

9. CONDITIONS FOR THE SUBMISSION OF A PROPOSAL

In addition to all other requirements of this RFP, the Proposer agrees to the following conditions for the submission of its proposal.

A. Changes to this RFP

At any time, in its sole discretion, the Port Authority may by written addenda, modify, correct, amend, cancel and/or reissue this RFP. If an addendum is issued prior to the date proposals are due, it will be provided to all parties in the medium in which the parties obtained the RFP. If an addendum is issued after proposals have been received, the addendum will be provided only to those whose proposals remain under consideration at such time.

B. Proposal Preparation Costs

The Port Authority shall not be liable for any costs incurred by the Proposer in the preparation, submittal, presentation, or revision of its proposal, or in any other aspect of the Proposer's pre-contract activity. No Proposer is entitled to any compensation except under an agreement for performance of services signed by an authorized representative of the Port Authority and the Proposer.

C. Disclosure of Proposal Contents / Use of Ideas and Materials

Proposal information is not generally considered confidential or proprietary. All information contained in the proposal is subject to the "Agreement on Terms of Discussion" attached hereto as Attachment A.

D. Ownership of Submitted Materials

All materials submitted in response to or in connection with this RFP shall become the property of the Port Authority. Selection or rejection of a Proposal shall not affect this right.

E. Subcontractors

If a Proposer intends to use subcontractor(s) the Proposer must identify in its proposal the names of the subcontractor(s) and the portions of the work the subcontractor(s) will perform.

F. Conflict of Interest

If the Proposer or any employee, agent or subcontractor of the Proposer may have a possible conflict of interest, or may give the appearance of a possible conflict of interest, the Proposer shall include in its proposal a statement indicating the nature of the conflict. The Port Authority reserves the right to disqualify the Proposer if, in its sole discretion, any interest disclosed from any source could create a conflict of interest or give the appearance of a conflict of interest. The Port Authority's determination regarding any questions of conflict of interest shall be final.

G. Authorized Signature

Proposals must be signed by an authorized corporate officer (e.g., President or Vice President), General Partner, or such other individual authorized to bind the Proposer to the provisions of its proposal and this RFP.

H. References

The Port Authority may consult any reference familiar with the Proposer regarding its current or prior operations and projects, financial resources, reputation, performance, or other matters. Submission of a proposal shall constitute permission by the Proposer for the Port Authority to make such inquiries and authorization to third parties to respond thereto.

I. Evaluation Procedures and Negotiation

Only Proposers which meet the prerequisites, if any, may have their proposals evaluated based on the evaluation criteria set forth in this RFP. The Port Authority may use such procedures that it deems appropriate to evaluate such proposals. The Port Authority may elect to initiate contract negotiations with one or more Proposers including negotiation of costs/price(s) and any other term or condition, including modifying any requirement of this RFP. The option of whether or not to initiate contract negotiations rests solely with the Port Authority.

J. Taxes and Costs

Purchases of services and tangible personal property by the Port Authority in the States of New York and New Jersey are generally exempt from state and local sales and compensating use taxes, and from most federal excises (Taxes). All costs associated with the Contract must reflect this exemption and be stated in U.S currency.

K. Most Advantageous Proposal/No Obligation to Award

The Port Authority reserves the right to award the Contract to other than the Proposer proposing the lowest price. The Contract will be awarded to the Proposer whose proposal the Port Authority believes, in its sole discretion, will be the most advantageous to the Port Authority. Neither the release of this RFP nor the acceptance of any responsethereto shall compel the Port Authority to accept any proposal. The Port Authority shall not be obligated in any manner whatsoever to any Proposer until a proposal is accepted by the Port Authority in the manner provided in the Section of this RFP entitled "Proposal Acceptance or Rejection."

L. Multiple Contract Awards

The Port Authority reserves the right to award multiple Contracts for the products, work and/or services that are the subject matter of this RFP and Proposers are hereby given notice that they may not be the Port Authority's only contractor for such products, work and/or services.

M. Right to Extend Contract

If this is a proposal for a contract for a term of years, including specified options for renewal, the Port Authority reserves the additional right to extend the contract term

for an additional 120 days, upon the same terms and conditions of the original Contract negotiated between the Port Authority and the successful Proposer.

N. Rights of the Port Authority

(1) The Port Authority reserves all its rights at law and equity with respect to this RFP including, but not limited to, the unqualified right, at any time and in its sole discretion, to change or modify this RFP, to reject any and all proposals, to waive defects or irregularities in proposals received, to seek clarification of proposals, to request additional information, to request any or all Proposers to make a presentation, to undertake discussions and modifications with one or more Proposers, or to negotiate an agreement with any Proposer or third person who, at any time, subsequent to the deadline for submissions to this RFP, may express an interest in the subject matter hereof, to terminate further participation in the proposal process by a Proposer or to proceed with any proposal or modified proposal, which in its judgment will, under all circumstances, best serve the Port Authority's interest. The Port Authority may, but shall not be obliged to, consider incomplete proposals or to request or accept additional material or information. The holding of any discussions with any Proposer shall not constitute acceptance of a proposal, and a proposal may be accepted with or without discussions.

(2) No Proposer shall have any rights against the Port Authority arising from the contents of this RFP, the receipt of proposals, or the incorporation in or rejection of information contained in any proposal or in any other document. The Port Authority makes no representations, warranties, or guarantees that the information contained herein, or in any addenda hereto, is accurate, complete, or timely or that such information accurately represents the conditions that would be encountered during the performance of the contract. The furnishing of such information by the Port Authority shall not create or be deemed to create any obligation or liability upon it for any reason whatsoever and each Proposer, by submitting its proposal, expressly agrees that it has not relied upon the foregoing information, and that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever. Accordingly, nothing contained herein and no representation, statement or promise, of the Port Authority, its directors, officers, agents, representatives, or employees, oral or in writing, shall impair or limit the effect of the warranties of the Proposer required by this RFP or Contract and the Proposer agrees that it shall not hold the Port Authority liable or responsible therefor in any manner whatsoever.

(3) At any time and from time to time after the opening of the proposals, the Port Authority may give oral or written notice to one or more Proposers to furnish additional information relating to its proposal and/or qualifications to perform the services contained in this RFP, or to meet with designated representatives of the Port Authority. The giving of such notice shall not be construed as an acceptance of a proposal. Information shall be submitted within three (3) calendar days after the Port Authority's request unless a shorter or longer time is specified therein.

O. No Personal Liability

Neither the Commissioners of the Port Authority, nor any of them, nor any officer, agent or employee thereof shall be charged personally with any liability by a Proposer or another or held liable to a Proposer or another under any term or provision of this RFP or any statements made herein or because of the submission or attempted submission of a proposal or other response hereto or otherwise.

10. ATTACHMENTS

ATTACHMENT A -	AGREEMENT ON TERMS OF DISCUSSION
ATTACHMENT B - PART I	GENERAL CONTRACT PROVISIONS
ATTACHMENT B - PART II	COST PROPOSAL FORM
ATTACHMENT C -	SCOPE OF WORK
ATTACHMENT D-	PROPOSER REFERENCE FORM
ATTACHMENT E -	M/WBE PARTICIPATION PLAN
ATTACHMENT F -	CERTIFIED ENVIRONMENTALLY PREFERABLE PRODUCTS/PRACTICES

ATTACHMENT A

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority Freedom of Information Code and Procedure adopted by the Port Authority's Board of Commissioners on March 29, 2012, which may be found on the Port Authority website at: http://www.panynj.gov/corporate-information/pdf/foi-code.pdf, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause substantial injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

_____
(Company)

_____
(Signature)

_____
(Title)

_____
(Date)

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY.
DO NOT RETYPE.

ATTACHMENT B

PART I – GENRAL CONTRACT PROVISIONS

ATTACHMENT B

GENERAL CONTRACT PROVISIONS

1. GENERAL AGREEMENT

The undersigned (hereinafter referred to as the "Contractor" or "you") agrees to provide, and The Port Authority of New York and New Jersey (hereinafter referred to as the "Authority" or the "Port Authority") agrees to accept **Airport Noise and Operations Monitoring Services** as more fully set forth in the Scope of Work (Attachment C) attached hereto and made a part hereof. The Scope of Work requires the doing of all things necessary or proper for or incidental to the requirements as set forth in the Scope of Work. All things not expressly mentioned in the Scope of Work but involved in carrying out their intent are required by the Scope of Work and the Contractor shall perform the same as though they were specifically mentioned, described and delineated.

Subject only to the provisions of the clause herein entitled "Extra Work", the Contractor's sole compensation in full consideration for the performance of all the Contractor's obligations under this Contract shall be in accordance with pricing sheets accepted by the Port Authority.

2. DEFINITIONS

As used herein, "Director" shall mean the Director of Aviation of the Authority acting either personally or through her duly authorized representatives acting within the scope of the particular authority vested in them unless specifically stated to mean acting personally. For the purpose of administering this Agreement, the Director has designated the Project Manager ("PM") to act as her duly authorized representative.

For the purposes of this Agreement the Project Manager (or "Manager") shall be the individual with day-to-day responsibility for managing the project on behalf of the Port Authority. The Project Manager will be Adeel Yousuf, Senior Airport Engineer, Aviation Department.

As used herein, the term "days" or "calendar days" in reference to a period of time shall mean consecutive calendar days, Saturdays, Sundays, and holidays included.

"Facility" Port Authority Facilities within the Port District, as set forth in Attachment C: "Port Authority Facilities".

"Services" or "Work" - shall mean all services, equipment and materials (including materials and equipment, if any, furnished by the Authority) and other facilities and all other things necessary or proper for, or incidental to the services to be performed or goods to be furnished in connection with the service to be provided hereunder, as set forth in the Scope of Work.

As used herein, the term "Work Day" shall mean a day between Monday and Friday with Monday and Friday included, and Holidays excluded.

As used herein the term "Specifications" shall mean all requirements of this RFP, technical and otherwise, for the performance of the Scope of Work and services hereunder.

As used herein, the term "Work Day" shall mean a day between Monday and Friday with Monday and Friday included.

Holidays: The following legal holidays will be observed at Port Authority offices and facilities:

New Year's Day	Columbus Day
Martin Luther King, Jr. Day	Veterans Day
Presidents' Day	Thanksgiving Day
Memorial Day	Day after Thanksgiving
Independence Day	Christmas Day
Labor Day	

As used herein, the terms "Port Authority" or "Authority" shall mean The Port Authority of New York and New Jersey.

Minority Business Enterprise (MBE) - shall mean a business entity which is at least 51% owned and controlled by one or more members of one or more minority groups, or, in the case of a publicly held corporation, at least 51% of the stock of which is owned by one or more members of one or more minority groups, and whose management and daily business operations are controlled by one or more such individuals who are citizens or permanent resident aliens.

"Minority Group" means any of the following racial or ethnic groups:

- Black persons having origins in any of the Black African racial groups not of Hispanic origin;
- Hispanic persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American culture or origin, regardless of race;
- Asian and Pacific Islander persons having origins in any of the original peoples of the Far East, Southeast Asia, The Indian Subcontinent, or the Pacific Islands;
- Native American or Alaskan native persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification.

Small Business Enterprise (SBE) - The criteria for a Small Business Enterprise are:

- The principal place of business must be located in New York or New Jersey;
- The firm must have been in business for at least three years with activity; and
- Average gross income limitations by industry as established by the Port Authority.

Women-Owned Business Enterprise (WBE) - shall mean a business enterprise which is at least 51% owned by one or more women, or, in the case of a publicly held corporation, at least 51% of the stock of which is owned by one or more women and whose management and daily business operations are controlled by one or more women who are citizens or permanent resident aliens.

Subcontractor - shall mean anyone who performs work (other than or in addition to the furnishing of materials, plant or equipment) in connection with the services to be provided hereunder, directly or indirectly for or on behalf of the Contractor (and whether or not in

privity of contract with the Contractor), but shall not include any person who furnished merely his own personal labor or his own personal services. "Subcontractor", however, shall exclude the Contractor or any subsidiary or parent of the Contractor or any person, firm or corporation which has a substantial interest in the Contractor or in which the Contractor or the parent or the subsidiary of the Contractor, or an officer or principal of the Contractor or of the parent of the subsidiary of the Contractor has a substantial interest, provided, however, that for the purpose of the clause hereof entitled "Assignments and Subcontracts" the exclusion in this paragraph shall not apply to anyone but the Contractor itself.

3. GENERAL PROVISIONS

A. Under no circumstances shall you or your subcontractors communicate in any way with any department, board, agency, commission, or other organization or any person whether governmental or private in connection with the services to be performed hereunder except upon prior written approval and instructions of the Director, provided, however, that data from manufacturers and suppliers of materials, devices and equipment shall be obtained by you when you find such data necessary unless otherwise instructed by the Authority.

B. Any services performed for the benefit of the Authority at any time by you or on your behalf, even if expressly and duly authorized by the Authority, shall be deemed to be rendered under and subject to this Contract (unless referable to another expressly written, duly executed contract by the same parties), whether such additional services are performed prior to, during or subsequent to the services described herein, and no rights or obligations shall arise out of such additional services except as provided under this Contract.

C. The Contractor shall observe and obey (and compel its officers, employees, guests, invitees, and those doing business with it, to observe and obey) the rules and regulations of the Port Authority now in effect, and such further rules and regulations which may from time to time during the effective period of this Contract, be promulgated by the Port Authority for reasons of safety, health, preservation of property, or maintenance of a good and orderly appearance of the Facilities, or for the safe and efficient operation of the Facilities. The Port Authority agrees that, except in cases of emergency, it shall give notice to the Contractor of every rule and regulation hereafter adopted by it.

D. This Contract does not constitute the Contractor as an agent or representative of the Port Authority for any purpose whatsoever. The Contractor shall perform all services hereunder as an independent Contractor and the Contractor, its officers, and employees shall not be deemed to be agents, servants, or employees of the Port Authority.

4. DURATION

This Contract shall commence on or about **May 1, 2013,** or on a date as mutually agreed upon and accepted by the Authority, and shall remain in effect for a period of **three (3) years (hereinafter the "Base Term") unless otherwise terminated in accordance with the provisions hereof. The Authority shall have the right to extend this Contract for up to three (3) additional two-year periods by written notice to the Contractor at least thirty (30) days prior to the expiration** of the Base Term or the expiration of the option period, if applicable.

The Authority shall also have the right to extend this Contract for an additional 120 day period, from the date originally fixed for expiration of the Base Term or any option period then in effect upon the same terms and conditions except as set forth elsewhere in this Contract, to be effected by written notice to the Contractor received no later than thirty (30) days prior to the expiration date of the Base Term or the expiration date of the option period, if applicable.

The amounts payable to the Contractor during any 120-day Extension Period shall be the same as the amounts payable in the immediately preceding period.

(a) The Port Authority shall have the right to extend this Contract for three (3) additional two (2) year Option Periods (hereinafter called the "Option Period") following the Expiration Date, upon the same terms and conditions If the Port Authority shall elect to exercise the Option(s) to extend this Contract, then, no later than thirty (30) days prior to the Expiration Date, the Port Authority shall send a notice that it is extending the Base Term of this Contract, and this Contract shall thereupon be extended for the applicable Option Period. If the Contract provides for more than one Option Period, the same procedure shall apply with regard to extending the term of this Contract for succeeding Option Periods.

(c) The Port Authority shall have the absolute right to extend the Base Term for an additional period of up to one hundred and twenty (120) days subsequent to the Expiration Date of the Base Term, or the Expiration Date of the final exercised Option Period (hereinafter called the "Extension Period"), subject to the same terms and conditions as the previous contract period. The prices quoted by the Contractor for the previous contract period shall remain in effect during this Extension Period without adjustment. If it so elects to extend this Contract, the Port Authority will advise the Contractor, in writing, that the term is so extended, and stipulate the length of the extended term, at least thirty (30) days prior to the expiration date of the previous contract period.

5. EXTRA WORK

Except as specifically hereinafter provided in this numbered clause, the Contractor shall immediately supply such modified or additional products and services as the Authority may direct ("Extra Work"). If such changes or additions are without fault on his part, or on the part of others performing on behalf of the Contractor whether or not in privity of contract with the Contractor, and if solely as a result thereof, the Contractor incurs additional costs in the performance of his obligations hereunder, the Contractor may request compensation for such changes or additions in addition to the compensation provided for elsewhere herein. Agreement by the Authority, if such is forthcoming, shall be in writing. The execution of the aforementioned written agreement shall be a condition precedent to payment of any additional compensation for changes or additions. Accordingly, if the Authority directs the Contractor to make any change in or addition to products or services which entitle him to compensation in addition to that provided for elsewhere herein, he shall not proceed with such changes or additions prior to execution of the aforementioned written agreement except as set forth in the clause hereof entitled "Compensation for Extra Work".

If, as a result of any changes in or additions to the products or services the Authority directs the Contractor to make, the costs of performance of his obligations hereunder are decreased, the parties agree to make such adjustments by way of reduction in the compensation provided for elsewhere herein as they may deem equitable and reasonable and, in making such adjustments, no allowance shall be made for anticipated profits.

The Director shall have the authority to order Extra Work up to an amount equal to six percent (6%) of the Total Estimated price for the base term plus that for any option years that have been exercised unless the Contractor is advised of a greater authorization in a letter signed by the Authority's Director of Procurement. Nothing herein shall be construed as a presentation that any changes or additions will be ordered.

6. COMPENSATION FOR EXTRA WORK

The Director and the Contractor may agree, in writing, on lump sum or other compensation for Extra Work. In the event that no such agreement is reached compensation shall be increased by the sum of the following amounts and such amounts only:

A. for labor, the applicable hourly rates for extra work set forth in the **Supplemental Work** section of **Attachment C**;
B. the actual net cost in money of the materials required for the Work; and
C. in addition to the foregoing, if the Extra Work is performed by a subcontractor, five percent (5%) of the amounts under (A) and (B). No Extra Work shall be performed by a subcontractor without the prior written approval of the Director.

7. EXTRA WORK PROCEDURES

Whenever any Extra Work is performed by the Contractor on a basis other than on a lump sum basis, the Contractor shall, as a condition precedent to payment for such work, furnish to the Director or her authorized representative at the end of each day daily time slips showing (a) the name and employee number of each person employed thereon, and the number of hours in each day during which they performed Extra Work; (b) a brief description of the nature of the work performed and a list of material and equipment used and the Port Authority authorized representative who approved the Extra Work. Item (b) shall be supplemented by the Contractor at a later date with a statement indicating from whom materials were purchased and the amount paid therefor. Such daily time slips are for the purpose of enabling the Director or her authorized representatives to determine the accuracy of the amounts claimed by the Contractor.

8. PERFORMANCE OF EXTRA WORK

The provisions of this Contract relating generally to the Work shall apply without exception to any Extra Work required and to the performance thereof, except to the extent that a written order in connection with any particular item of Extra Work may expressly provide otherwise.

9. PAYMENTS

Subject to the provisions of this Contract, the Port Authority agrees to pay to the Contractor and the Contractor agrees to accept from the Port Authority as full and complete

consideration for the performance of all its obligations under this Contract and as sole compensation for the Services performed by the Contractor hereunder, a compensation calculated from the services performed and the respective unit prices inserted by the Contractor in the Cost Proposal Form in Attachment D, accepted by the Port Authority, forming a part of this Contract.

The manner of submission of all bills for payment to the Contractor by the Authority for Services rendered under this Contract shall be subject to the approval of the Contract Manager in all respects, including, but not limited to, format, breakdown of items presented and verifying records. All computations made by the Contractor and all billing and billing procedures shall be done in conformance with the following procedures:

A. Payment shall be made in accordance with the prices for the applicable service as they appear on Attachment D entitled "Cost Proposal", accepted by the Port Authority, as same may have been adjusted hereunder minus any deductions for services not performed and/or any applicable liquidated damages. All Services must be completed within the time frames specified or as designated by the Contract Manager. Contractor shall submit to the Contract Manager by the fifth day of the month following the quarter of commencement of this Contract and on or by the fifth day following each quarter thereafter (including the month following the termination, revocation or expiration of this Contract) a complete and correct invoice for the Services performed during the preceding calendar quarter, accompanied by such information as may be required by the Contract Manager for verification. The invoice must show the Contractor's Federal Tax Identification Number. Payment will be made within thirty (30) days of Authority verification of the invoice. Each quarterly billing shall be ¼ of the annual amount for services under this Contract, except for the hardware units (Noise Monitoring Terminals and associated hardware and computer hardware as specified in Attachment C, Scope of Work). Payment for hardware will be made within thirty (30) days after operational acceptance of each hardware unit. No certificate, payment, acceptance of any Services or any other act or omission of any representative of the Authority shall operate to release the Contractor from any obligation under or upon this Contract, or to stop the Authority from showing at any time that such certificate, payment, acceptance, act or omission was incorrect or to preclude the Authority from recovering any monies paid in excess of those lawfully due and any damage sustained by the Authority.

B. In the event an audit of received invoices should indicate that the correct sum due the Contractor for the relevant billing period is less than the amount actually paid by the Authority, the Contractor shall pay to the Authority the difference promptly upon receipt of the Authority's statement thereof. The Authority may, however, in its discretion elect to deduct said sum or sums from any subsequent payments payable to the Contractor hereunder.

"Final Payment", as the term is used throughout this Contract, shall mean the final payment made for services rendered in the last month of the Contract Term. However should this Contract be terminated for any reason prior to the last month of the Contract Term, then Final Payment shall be the payment made for services rendered in the month during which such termination becomes effective. The Contractor's acceptance of any payment, including Final Payment, shall act as a full and complete release to the Authority of all claims of and of all liability to the Contractor for all things done or furnished in connection with this Contract

and for every act and neglect of the Authority and others relating to or arising out of this Contract, including claims arising out of breach of contract and claims based on claims of third persons. No payment, however, final or otherwise shall operate to release the Contractor from any obligations in connection with this Contract.

10. FINAL PAYMENT

After satisfactory completion of all services required hereunder, and upon receipt from the Contractor of such information as may be required, the Director shall certify in writing to the Contractor the total compensation earned by the Contractor. If so required, the Contractor shall thereupon furnish to the Authority a detailed sworn statement of all claims, just and unjust, of subcontractors, materialmen and other third persons then outstanding which he has reason to believe may thereafter be made on account of the services provided under this Contract. Within thirty (30) days after issuance of such certificate of total compensation earned (or within thirty days after receipt of the documents provided for in the immediately preceding paragraph, if required and if such date is later), the Port Authority shall pay to the Contractor by check the amount stated in said certificate, less all other payments and advances whatsoever to or for the account of the Contractor. All prior estimates and payments shall be subject to correction in this payment, which is throughout this Contract called the Final Payment. The acceptance by the Contractor, or by anyone claiming by or through him, of the Final Payment shall be and shall operate as a release to the Authority of all claims and of all liability to the Contractor for all things done or furnished in connection with this contract and for every act and neglect of the Authority and others relating to or arising out of this contract, including claims arising out of breach of the contract and claims based on claims of third persons.

The Contractor's agreement as provided in the immediately preceding paragraph shall be deemed to be based upon the consideration forming part of this Contract as a whole and not to be gratuitous; but in any event even if deemed gratuitous and without consideration, such agreement as provided in the immediately preceding paragraph shall nevertheless be effective. Such release shall include all claims, whether or not in litigation and even though still under consideration by the Authority. Such release shall be effective notwithstanding any purported reservation of right by the Contractor to preserve such claim. The acceptance of any check designated as "Final Payment" or bearing any similar designation shall be conclusively presumed to demonstrate the intent of the Contractor that such payment was intended to be accepted as final, with the consequences provided in this numbered clause, notwithstanding any purported reservation of rights.

The Contractor agrees that he shall not be entitled to, and hereby waives any right he might otherwise have to, and shall not seek any judgment whether under this Contract or otherwise for any such Final Payment or for an amount equivalent thereto or based thereon, or for any part thereof, if such judgment would have the effect of varying, setting aside, disregarding or making inapplicable the terms of this numbered clause or have the effect in any way of entitling the Contractor to accept such Final Payment or an amount equivalent thereto or based thereon or any part thereof other than in the same fashion as a voluntary acceptance of a Final Payment subject to all the terms of this Contract including this numbered clause, unless and until the Contractor should obtain a judgment on any claim arising out of or in connection with this Contract (including a claim based on breach of contract) for an amount not included in said Final Payment.

11. LIQUIDATED DAMAGES

The Contractor's obligations for the performance and completion of the Work within the time or times provided for in this Contract are of the essence of this Contract. In the event the Contractor fails to satisfactorily perform all or part of the Work required hereunder in accordance with the requirements set forth in the Scope of Work (as the same may be modified in accordance with the provisions set forth elsewhere herein) then, inasmuch as the damage and loss to the Port Authority for such failure to perform includes items of loss whose amount will be incapable or very difficult of accurate estimation, the damages for such failure to perform shall be liquidated as stated below unless delay is not due to the fault of the Contractor. Under the following paragraph A that detail conditions in which liquidated damages may be imposed, the amounts listed below to each occurrence that exceeds the specified time required or scope outlined in the Scope of Work.

A. If the Contractor fails to respond to reported malfunctions or repair reported malfunctions, as specified in Attachment C, Scope of Work, Section IX.C.1 entitled "On-Call Remedial Maintenance" as the same may, as hereinafter provided, be revised, within the time required herein, time being of the essence, damages shall be assessed in the amount of $250.00 dollars per day per noise monitoring terminal (NMT) site starting on the eighth (8th) business day after the original trouble ticket was submitted, and shall be deducted from the amount payable for that calendar quarter for the Maintenance Costs.

The Authority's Project Manager shall determine whether the Contractor has performed in a satisfactory manner and his/her determination shall be final, binding and conclusive upon the Contractor. Failure of the Authority's Project Manager or the Port Authority to impose liquidated damages shall not be deemed Port Authority acceptance of unsatisfactory performance or a failure to perform on the part of the Contractor.

Nothing contained in this Section nor the exercise of any right by the Port Authority hereunder shall be deemed to be a waiver or relinquishment by the Port Authority of any other right it may have hereunder including any right to terminate this agreement based on the Contractor's breach at Law or in equity.

12. COMPENSATION FOR SUPPLEMENTAL WORK

The Authority may direct the Contractor to perform Supplemental Work, as defined in the Attachment C, Scope of Work, Section IX. E. Supplemental Work, during the performance of the Contract. If such work is required and not due to a fault on the Contractor's part or on the part of others performing on behalf of the Contractor and if solely as a result thereof, the Contractor incurs additional costs in the performance of its obligations hereunder, the Contractor may request compensation for performing the Supplemental Work in addition to the compensation provided elsewhere herein.

If, as a result of any changes in or additions to the products or services the Authority directs the Contractor to make to the system or service, the costs of performance of its obligations

hereunder are decreased, the parties shall agree to make such adjustments by way of reduction in the compensation to be provided.

In response to the Authority's Directive, the Contract Manager shall submit a written proposal that describes the Supplemental Work to be performed, contain a detailed breakdown of the labor involved by labor category, a firm lump sum price and a proposed schedule for the Work. The work expended to prepare proposals for Supplemental Work is not a reimbursable expense. Unit labor costs submitted in each proposal for Supplemental Work shall not exceed the Unit Cost for each category of labor itemized in the Attachment B, Part II: Cost Proposal Form, Tables 5 and 6 for Unit Costs for Supplemental Work accepted by the Port Authority. Prior to performance of any Supplemental Work, the Authority's Project Manager shall approve any such Work in writing prior to execution.

The provisions of this Contract relating generally to the Work shall apply without exception to any Supplemental Work required and to the performance thereof. Moreover, the provisions of the Contract relating generally to the Work and its performance shall also apply to any Supplemental Work required and to the performance thereof, except to the extent that a written order in connection with any particular item of Supplemental Work may expressly provide otherwise.

13. LIMITATION ON USE OF INFORMATION AND COMPETITION

(a) The Contractor understands and acknowledges that the Contractor will have access to data and information concerning aeronautical, airline and other transportation activity and business at the Airport. It is of the utmost importance to the Port Authority and of the essence of the Contractor's obligations hereunder that any such information available to the Contractor not be used by the Contractor or made available to others by the Contractor for any purpose or reason whatsoever other than to operate and provide the SMS Services under this Contract, except as required by law or approved or directed by the Port Authority. The Contractor further acknowledges and agrees that all such data and information shall be the sole and exclusive property of the Port Authority.

(b) During the term of this Contract, the Contractor shall not be or own or operate directly or indirectly or have any interest in, financial or otherwise, nor shall its executive management include individuals having or having had such interest in, any Firm, or any other entity including but not limited to, airlines, air cargo operators, airports, hotels, motels, restaurants or other related service industry operations which, in the opinion of the Port Authority, would create a conflict of interest or give the appearance of a conflict of interest.

14. SUBCONTRACTORS

All subcontractors as may be consented to and approved by the Port Authority in writing who provide personnel to the Contractor for work under this Contract shall be given written notice by the Contractor to comply with all requirements of the Contract. The Contractor shall be responsible and liable for the performance and acts of each subcontractor.

15. NON-PERFORMANCE OF SERVICES

(a) All assigned Contractor personnel shall perform duties as shall be established from time to time by the Contact Manager. The Contractor shall immediately, upon the direction of the Airport Manager, correct all matters, which shall have been determined to be unsatisfactory hereunder.

(b) The Contractor shall conduct all operations hereunder in an orderly and proper manner and so as not to annoy, disturb or be offensive to others at the Airport. The Port Authority shall have the right to object to the Contractor regarding the demeanor and conduct of the Contractor's employees, invitees and those doing business with it, whereupon the Contractor will take steps necessary to remove the cause of the objection.

16. INTELLECTUAL PROPERTY

A. Except as provided below: as between the Port Authority and the Contractor all process flows, codes including, but not limited to machine code, scripts, programs, routines, processes, procedures, documentation, estimates, reports, records, data, charts, documents, models, designs, renderings, drawings, specifications, photographs, computations, computer tapes or discs, and other documentation of any type whatsoever, whether electronic or in the form of writing, figures or delineations, which are prepared or compiled in connection with this Contract, shall become the exclusive property of the Authority, and the Authority shall have the exclusive right to use or permit the use of them and any ideas or methods represented by them for any purpose and at any time without other compensation than that specifically provided for herein. With regard to training manuals or any other knowledge transfer documentation, communication or presentation prepared under this Contract the Authority shall expressly have the right to use, alter and reproduce including electronically, said manuals for its internal business purposes. The Contractor hereby warrants and represents that the Authority will have at all times the ownership and rights provided for in the immediately preceding sentence free and clear of all claims of third persons whether presently existing or arising in the future and whether presently known to either of the parties to this Contract or not. Any information given to the Port Authority before, with or after submission of the Agreement on Terms of Discussion, either orally or in writing, is not given in confidence and may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever except as otherwise set forth in the Agreement On Terms Of Discussion.

B. All preexisting information or documentation including computer programs or code including source code, of the Contractor, utilized by the Contractor hereunder in the performance of his services hereunder shall be deemed licensed to the Authority for the duration and purposes of this Contract, but shall remain the property of the Contractor.

C. When in the performance of the Contract the Contractor utilizes passwords or codes for any purpose, the Contractor, upon written request by the Authority, made at any time during or after the performance of such services, shall promptly make available to the designated Authority representative all such passwords and codes.

D. Third party software not specially prepared for the purpose of this contract but utilized by the Contractor hereunder in the performance of his services hereunder shall be licensed to the Contractor and the Authority for the duration and purposes of this contract but shall remain the property of said third party.

E. The above-described software shall be furnished by the Contractor without additional compensation.

17. PROPRIETARY RIGHTS IN SUBJECT MATTER NOT WITHIN THE INTELLECTUAL PROPERTY CLAUSE

If in accordance with this Contract the Contractor furnishes research, development or consultative services in connection with the performance of the Work and if in the course of such research, development, or consultation patentable or copyrightable subject matter or trade secrets or other proprietary matter is produced by the Contractor, its officers, agents, employees, subcontractors, or suppliers, not custom software, and not covered under the clause hereof entitled "Intellectual Property", the Authority shall have, without cost or expense to it, an irrevocable, non-exclusive, royalty-free license to make, have made, and use, either itself or by anyone on its behalf, such subject matter in connection with any activity now or hereafter engaged in or permitted by the Authority. Promptly upon request by the Authority, the Contractor shall furnish or obtain from the appropriate person a form of license satisfactory to the Authority, but it is expressly understood and agreed that as between the Contractor and the Authority the license herein provided for shall nevertheless arise for the benefit of the Authority immediately upon the production of said subject matter and shall not await formal exemplification in a written license agreement as provided for above. Such license may be transferred by the Authority to its successors, immediate or otherwise, in the operations of or ownership of any facility now or hereafter operated by the Authority but such license shall not be otherwise transferable.

The right of the Authority as well as the Contractor to use all patented material, compositions of matter, manufactures, apparatus, appliances, processes of manufacture or types of construction as well as any copyrightable matter, trade secrets or other proprietary matters, shall be obtained by the Contractor without separate or additional compensation whether the same is patented or copyrighted before, during or after the performance of the Work.

18. INDEMNITY IN REGARD TO INFRINGEMENT MATTER

The Contractor shall indemnify the Authority against and save it harmless from all loss and expense incurred in the defense, settlement or satisfaction of any claims in the nature of patent, copyright, or other proprietary rights infringement arising out of or in connection with the Authority's use, in accordance with the two immediately preceding clauses of any matter protected as intellectual property. If requested by the Authority and if notified promptly in writing of any such claims, the Contractor shall conduct all negotiations with respect to and defend such claim without expense to the Authority. If the Authority be enjoined from using any of the facilities which form the subject matter of this Contract, and as to which the Contractor is to indemnify the Authority against proprietary rights claims, the Authority may, at its option and without thereby limiting any other right it may have hereunder or at law or in equity, require the Contractor to supply, temporarily or permanently, facilities not subject to such injunction and not infringing any proprietary rights and if the Contractor shall fail to

do so, the Contractor shall, at its expense, remove all such facilities and refund the cost thereof to the Authority and otherwise equitably adjust compensation and take such steps as may be necessary to ensure compliance by the Authority with such injunction, to the satisfaction of the Authority.

The Contractor shall promptly and fully inform the Director of any claims or disputes for infringement or otherwise, whether existing or potential, of which it has knowledge relating to any Intellectual Property used, developed or licensed in connection with the performance of the Work or otherwise in connection with this Contract.

If so directed, the Contractor shall at its own expense defend any suit based upon any claim or demand, even if such suit, claim or demand is groundless, false or fraudulent, and in handling such shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provision of any statutes respecting suits against the Port Authority.

19. TIME IS OF THE ESSENCE

The Contractor's obligations for the performance and completion of all work within the time or times provided for in this Contract are of the essence of this Contract.

20. DEFAULT, REVOCATION OR SUSPENSION OF CONTRACT

A. If one or more of the following events shall occur:

1. Fire or other event which destroys all or a substantial part of the Facility, asset or infrastructure necessary to perform the Scope of Work;
2. Any governmental agency shall condemn or take a temporary or permanent interest in all or a substantial part of the Facility, or all of a part of the Port Authority's interest herein;

then upon the occurrence of such event or at any time thereafter during the continuance thereof, the Port Authority shall have the right on twenty-four (24) hours written notice to the Contractor to revoke this Contract, such revocation to be effective upon the date and time specified in such notice.

In such event this Contract shall cease and expire on the effective date of revocation as if said date were the date of the expiration of this Contract. Such revocation shall not, however, relieve the Contractor of any liabilities or obligations hereunder which shall have accrued on or prior to the effective date of revocation.

B. If one or more of the following events shall occur:

1. The Contractor shall become insolvent, or shall take the benefit of any present or future insolvency statute, or shall make a general assignment for the benefit of creditors, or file a voluntary petition in bankruptcy or a petition or answer seeking an arrangement or its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any other law or statute of the United States or of any State thereof, or consent to the appointment of a receiver, trustee, or liquidator of

all or substantially all its property; or

2. By order or decree of a court the Contractor shall be adjudged bankrupt or an order shall be made approving a petition filed by any of the creditors, or, if the Contractor is a corporation, by any of the stockholders of the Contractor, seeking its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any law or statute of the United States or of any State thereof; or

3. A petition under any part of the federal bankruptcy laws or an action under any present or future insolvency law or statute shall be filed against the Contractor and shall not be dismissed within thirty (30) days after the filing thereof; or

4. The interest of the Contractor under this Contract shall be transferred to, passed to or devolve upon, by operation of law or otherwise, any other person, firm or corporation; or

5. The Contractor, if a corporation, shall, without the prior written approval of the Port Authority, become a surviving or merged corporation in a merger, a constituent corporation in a consolidation, or a corporation in dissolution; or

6. If the Contractor is a partnership, joint-venture, or similar arrangement (referred to herein for convenience as the "partnership"), and the said partnership shall be dissolved as the result of any act or omission of its copartners or any of them, or by operation of law or the order or decree of any court having jurisdiction, or for any other reason whatsoever; or

7. By or pursuant to, or under authority of any legislative act, resolution or rule, or any order or decree of any court or governmental board, agency or officer having jurisdiction, a receiver, trustee, or liquidator shall take possession or control of all or substantially all of the property of the Contractor and such possession or control of all or substantially all of the property of the Contractor and shall continue in effect for a period of fifteen (15) days;

then upon the occurrence of any such event or at any time thereafter during the continuance thereof, the Port Authority shall have the right upon five (5) days notice to the Contractor to terminate this Contract and the rights of the Contractor hereunder; termination to be effective upon the date and time specified in such notice as if said date were the date of the expiration of this Contract. Termination shall not relieve the Contractor of any liabilities or obligations hereunder which have accrued on or prior to the effective date of termination.

C. If any of the following shall occur:

1. The Contractor shall cease, abandon any part of the service, desert, stop or discontinue its services in the premises for any reason whatsoever and regardless of the fault of the Contractor; or

2. The Contractor shall fail to keep, perform and observe each and every other promise, covenant and agreement set forth in this Contract on its part to be kept, performed or observed, within five (5) days after receipt of notice of default thereunder from the Port Authority (except where fulfillment of its obligations requires activity over a greater period of time, and the Contractor shall have commenced to perform whatever

may be required for fulfillment within five (5) days after receipt of notice and continues such performance without interruption except for causes beyond its control);

then upon the occurrence of any such event or during the continuance thereof, the Port Authority shall have the right on twenty four (24) hours notice to the Contractor to terminate this Contract and the rights of the Contractor hereunder, termination to be effective upon the date and time specified in such notice. Termination shall not relieve the Contractor of any liabilities, which shall have accrued on or prior to the effective date of termination.

D. If any of the events enumerated in this Section shall occur prior to commencement date of this Contract the Port Authority upon the occurrence of any such event or any time thereafter during the continuance thereof by twenty-four (24) hours notice may terminate or suspend this Contract and the rights of the Contractor hereunder, such termination or suspension to be effective upon the date specified in such notice.

E. No payment by the Port Authority of any monies to the Contractor for any period or periods after default of any of the terms, covenants or conditions hereof to be performed, kept and observed by the Contractor and no act or thing done or omitted to be done by the Port Authority shall be deemed to be a waiver of the right of the Port Authority to terminate this Contract or of any other right or remedies to which the Port Authority may be entitled because of any breach thereof. No waiver by the Port Authority of any default on the part of the Contractor in the performance of any of the terms, covenants and conditions hereof to be performed, kept or observed by the Contractor shall be or be construed to be a waiver by the Port Authority of any other subsequent default in the performance of any of the said terms, covenants and conditions.

F. In addition to all other rights of revocation or termination hereunder and notwithstanding any other provision of this Contract the Port Authority may terminate this Contract and the rights of the Contractor hereunder without cause at any time upon five (5) days written notice to the Contractor and in such event this Contract shall cease and expire on the date set forth in the notice of termination as fully and completely as though such dates were the original expiration date hereof and if such effective date of termination is other than the last day of the month, the amount of the compensation due to the Contractor from the Port Authority shall be prorated when applicable on a daily basis. Such cancellation shall be without prejudice to the rights and obligations of the parties arising out of portions already performed but no allowance shall be made for anticipated profits.

G. Any right of termination contained in this paragraph, shall be in addition to and not in lieu of any and all rights and remedies that the Port Authority shall have at law or in equity consequent upon the Contractor's breach of this Contract and shall be without prejudice to any and all such other rights and remedies. It is hereby specifically agreed and understood that the exercise by the Port Authority of any right of termination set forth in this paragraph shall not be or be deemed to be an exercise by the Port Authority of an election of remedies so as to preclude the Port Authority from any right to money damages it may have for the period prior to the effective date of termination to the original expiration date of the Contract, and this provision shall be deemed to survive the termination of this Contract as aforesaid.

H. If (1) the Contractor fails to perform any of its obligations under this Contract or any other contract between the Port Authority and the Contractor (including its obligation to the Port Authority to pay any claim lawfully made against it by any supplier, subcontractor or worker or other person which arises out of or in connection with the performance of this Contract or any other contract with the Port Authority) or (2) any claim (just or unjust) which arises out of or in connection with this Contract or any other contract between the Port Authority and the Contractor is made against the Port Authority or (3) any subcontractor under this Contract or any other contract between the Port Authority and the Contractor fails to pay any claims lawfully made against it by any supplier, subcontractor, worker or other third person which arises out of or in connection with this Contract or any other contract between the Port Authority and the Contractor or if in the opinion of the Port Authority any of the aforesaid contingencies is likely to arise, then the Port Authority shall have the right, in its discretion, to withhold out of any payment (final or otherwise) such sums as the Port Authority may deem ample to protect it against delay or loss or to assure the payment of just claims of third persons, and to apply such sums in such manner as the Port Authority may deem proper to secure such protection or satisfy such claims. All sums so applied shall be deducted from the Contractor's compensation. Omission by the Port Authority to withhold out of any payment, final or otherwise, a sum for any of the above contingencies, even though such contingency has occurred at the time of such payment, shall not be deemed to indicate that the Port Authority does not intend to exercise its right with respect to such contingency. Neither the above provisions for rights of the Port Authority to withhold and apply monies nor any exercise or attempted exercise of, or omission to exercise, such rights by the Port Authority shall create any obligation of any kind to such supplier, subcontractors, worker or other third persons. If, however, the payment of any amount due the Contractor shall be improperly delayed, the Port Authority shall pay the Contractor interest thereon at the rate of 6% per annum for the period of the delay, it being agreed that such interest shall be in lieu of and in liquidation of any damages to the Contractor because of such delay.

I. If the Port Authority has paid any sum or has incurred any obligation or expense which the Contractor has agreed to pay or reimburse the Port Authority, or if the Port Authority is required or elects to pay any sum or sums or incurs any obligations or expense by reason of the failure, neglect or refusal of the Contractor to perform or fulfill any one or more of the conditions, covenants, or agreements contained in this Contract, or as a result of an act of omission of the Contractor contrary to the said conditions, covenants and agreements, the Contractor shall pay to the Port Authority the sum or sums so paid or expense so incurred, including all interests, costs and damages, promptly upon the receipt of the Port Authority's statement therefore. The Port Authority may, however, in its discretion, elect to deduct said sum or sums from any payment payable by it to the Contractor.

J. If the Port Authority pays any installment to the Contractor without reducing said installment as provided in this Contract, it may reduce any succeeding installment by the proper amount, or it may bill the Contractor for the amount by which the installment paid should have been reduced and the Contractor shall pay to the Port Authority any such amount promptly upon receipt of the Port Authority's statement therefore.

K. Until actual payment to the Contractor, its right to any amount to be paid under this Contract (even though such amount has already been certified as due) shall be subordinate to the rights of the Authority under this clause.

L. The Port Authority shall also have the rights set forth above in the event the Contractor shall become insolvent or bankrupt or if his affairs are placed in the hands of a receiver, trustee or assignee for the benefit of creditors.

21. CONTRACTOR PERSONNEL STANDARDS OF PERFORMANCE

The Contractor shall furnish sufficiently trained management, supervisory, technical and operating personnel to perform the services required of the Contractor under this Contract. If, in the opinion of the Director, any of the Contractor's personnel are not satisfactory in the performance of services to be furnished hereunder, the Contractor shall remove such personnel and replace them with personnel satisfactory to the Director.

At the time the Contractor is carrying out its operations there may be other persons working physically in the vicinity or in the same logical or technical infrastructure. The Contractor shall so conduct its operations as to work in harmony and not endanger, interfere with or delay the operations of others, all to the best interests of The Authority and others and as may be directed by the Director.

22. HIGH SECURITY AREAS

A. Services under the Contract may be required in high security areas, as the same may be designated by the Manager from time to time. The Port Authority shall require the observance of certain security procedures with respect to the high security areas, which may include the escort to, at, and/or from said high security areas by security personnel designated by the Contractor or any subcontractor's personnel required to work therein.

B. Twenty-four hours prior to the proposed performance of any work in a high security area, the Contractor shall notify the Manager. The Contractor shall conform to the procedures as may be established by the Manager from time to time and at any time for access to high security areas and the escorting of personnel hereunder. Prior to the start of work, the Contractor shall request a description from the Manager of the high security areas which will be in effect on the commencement date. The description of high security areas may be changed from time to time and at any time by the Manager during the term of the Contract.

23. NOTIFICATION OF SECURITY REQUIREMENTS

The Authority has the responsibility of ensuring safe, reliable and secure transportation facilities, systems, and projects to maintain the well-being and economic competitiveness of the region. Therefore, the Authority reserves the right to deny access to certain documents, sensitive security construction sites and facilities (including rental spaces) to any person that declines to abide by Port Authority security procedures and protocols, any person with a criminal record with respect to certain crimes or who may otherwise poses a threat to the construction site or facility security. The Authority reserves the right to impose multiple layers of security requirements on the Contractor, its staff and subcontractors and their staffs

depending upon the level of security required, or may make any amendments with respect to such requirements as determined by the Authority.

These security requirements may include but are not limited to the following:

- Contractor/ Subcontractor identity checks and background screening

  The Port Authority's designated background screening provider may require inspection of not less than two forms of valid/current government issued identification (at least one having an official photograph) to verify staff's name and residence; screening federal, state, and/or local criminal justice agency information databases and files; screening of any terrorist identification files; access identification to include some form of biometric security methodology such as fingerprint, facial or iris scanning, or the like.

  The Contractor may be required to have its staff, and any subcontractor's staff, material-men, visitors or others over whom the Contractor/subcontractor has control, authorize the Authority or its designee to perform background checks, and a personal identity verification check. Such authorization shall be in a form acceptable to the Authority. The Contractor and subcontractors may also be required to use an organization designated by the Authority to perform the background checks.

  As of January 29, 2007, the Secure Worker Access Consortium (S.W.A.C.) is the only Port Authority approved provider to be used to conduct background screening and personal identity verification, except as otherwise required by federal law and/or regulation (such as the Transportation Worker Identification Credential for personnel performing in secure areas at Maritime facilities). Information about S.W.A.C., instructions, corporate enrollment, online applications, and location of processing centers can be found at http://www.secureworker.com, or S.W.A.C. may be contacted directly at (877) 522-7922 for more information and the latest pricing. The cost for said background checks for staff that pass and are granted a credential shall be reimbursable to the Contractor (and its subcontractors) as an out-of-pocket expense as provided herein. Staff that are rejected for a credential for any reason are not reimbursable.

- Issuance of Photo Identification Credential

  No person will be permitted on or about the Authority construction site or facility (including rental spaces) without a facility-specific photo identification credential approved by the Authority. If the authority requires facility-specific identification credential for the Contractor's and the subcontractor's staff, the Authority will supply such identification at no cost to the Contractor or its subcontractors. Such facility-specific identification credential shall remain the property of the Authority and shall be returned to the Authority at the completion or upon request prior to completion of the individual's assignment at the specific facility. It is the responsibility of the appropriate Contractor or subcontractor to immediately report to the Authority the loss of any staff member's individual facility-specific identification credential. The Contractor or subcontractor shall be billed for the cost of the replacement identification credential. Contractor's and subcontractor's staff shall display Identification badges in a conspicuous and clearly visible manner, when entering, working or leaving an Authority construction site or facility.

- Employees may be required to produce not less than two forms of valid/current government issued identification having an official photograph and an original, unlaminated social security card for identify and SSN verification. Where applicable, for sensitive security construction sites or facilities, successful completion of the application, screening and identity verification for all employees of the Contractor and subcontractors shall be completed prior to being provided a S.W.A.C. ID Photo Identification credential.
- Access control, inspection, and monitoring by security guards

  The Authority may provide for Authority construction site or facility (including rental spaces) access control, inspection and monitoring by Port Authority Police or Authority retained contractor security guards. However, this provision shall not relieve the Contractor of its responsibility to secure its equipment and work and that of its subconsultant/subcontractor's and service suppliers at the Authority construction site or facility (including rental spaces). In addition, the Contractor, subcontractor or service provider is not permitted to take photographs, digital images, electronic copying and/or electronic transmission or video recordings or make sketches on any other medium at the Authority construction sites or facilities (including rental spaces), except when necessary to perform the Work under this Contract, without prior written permission from the Authority. Upon request, any photograph, digital images, video recording or sketches made of the Authority construction site or facility shall be submitted to the Authority to determine compliance with this paragraph, which submission shall be conclusive and binding on the submitting entity.

24. INSURANCE PROCURED BY THE CONTRACTOR

The Contractor shall take out, maintain, and pay the premiums on Commercial General Liability Insurance, including but not limited to premises-operations, products-completed operations, and independent contractors coverage, with a contractual liability endorsement covering the obligations assumed by the Contractor under this Contract, AND, if vehicles are to be used to carry out the performance of this Contract, then the Contractor shall also take out, maintain, and pay the premiums on Automobile Liability Insurance covering owned, non-owned, and hired autos in the following minimum limits:

Commercial General Liability Insurance - $ 2 million combined single limit per occurrence for bodily injury and property damage liability.

Automobile Liability Insurance - $ 2 million combined single limit per accident for bodily injury and property damage liability.

In addition, the liability policy (ies) shall name The Port Authority of NY and NJ and its related entities as additional insureds, including but not limited to premise-operations, products-completed operations on the Commercial General Liability Policy. Moreover, the Commercial General Liability Policy shall not contain any provisions for exclusions from liability other than provisions for exclusion from liability forming part of the most up to date ISO form or its equivalent unendorsed Commercial General Liability Policy. The liability policy (ies) and certificate of insurance shall contain cross-liability language providing severability of interests so that coverage will respond as if separate policies were in force for

each insured. These insurance requirements shall be in effect for the duration of the contract to include any warrantee/guarantee period.

The certificate of insurance and liability policy (ies) must contain the following endorsement for the above liability coverages:

"The insurer(s) shall not, without obtaining the express advance written permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the Tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority."

The Contractor shall also take out, maintain, and pay premiums on Workers' Compensation Insurance in accordance with the requirements of law in the state(s) where work will take place, and Employer's Liability Insurance with limits of not less than
$1 million each accident.

In addition, the policy (ies) shall include the Authority and its wholly owned entities as an additional insured and the policy (ies) and its certificate must be specifically endorsed to contain a provision that the policy may not be canceled, terminated, or modified without thirty (30) days' prior written notice to the Port Authority of NY and NJ, Attn: Facility Contract Administrator, at the location where the work will take place and to the General Manager, Risk Financing.

The Port Authority may at any time during the term of this agreement change or modify the limits and coverages of insurance. Should the modification or change results in an additional premium, The General Manager, Risk Financing for the Port Authority may consider such cost as an out-of-pocket expense.

Within five (5) days after the award of this agreement or contract and prior to the start of work, the Contractor must submit an original certificate of insurance, to the Port Authority of NY and NJ, Facility Contract Administrator, at the location where the work will take place. This certificate of insurance MUST show evidence of the above insurance policy (ies), stating the agreement/contract number prior to the start of work. The General Manager, Risk Financing must approve the certificate(s) of insurance before any work can begin. Upon request by the Port Authority, the Contractor shall furnish to the General Manager, Risk Financing, a certified copy of each policy, including the premiums.

If at any time the above liability insurance should be canceled, terminated, or modified so that the insurance is not in effect as above required, then, if the Manager shall so direct, the Contractor shall suspend performance of the contract at the premises. If the contract is so suspended, no extension of time shall be due on account thereof. If the contract is not suspended (whether or not because of omission of the Manager to order suspension), then the Authority may, at its option, obtain insurance affording coverage equal to the above required, the cost of such insurance to be payable by the Contractor to the Port Authority.

Renewal certificates of insurance or policies shall be delivered to the Facility Contract Administrator, Port Authority at least fifteen (15) days prior to the expiration date of each expiring policy. The General Manager, Risk Financing must approve the renewal certificate(s) of insurance before work can resume on the facility. If at any time any of the certificates or policies shall become unsatisfactory to the Port Authority, the Contractor shall promptly obtain a new and satisfactory certificate and policy.

The requirements for insurance procured by the Contractor shall not in any way be construed as a limitation on the nature or extent of the contractual obligations assumed by the Contractor under this contract. The insurance requirements are not a representation by the Authority as to the adequacy of the insurance to protect the Contractor against the obligations imposed on them by law or by this or any other Contract. [CITS#4076N]

25. CERTAIN CONTRACTOR'S WARRANTIES

The Contractor represents and warrants:

a. That it is financially responsible and experienced in, and competent to perform this Contract; that no representation, promise or statement, oral or in writing, has induced it to submit its Proposal, saving only those contained in the papers expressly made part of this Contract; that the facts stated or shown in any papers submitted or referred to in connection with his Proposal are true; and, if the Contractor be a corporation, that it is authorized to perform this Contract;

b. That it has carefully examined and analyzed the provisions and requirements of this Contract, that from its own investigations it has satisfied itself as to the nature of all things needed for the performance of this Contract, the general and local conditions and all other matters which in any way affect this Contract or its performance, and that the time available to it for such examination, analysis, inspection and investigations was adequate;

c. That the Contract is feasible of performance in accordance with all its provisions and requirements and that it can and will perform it in strict accordance with such provisions and requirements;

d. That no Commissioner, officer, agent or employee of the Authority is personally interested directly or indirectly in this Contract or the compensation to be paid hereunder;

e. That, except only for those representations, statements or promises expressly contained in this Contract, no representation, statement or promise, oral or in writing, of any kind whatsoever by the Authority, its Commissioners, officers, agents, employees or consultants has induced the Contractor to enter into this Contract or has been relied upon by the Contractor, including any with reference to: (1) the meaning, correctness, suitability or completeness of any provisions or requirements of this Contract; (2) the nature, existence or location of materials, structures, obstructions, utilities or conditions, which may be encountered at the installation sites; (3) the nature, quantity, quality or size of the materials, equipment, labor and other facilities needed for the performance of this Contract; (4) the general or local conditions which may in any way affect this Contract or its performance; (5) the price of the Contract; or (6) any other matters, whether similar to or different from those referred to in (1) through (5) immediately above, affecting or

having any connection with this Contract, the bidding thereon, any discussions thereof, the performance thereof or those employed therein or connected or concerned therewith.

f. That, notwithstanding any requirements of this Contract, any inspection or approval of the Contractor's services by the Authority, or the existence of any patent or trade name, the Contractor nevertheless warrants and represents that the services and any intellectual property supplied to the Authority hereunder shall be of the best quality and shall be fully fit for the purpose for which they are to be used. The Contractor unconditionally guarantees against defects or failures of any kind, including defects or failures in design, workmanship and materials, excepting solely defects or failures which the Contractor demonstrates to the satisfaction of the Authority have arisen solely from accident, abuse or fault of the Authority occurring after issuance of Final Payment hereunder and not due to fault on the Contractor's part. In the event of defects or failures in said services, or any part thereof, then upon receipt of notice thereof from the Authority, the Contractor shall correct such defects or failures as may be necessary or desirable, in the sole opinion of the Authority, to comply with the above guaranty.

g. Moreover, the Contractor accepts the conditions at the sites of work as they may eventually be found to exist and warrants and represents that it can and will perform the Contract under such conditions and that all materials, equipment, labor and other facilities required because of any unforeseen conditions (physical or otherwise) shall be wholly at its own cost and expense, anything in this Contract to the contrary notwithstanding. The Authority is responsible for all facility power.

h. Nothing in the Scope of Work or any other part of the Contract is intended as or shall constitute a representation by the Authority as to the feasibility of performance of this Contract or any part thereof. Moreover, the Authority does not warrant or represent either by issuance of the Scope of Work or by any provision of this Contract as to time for performance or completion or otherwise that the Contract may be performed or completed by the times required herein or by any other times.

i. The Contractor further represents and warrants that it was given ample opportunity and time and by means of this paragraph was requested by the Authority to review thoroughly all documents forming this Contract prior to execution of this Contract in order that it might request inclusion in this Contract of any statement, representation, promise or provision which it desired or on which it wished to place reliance; that it did so review said documents; that either every such statement, representation, promise or provision has been included in this Contract or else, if omitted, that it expressly relinquishes the benefit of any such omitted statement, representation, promise or provision and is willing to perform this Contract without claiming reliance thereon or making any other claim on account of such omission.

j. The Contractor further recognizes that the provisions of this clause (though not only such provisions) are essential to the Authority's consent to enter into this Contract and that without such provisions; the Authority would not have entered into this Contract.

26. RIGHTS AND REMEDIES OF THE CONTRACTOR

Inasmuch as the Contractor can be adequately compensated by money damages for any breach of this Contract which may be committed by the Authority, the Contractor expressly

agrees that no default, act or omission of the Authority shall constitute a material breach of this Contract, entitling him to cancel or rescind it or (unless the Director shall so direct) to suspend or abandon performance.

27. TAX EXEMPTIONS

Purchases of services and tangible personal property by the Port Authority are exempt from New York and New Jersey state and local sales and compensating use taxes. (Sales Taxes). Therefore, the Port Authority's purchase of the Contractor's services under this Contract is exempt from Sales Taxes. Accordingly, the Contractor must not include Sales Taxes in the price charged to the Port Authority for the Contractor's services under this Contract.

28. TITLE TO EQUIPMENT

Title to all equipment to be furnished hereunder by the Contractor shall be transferred to the Authority upon its delivery to the installation site.

The Contractor shall furnish such bills of sale and affidavits of title as the Authority shall reasonably request.

29. NOTICE REQUIREMENTS

No claim against the Authority shall be made or asserted in any action or proceeding at law or in equity, and the Contractor shall not be entitled to allowance of such claim, unless the Contractor shall have complied with all requirements relating to the giving of written notice and of information with respect to such claim as provided in this clause. The failure of the Contractor to give such written notice and information as to any claim shall be conclusively deemed to be a waiver by the Contractor of such claim, such written notice and information being conditions precedent to such claim. As used herein "claim" shall include any claim arising out of this Contract (including claims in the nature of breach of contract or fraud or misrepresentation before or subsequent to execution of this Contract and claims of a type which are barred by the provisions of this Contract) for damages, payment or compensation of any nature or for performance of any part of this Contract.

The requirements as to the giving of written notice and information with respect to claims shall be as follows:

A. In the case of any claims for which requirements are set forth elsewhere in this Contract as to notice and information, such requirements shall apply.

B. In the case of all other types of claims, notice shall have been given to the Director, as soon as practicable, and in any case within forty eight (48) hours after occurrence of the act, omission, or other circumstances upon which the claim is or will be based, stating as fully as practicable at the time all information relating thereto. Such information shall be supplemented with any further information as soon as practicable after it becomes or should become known to the Contractor, including daily records showing all costs which the Contractor may be incurring or all other circumstances which will affect any claim to be made which records shall be submitted to the Authority.

C. The above requirements for notices and information are for the purpose of enabling the Authority to avoid waste of public funds by affording it promptly the opportunity to cancel or revise any order, change its plans, mitigate or remedy the effects of

circumstances giving rise to a claim or take such other action as may seem desirable and to verify any claimed expense or circumstance as they occur and the requirements herein for such notice and information are essential to this Contract and are in addition to any notice required by statue with respect to suits against the Authority.

The above referred to notices and information are required whether or not the Authority is aware of the existence of any circumstances which might constitute a basis for a claim and whether or not the Authority has indicated it will consider a claim.

No, act, omission or statement of any kind shall be regarded as a waiver of any of the provisions of this clause or may be relied upon as such waiver except only either a written statement signed by the Executive Director of the Authority or a resolution of the Commissioners of the Authority expressly stating that a waiver is intended as to any particular provision of this clause, and more particularly, no discussion, negotiation, consideration, correspondence or requests for information with respect to a claim by any Commissioner, officer, employees or agent of the Authority shall be construed as a waiver of any provision of this clause or as authority or apparent authority to effect such a waiver.

Since merely oral notice or information may cause disputes as to the existence or substance thereof, and since notice, even if written, to other than the Authority representative above designated to receive it may not be sufficient to come to the attention of the representative of the Authority with the knowledge and responsibility of dealing with the situation, only notice and information complying with the express provisions of this clause shall be deemed to fulfill the Contractor's obligation under this Contract.

30. SERVICE OF NOTICES ON THE CONTRACTOR

Whenever provision is made in this Contract for the giving of any notice to the Contractor, its deposit in any post office box, enclosed in a postpaid wrapper addressed to the Contractor at its office, or its delivery to its office, shall be sufficient service thereof as of the date of such deposit or delivery, except to the extent, if any, otherwise provided in the clause entitled "Submission to Jurisdiction". Until further notice to the Authority the Contractor's office will be that stated in his/her Proposal. Notices may also be served personally upon the Contractor; or if a corporation, upon any officer, director or managing or general agent; or if a partnership upon any partner.

31. NO THIRD PARTY RIGHTS

Nothing contained in this Contract is intended for the benefit of third persons, except to the extent that the Contract specifically provides otherwise by use of the words "benefit" or "direct right of action".

32. INDEMNIFICATION AND RISKS ASSUMED BY THE CONTRACTOR

To the extent permitted by law, the Contractor shall indemnify and hold harmless the Port Authority, its Commissioners, officers, representatives and employees from and against all claims and demands, just or unjust, of third persons (including employees, officers, and agents of the Port Authority) arising out of or in any way connected or alleged to arise out of or alleged to be in any way connected with the Contract and all other services and activities of the Contractor under this Contract and for all expenses incurred by it and by them in the defense, settlement or satisfaction thereof, including without limitation thereto, claims and

demands for death, for personal injury or for property damage, direct or consequential, whether they arise from the acts or omissions of the Contractor, of the Port Authority, of third persons, or from the acts of God or the public enemy, or otherwise, including claims and demands of any local jurisdiction against the Port Authority in connection with this Contract.

The Contractor assumes the following risks, whether such risks arise from acts or omissions (negligent or not) of the Contractor, the Port Authority or third persons or from any other cause, excepting only risks occasioned solely by affirmative willful acts of the Port Authority done subsequent to the opening of proposals on this Contract, and shall to the extent permitted by law indemnify the Port Authority for all loss or damage incurred in connection with such risks:

The risk of any and all loss or damage to Port Authority property, equipment (including but not limited to automotive and/or mobile equipment), materials and possessions, on or off the premises, the loss or damage of which shall arise out of the Contractor's operations hereunder. The Contractor shall if so directed by the Port Authority, repair, replace or rebuild to the satisfaction of the Port Authority, any and all parts of the premises or the Facility which may be damaged or destroyed by the acts or omissions of the Contractor, its officers, agents, or employees and if the Contractor shall fail so to repair, replace, or rebuild with due diligence the Port Authority may, at its option, perform any of the foregoing work and the Contractor shall pay to the Port Authority the cost thereof.

The risk of any and all loss or damage of the Contractor's property, equipment (including but not limited to automotive and/or mobile equipment) materials and possessions on the Facility.

The risk of claim, whether made against the Contractor or the Port Authority, for any and all loss or damages occurring to any property, equipment (including but not limited to automotive and/or mobile equipment), materials and possessions of the Contractor's agents, employees, materialmen and others performing work hereunder.

The risk of claims for injuries, damage or loss of any kind just or unjust of third persons arising or alleged to arise out of the performance of work hereunder, whether such claims are made against the Contractor or the Port Authority.

If so directed, the Contractor shall at its own expense defend any suit based upon any such claim or demand, even if such suit, claim or demand is groundless, false or fraudulent, and in handling such shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provision of any statutes respecting suits against the Port Authority.

Neither the requirements of the Port Authority under this Contract, nor the approval by the Port Authority of the methods of performance hereunder nor the failure of the Port Authority to call attention to improper or inadequate methods or to require a change in the method of performance hereunder nor the failure of the Port Authority to direct the Contractor to take any particular precaution or other action or to refrain from doing any particular thing shall

relieve the Contractor of its liability for injuries to persons or damage to property or environmental impairment arising out of its operations.

The provisions of this numbered clause shall also be for the benefit of the Commissioners, officers, agents, and employees of the Authority, so that they shall have all the rights which they would have under this numbered clause if they were named at each place above at which the Authority is named, including a direct right of action against the Contractor to enforce the foregoing indemnity, except, however, that the Authority acting through its Commissioners may at any time in its sole discretion and without liability on its part cancel the benefit conferred on any of them by this numbered clause, whether or not the occasion for invoking such benefit has already arisen at the time of such cancellation.

Neither the Authority's acceptance of the performance by the Contractor in part or in whole, nor the making of a payment shall release the Contractor from its obligations under this numbered clause.

Moreover, neither the enumeration in this numbered clause nor the enumeration elsewhere in this Contract of particular risks assumed by the Contractor or of particular claims for which it is responsible shall be deemed (a) to limit the effect of the provisions of this numbered clause or of any other clause of this Contract relating to such risks or claims, (b) to imply that it assumes or is responsible for risks or claims only of the type enumerated in this numbered clause or in any other clause of this Contract, or (c) to limit the risks which it would assume or the claims for which it would be responsible in the absence of such enumerations.

33. SUBMISSION TO JURISDICTION

This Contract shall be construed in accordance with the laws of the State of New York. The Contractor hereby consents to the exercise by the courts of the States of New York and New Jersey of jurisdiction *in personam* over it with respect to any matter arising out of or in connection with this Contract and waives any objection to such jurisdiction which it might otherwise have; and the Contractor agrees that mailing of process by registered mail addressed to it at the address of the Contractor set forth in the Proposal, shall have the same effect as personal service within the States of New York or New Jersey upon a domestic corporation of said State.

34. AUTHORITY OF THE DIRECTOR

Inasmuch as the public interest requires that the project to which this Contract relates shall be performed in the manner which the Authority, acting through the Director deems best, the Director shall have absolute authority to determine what is or is not necessary or proper for or incidental thereto and the Specifications shall be deemed merely the Director's present determination on this point. In the exercise of this authority, the Director shall have power to alter the Specifications, to require the performance of Work not required by them in their present form, even though of a totally different character from that required, and to vary, increase and diminish the character, quantity and quality of, or to countermand any Work now or hereafter required. If at any time it shall be, from the viewpoint of the Authority, impracticable or undesirable in the judgment of the Director to proceed with or continue the performance of the Contract or any part thereof, whether or not for reasons beyond the control of the Authority, the Director shall have authority to suspend performance of any part or all of the Contract until such time as the Director may deem it practicable or desirable to

proceed. Moreover, if at any time it shall be, from the viewpoint of the Authority impracticable or undesirable in the judgment of the Director to proceed with or continue the performance of the Contract or any part thereof for reasons within or beyond the control of the Authority, the Director shall have authority to cancel this Contract as to any or all portions not yet performed and as to any materials not yet installed even though delivered. Such cancellation shall be without prejudice to the rights and obligations of the parties arising out of portions already satisfactorily performed, but no allowance shall be made for anticipated profits. To resolve all disputes and to prevent litigation, the parties to this Contract authorize the Director to decide all questions of any nature whatsoever arising out of, under, or in connection with, or in any way related to or on account of, this Contract (including claims in the nature of breach of contract or fraud or misrepresentation before or subsequent to acceptance of the Contractor's Proposal and claims of a type which are barred by the provisions of this Contract) and such decision shall be conclusive, final and binding on the parties. The Director's decision may be based on such assistance as he may find desirable. The effect of the decision shall not be impaired or waived by any negotiation or settlement offers in connection with the question decided, whether or not he participated therein, or by any prior decision of him or others, which prior decisions shall be deemed subject to review, or by any termination or cancellation of this Contract.

All such questions shall be submitted in writing by the Contractor to the Director for a decision together with all evidence and other pertinent information in regard to such questions, in order that a fair and impartial decision may be made. In any action against the Authority relating to any such question the Contractor must allege in the complaint and prove such submission, which shall be a condition precedent to any such action. No evidence or information shall be introduced or relied upon in such an action that has not been so presented to the Director.

In the performance of the Contract, the Contractor shall conform to all orders, directions and requirements of the Director and shall perform the Contract to his satisfaction at such times and places, by such methods and such manner and sequence as he may require, and the Contract shall at all stages be subject to his inspection. The Contractor shall employ no equipment, materials, methods or men to which he objects, and shall remove no materials, equipment or other facilities from the Authority site without permission. Upon request, he shall confirm in writing any oral order, direction, requirements or determination.

The enumeration herein or elsewhere of particular instances in which the opinion, judgment, discretion or determination of the Director shall control or in which the Contract shall be performed to his satisfaction or subject to his inspection, shall not imply that only the matters of a nature similar to those enumerated shall be so governed and performed, but without exception the entire Contract shall be so governed and performed.

This provision shall be construed in accordance with the laws of the State of New York excluding its conflict of law provisions.

35. APPROVALS BY THE DIRECTOR

The approval by the Director of any service required hereunder, shall be construed merely to mean that at that time the Director knows of no good reason for objecting thereto and no such approval shall release the Contractor from its full responsibility for the satisfactory

performance of the services to be supplied. "Approved equal" shall mean approved by the Director.

36. CONTRACT REVIEW AND COMPLIANCE AUDITS

The Contractor, and any subcontractors, shall provide prompt system access and reasonable assistance to the Authority's External and Internal Audit staff or its consultants in their performance of work under the contract, including producing specific requested information, extraction of data and reports. The Contractor, and any subcontractors, shall promptly support requests related to audits of the contract and administration tasks and functions covered by this Contract. The Authority will require access to the Contractor's Network Monitoring data center on a periodic basis; the hours to be determined, at the convenience of the authority.

The Authority reserves the right to use and load security and system software to evaluate the level of security and vulnerabilities in all systems which control, collect, dispense, contain, manage, administer, or monitor information or data "owned" by the Port Authority.

37. AUTHORITY ACCESS TO RECORDS

The Authority shall have access during normal business hours to all records and documents of the Contractor relating to any service provided under this Contract, amounts for which it has been compensated, or claims the Contractor should be compensated, by the Authority above those included in the compensation set forth elsewhere herein. All Contractor records shall be kept in the Port District (as defined in McKinney's Unconsolidated Laws §6403). The Contractor shall obtain for the Authority similar access to similar records and documents of subcontractors. Such access shall be given or obtained both before and within a period of three (3) years after Final Payment to the Contractor, provided, however, that if within the aforesaid one year period the Authority has notified the Contractor in writing of a pending claim by the Authority under or in connection with this Contract to which any of the aforesaid records and documents of the Contractor or of his subcontractors relate either directly or indirectly, then the period of such right of access shall be extended to the expiration of six (6) years from the date of Final Payment with respect to the records and documents involved.

The Contractor shall provide, at no cost to the Authority, access for and reasonable assistance to such auditors from the Authority or the Authority's external auditors that may, from time to time, be designated to audit detail records which support Contractor charges to the Authority. The Authority shall have access to the detail records that support Contractor charges to the Authority for up to three (3) years following the termination of the Contract.

No provision in this Contract giving the Authority a right of access to records and documents is intended to impair or affect any right of access to records and documents that the Authority would have in the absence of such provision.

38. CLAIMS OF THIRD PERSONS

The Contractor undertakes to pay all claims lawfully made against him by subcontractors, materialmen and workmen, and all claims lawfully made against him by other third persons arising out of or in connection with or because of the performance of this Contract and to

cause all subcontractors to pay all such claims lawfully made against them.

39. NO DISCRIMINATION IN EMPLOYMENT, EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this Contract, the Contractor agrees as follows:

A. The Contractor is advised to ascertain and comply with all applicable federal, state and local statutes, ordinances, rules and regulations and Federal Executive Orders pertaining to equal employment opportunity, affirmative action and non-discrimination in employment.

B. Without limiting the generality of any other term or provision of this Contract, in the event of the Contractor's non-compliance with any such statutes, ordinances, rules, regulations or orders, this Contract may be canceled, terminated, or suspended in whole or in part.

40. INTEGRITY

A. Certification of No Investigation (criminal or civil anti-trust), Indictment, Conviction, Debarment, Suspension, Disqualification and Disclosure of Other Information.

By bidding on this Contract, each Proposer and each person signing on behalf of any Proposer certifies, and in the case of a joint bid each party thereto certifies as to its own organization, that the Proposer and each parent and/or affiliate of the Proposer has not:

1. been indicted or convicted in any jurisdiction;
2. been suspended, debarred, found not responsible or otherwise disqualified from entering into any contract with any governmental agency or been denied a government contract for failure to meet standards related to the integrity of the Proposer;
3. had a contract terminated by any governmental agency for breach of contract or for any cause based in whole or in part on an indictment or conviction;
4. ever used a name, trade name or abbreviated name, or an Employer Identification Number different from those inserted in the Bid;
5. had any business or professional license suspended or revoked or, within the five years prior to bid opening, had any sanction imposed in excess of $50,000 as a result of any judicial or administrative proceeding with respect to any license held or with respect to any violation of a federal, state or local environmental law, rule or regulation;
6. had any sanction imposed as a result of a judicial or administrative proceeding related to fraud, extortion, bribery, bid rigging, embezzlement, misrepresentation or anti-trust regardless of the dollar amount of the sanctions or the date of their imposition; and
7. been, and is not currently, the subject of a criminal investigation by any federal, state or local prosecuting or investigative agency and/or a civil anti-trust investigation by any federal, state or local prosecuting or investigative agency.

B NON-COLLUSIVE BIDDING, AND CODE OF ETHICS CERTIFICATION, CERTIFICATION OF NO SOLICITATION BASED ON COMMISSION, PERCENTAGE, BROKERAGE, CONTINGENT OR OTHER FEES

By bidding on this Contract each Proposer and each person signing on behalf of any Proposer certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, that

1. the prices in its bid have been arrived at independently without collusion, consultation, communication or agreement for the purpose of restricting competition, as to any matter relating to such prices with any other Proposer or with any competitor;
2. the prices quoted in its bid have not been and will not be knowingly disclosed directly or indirectly by the Proposer prior to the official opening of such bid to any other Proposer or to any competitor;
3. no attempt has been made and none will be made by the Proposer to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition;
4. this organization has not made any offers or agreements or taken any other action with respect to any Authority employee or former employee or immediate family member of either which would constitute a breach of ethical standards under the Code of Ethics dated April 11, 1996 (a copy of which is available upon request) nor does this organization have any knowledge of any act on the part of an Authority employee or former Authority employee relating either directly or indirectly to this organization which constitutes a breach of the ethical standards set forth in said Code;
5. no person or selling agency other than a bona fide employee or bona fide established commercial or selling agency maintained by the Proposer for the purpose of securing business has been employed or retained by the Proposer to solicit or secure this Contract on the understanding that a commission, percentage, brokerage, contingent, or other fee would be paid to such person or selling agency;
6. has not offered, promised or given, demanded or accepted, any undue advantage, directly or indirectly, to or from a public official or employee, political candidate, party or party official, or any private sector employee (including a person who directs or works for a private sector enterprise in any capacity), in order to obtain, retain, or direct business or to secure any other improper advantage in connection with this Contract; and
7. no person or organization has been retained, employed or designated on behalf of the Bidder to impact any Port Authority determination with respect to (i) the solicitation, evaluation or award of this Contract; or (ii) the preparation of specifications or request for submissions in connection with this Contract.

The foregoing certifications shall be deemed to be made by the Proposer as follows:

* if the Proposer is a corporation, such certification shall be deemed to have been made not only with respect to the Proposer itself, but also with respect to each parent, affiliate, director, and officer of the Proposer, as well as, to the best of the

certifier's knowledge and belief, each stockholder of the Proposer with an ownership interest in excess of 10%;

* if the Proposer is a partnership, such certification shall be deemed to have been made not only with respect to the Proposer itself, but also with respect to each partner.

Moreover, the foregoing certifications, if made by a corporate Proposer, shall be deemed to have been authorized by the Board of Directors of the Proposer, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of such certification as the act and deed of the corporation.

In any case where the Bidder cannot make the foregoing certifications, the Bidder shall so state and shall furnish with the signed bid a signed statement that sets forth in detail the reasons therefor. If the Bidder is uncertain as to whether it can make the foregoing certifications, it shall so indicate in a signed statement furnished with its bid, setting forth in such statement the reasons for its uncertainty. With respect to the foregoing certification in paragraph "B.7", if the Bidder cannot make the certification, it shall provide, in writing, with the signed bid: (i) a list of the name(s), address(es), telephone number(s), and place(s) of principal employment of each such individual or organization; and (ii) a statement as to whether such individual or organization has a "financial interest" in this Contract, as described in the Procurement Disclosure policy of the Authority (a copy of which is available upon request to the Director of the Procurement Department of the Authority). Such disclosure is to be updated, as necessary, up to the time of award of this Contract. As a result of such disclosure, The Port Authority shall take appropriate action up to and including a finding of non-responsibility.

Failure to make the required disclosures shall lead to administrative actions up to and including a finding of non-responsibility.

Notwithstanding that the Proposer may be able to make the foregoing certifications at the time the Proposal is submitted, the Proposer shall immediately notify the Authority in writing during the period in which its Proposal is under consideration of any change of circumstances which might under this clause make it unable to make the foregoing certifications or require disclosure. The foregoing certifications or signed statement shall be deemed to have been made by the Proposer with full knowledge that they would become a part of the records of the Authority and that the Authority will rely on their truth and accuracy in awarding this Contract. In the event that the Authority should determine at any time prior or subsequent to the award of this Contract that the Proposer has falsely certified as to any material item in the foregoing certifications or has willfully or fraudulently furnished a signed statement which is false in any material respect, or has not fully and accurately represented any circumstance with respect to any item in the foregoing certifications required; to be disclosed, the Authority may determine that the Proposer is not a responsible Proposer with respect to its bid on the Contract or with respect to future bids on Authority contracts and may exercise such other remedies as are provided to it by the Contract with respect to these matters. In addition, Proposers are advised that knowingly providing a false certification or statement pursuant hereto may be the basis for prosecution for offering a false instrument for filing (see, e.g. New York

Penal Law, Section 175.30 et seq.). Proposers are also advised that the inability to make such certification will not in and of itself disqualify a Proposer, and that in each instance the Authority will evaluate the reasons therefor provided by the Proposer.

Under certain circumstances the Proposer may be required as a condition of Contract award to enter into a Monitoring Agreement under which it will be required to take certain specified actions, including compensating an independent Monitor to be selected by the Port Authority, said Monitor to be charged with, among other things, auditing the actions of the Proposer to determine whether its business practices and relationships indicate a level of integrity sufficient to permit it to continue business with the Port Authority.

C PROPOSER ELIGIBILITY FOR AWARD OF CONTRACTS - DETERMINATION BY AN AGENCY OF STATE OF NEW YORK OR NEW JERSEY CONCERNING ELIGIBILITY TO RECEIVE PUBLIC CONTRACTS

Proposers are advised that the Authority has adopted a policy to the effect that in awarding its contracts it will honor any determination by an agency of the State of New York or New Jersey that a Proposer is not eligible to bid on or be awarded public contracts because the Proposer has been determined to have engaged in illegal or dishonest conduct or to have violated prevailing rate of wage legislation.

The policy permits a Proposer whose ineligibility has been so determined by an agency of the State of New York or New Jersey to submit a bid on a Port Authority contract and then to establish that it is eligible to be awarded a contract on which it has bid because (i) the state agency determination relied upon does not apply to the Proposer, or (ii) the state agency determination relied upon was made without affording the Proposer the notice and hearing to which the Proposer was entitled by the requirements of due process of law, or (iii) the state agency determination was clearly erroneous or (iv) the state agency determination relied upon was not based on a finding of conduct demonstrating a lack of integrity or violation of a prevailing rate of wage law.

The full text of the resolution adopting the policy may be found in the Minutes of the Authority's Board of Commissioners meeting of September 9, 1993.

D. NO GIFTS, GRATUITIES, OFFERS OF EMPLOYMENT, ETC.

During the term of this Contract, the Proposer shall not offer, give or agree to give anything of value either to a Port Authority employee, agent, job shopper, consultant, construction manager or other person or firm representing the Port Authority, or to a member of the immediate family (i.e., a spouse, child, parent, brother or sister) of any of the foregoing, in connection with the performance by such employee, agent, job shopper, consultant, construction manager or other person or firm representing the Port Authority of duties involving transactions with the Proposer on behalf of the Port Authority, whether or not such duties are related to this Contract or any other Port Authority contract or matter. Any such conduct shall be deemed a material breach of this Contract.

As used herein "anything of value" shall include but not be limited to any (a) favors, such as meals, entertainment, transportation (other than that contemplated by the Contract or any other Port Authority contract), etc., which might tend to obligate the Port Authority

employee to the Proposer, and (b) gift, gratuity, money, goods, equipment, services, lodging, discounts not available to the general public, offers or promises of employment, loans or the cancellation thereof, preferential treatment or business opportunity. Such term shall not include compensation contemplated by this Contract or any other Port Authority contract. Where used herein, the term "Port Authority" shall be deemed to include all subsidiaries of the Port Authority.

The Proposer shall insure that no gratuities of any kind or nature whatsoever shall be solicited or accepted by it and by its personnel for any reason whatsoever from the passengers, tenants, customers or other persons using the Facility and shall so instruct its personnel.

In addition, during the term of this contract, the Proposer shall not make an offer of employment or use confidential information in a manner proscribed by the Code of Ethics and Financial Disclosure dated April 11, 1996 (a copy of which is available upon request to the Office of the Secretary of the Port Authority).

The Proposer shall include the provisions of this clause in each subcontract entered into under this Contract.

E. DEFINITIONS

As used in this section, the following terms shall mean:

Affiliate - Two or more firms are affiliates if a parent owns more than fifty percent of the voting stock of each of the firms, or a common shareholder or group of shareholders owns more than fifty percent of the voting stock of each of the firms, or if the firms have a common proprietor or general partner.

Agency or Governmental Agency - Any federal, state, city or other local agency, including departments, offices, public authorities and corporations, boards of education and higher education, public development corporations, local development corporations and others.

Investigation - Any inquiries made by any federal, state or local criminal prosecuting agency and any inquiries concerning civil anti-trust investigations made by any federal, state or local governmental agency. Except for inquiries concerning civil anti-trust investigations, the term does not include inquiries made by any civil government agency concerning compliance with any regulation, the nature of which does not carry criminal penalties, nor does it include any background investigations for employment, or Federal, State, and local inquiries into tax returns.

Officer - Any individual who serves as chief executive officer, chief financial officer, or chief operating officer of the Bidder by whatever titles known.

Parent - An individual, partnership, joint venture or corporation which owns more than 50% of the voting stock of the Bidder.

If the solicitation is a Request for Proposal:
Bid - shall mean Proposal;
Bidder - shall mean Proposer;
Bidding - shall mean submitting a Proposal.

In a Contract resulting from the taking of bids:
Bid - shall mean bid;
Bidder - shall mean Bidder;
Bidding - shall mean executing this Contract.

In a Contract resulting from the taking of Proposals:
Bid - shall mean Proposal;
Bidder - shall mean Proposer;
Bidding - shall mean executing this Contract.

F. CONFLICT OF INTEREST

During the term of this Contract, you shall not participate in any way in the preparation, negotiation or award of any contract (other than a contract for your own services to the Authority) to which it is contemplated the Authority may become a party or participate in any way in the review or resolution of a claim in connection with such a contract, if you have substantial financial interest in the contractor or potential contractor of the Authority or if you have an arrangement for future employment or for any other business relationship with said contractor or potential contractor, nor shall you at any time take any other action which might be viewed as or give the appearance of a conflict of interest on your part. If the possibility of such an arrangement for future employment or for another business arrangement has been or is the subject of a previous or current discussion or if you have reason to believe such an arrangement may be the subject of future discussion, or if you have any financial interest, substantial or not, in a contractor or potential contractor of the Authority, and your participation in the preparation, negotiation or award of any contract with such a contractor or the review or resolution of a claim in connection with such a contract is contemplated or if you have reason to believe that any other situation exists which might be viewed as or give the appearance of a conflict of interest you shall immediately inform the Director in writing of such situation giving the full details thereof. Unless you receive the specific written approval of the Director, you shall not take the contemplated action which might be viewed as or give the appearance of a conflict of interest. In the event the Director shall determine that the performance by you of a portion of your services under this Contract is precluded by the provisions of this numbered paragraph, or a portion of your said service is determined by the Director to be no longer appropriate because of such preclusion, then the Director shall have full authority on behalf of both parties to order that such portion of your services not be performed by you, reserving the right, however, to have the services performed by others and reserving the right to reduce the lump sum compensation as he/she may deem reasonable in his/her sole discretion. Your execution of this Contract shall constitute a representation by you that at the time of such execution you know of no circumstances, present or anticipated, which come within the provisions of this paragraph or which might otherwise be viewed as or give the appearance of a conflict of interest on your part.

41. CONFIDENTIAL INFORMATION/NON-PUBLICATION

A. As used herein, confidential information ("CI") shall mean all information disclosed to the Contractor or the personnel provided by the Contractor hereunder which relates to the

Authority's and/or PATH's past, present, and future research, development and business activities including, but not limited to, software and documentation licensed to the Authority or proprietary to the Authority and/or PATH and all associated software, source code procedures and documentation. Confidential information shall also mean any other tangible or intangible information or materials including but not limited to computer identification numbers, access codes, passwords, and reports obtained and/or used during the performance of the Contractor's Services under this Contract

B. Confidential information shall also mean and include collectively, as per *The Port Authority of New York & New Jersey Information Security Handbook (October 15, 2008, corrected as of February, 9 2009),* Confidential Proprietary Information, Confidential Privileged Information and information that is labeled, marked or otherwise identified by or on behalf of the Authority so as to reasonably connote that such information is confidential, privileged, sensitive or proprietary in nature. Confidential Information shall also include all work product that contains or is derived from any of the foregoing, whether in whole or in part, regardless of whether prepared by the Authority or a third-party or when the Authority receives such information from others and agrees to treat such information as Confidential.

The Handbook and its requirements are hereby incorporated into this agreement and will govern the possession, distribution and use of CI if at any point during the lifecycle of the project or solicitation it becomes necessary for the Contractor to have access to CI. Protecting sensitive information requires the application of uniform safeguarding measures to prevent unauthorized disclosure and to control any authorized disclosure of this information within the Port Authority or when released by the Port Authority to outside entities. The following is an outline of some of the procedures, obligations and directives contained in the Handbook:

(1) require that the Contractor and subcontractors, when appropriate, sign Non-Disclosure Agreements (NDAs), or an Acknowledgment of an existing NDA, provided by the Authority as a condition of being granted access to Confidential Information categorized and protected as per the Handbook;
(2) require that individuals needing access to CI be required to undergo a background check, pursuant to the process and requirements noted in § 3.2 of the Information Security Handbook.
(3) require Contractors and commercial enterprises to attend training to ensure security awareness regarding Port Authority information;
(4) specific guidelines and requirements for the handling of CI to ensure that the storage and protection of CI;
(5) restrictions on the transfer, shipping, and mailing of CI information;
(6) prohibitions on the publication, posting, modifying, copying, reproducing, republishing, uploading, transmitting, or distributing CI on websites or web pages. This may also include restricting persons, who either have not passed a pre-screening background check, or who have not been granted access to CI, from viewing such information;
(7) require that CI be destroyed using certain methods, measures or technology pursuant to the requirements set forth in the Handbook;

(8) require the Contractor to mandate that each of its subcontractors maintain the same levels of security required of the Contractor under any Port Authority awarded contract.

(9) prohibit the publication, exchange or dissemination of CI developed from the project or contained in reports, except between Contractors and subcontractors, without prior approval of the Port Authority;

(10) require that CI only be reproduced or copied pursuant to the requirements set forth in the Handbook.

C. The Contractor shall hold all such confidential information in trust and confidence for the Authority, and agrees that the Contractor and the personnel provided by the Contractor hereunder shall not, during or after the termination or expiration of this Contract, disclose to any person, firm or corporation, nor use for its own business or benefit, any information obtained by it under or in connection with the supplying of services contemplated by this Contract. The Contractor and the personnel provided by the Contractor hereunder shall not violate in any manner any patent, copyright, trade secret or other proprietary right of the Authority or third persons in connection with their services hereunder, either before or after termination or expiration of this Contract. The Contractor and the personnel provided by the Contractor hereunder shall not willfully or otherwise perform any dishonest or fraudulent acts, breach any security procedures, or damage or destroy any hardware, software or documentation, proprietary or otherwise, in connection with their services hereunder.

D. Audits for Compliance with Security Requirements

The Port Authority may conduct random or scheduled examinations of business practices under this section entitled "CONFIDENTIAL INFORMATION/NON-PUBLICATION" and the Handbook in order to assess the extent of compliance with security requirements, Confidential Information procedures, protocols and practices, which may include, but not be limited to, verification of background check status, confirmation of completion of specified training, and/or a site visit to view material storage locations and protocols.

E. The Contractor shall not issue nor permit to be issued any press release, advertisement, or literature of any kind, which refers to the Port Authority or to the fact that goods have been, are being or will be provided to it and/or that services have been, are being or will be performed for it in connection with this Contract, unless the vendor first obtains the written approval of the Port Authority. Such approval may be withheld if for any reason the Port Authority believes that the publication of such information would be harmful to the public interest or is in any way undesirable.

42. PROVISIONS OF LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included therein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

43. IINVALID CLAUSES

If any provision of this Contract shall be such as to destroy its mutuality or to render it invalid or illegal, then if it shall not appear to have been so material that without it the Contract would not have been made by the parties, it shall not be deemed to form part thereof but the balance of the Contract shall remain in full force and effect.

44. NO ESTOPPEL OR WAIVER

The Authority shall not be precluded or estopped by any acceptance, certificate or payment, final or otherwise, issued or made under this Contract or otherwise issued or made by it, the Director or any officer, agent or employee of The Authority, from showing at any time the true amount and character of Work performed, or from showing that any such acceptance, certificate or payment is incorrect or was improperly issued or made; and The Authority shall not be precluded or estopped, notwithstanding any such acceptance, certificate or payment, from recovering from the Contractor any damages which it may sustain by reason of any failure on his part to comply strictly with this Contract, and any monies which may be paid to him or for his account in excess of those to which he is lawfully entitled.

45. NON-LIABILITY OF THE AUTHORITY REPRESENTATIVES

Neither the Commissioners of the Authority, nor any officer, agent, or employee thereof shall be charged personally by the Contractor with any liability or held liable under any term or provision of this Contract, or because of its execution or attempted execution, or because of any breach hereof.

46. MODIFICATION OF CONTRACT

No change in or modification, termination or discharge of this Contract, in any form whatsoever, shall be valid or enforceable unless it is in writing and signed by the party to be charged therewith or his duly authorized representative, provided, however, that any change in or modification, termination or discharge of this Contract expressly provided for in this Contract shall be effective as so provided.

47. M/WBE GOOD FAITH PARTICIPATION

The Contractor shall use every good-faith effort to meet the goals set forth in the clause of the RFP entitled "M/WBE Subcontracting Provisions" for participation by Port Authority certified M/WBEs as defined in this document, in the purchasing and subcontracting opportunities associated with this contract, including purchase of equipment, supplies and labor services.

Good Faith efforts to include participation by MBEs/WBEs shall include the following:

a. Dividing the services and materials to be procured into small portions, where feasible.
b. Giving reasonable advance notice of specific contracting, subcontracting and purchasing opportunities to such MBEs/WBEs as may be appropriate.
c. Soliciting services and materials, to be procured, from the Directory of MBEs/WBEs. The Authority has a list of certified MBE/WBE service firms which is available to you at http://www.panynj.gov/business-opportunities/supplier-diversity.html.

d. Insuring that provision is made to provide progress payments to MBEs/WBEs on a timely basis.
e. Observance of reasonable commercial standards of fair dealing in the respective trade or business.

Either prior or subsequent to Contract award, the Contractor may request a full or partial waiver of the M/WBE participation goals set forth in this Contract by providing documentation demonstrating to the Manager, for approval by the Port Authority's Office of Business Diversity and Civil Rights, that its good faith efforts did not result in compliance with the goals set forth above because participation by eligible M/WBEs could not be obtained at a reasonable price or that such M/WBEs were not available to adequately perform as subcontractors. The Contractor shall provide written documentation in support of its request to the Manager. The documentation shall include, but not be limited to, documentation demonstrating good faith efforts as described above, which may include, proof that the Authority's directory does not contain M/WBEs in this specific field of work, a list of organizations contacted to obtain M/WBEs, and/or a list of M/WBEs contacted and their price quotes. If approved by the Authority's Office of Business Diversity and Civil Rights, the Manager will provide written approval of the modified or waived M/WBE Participation Plan.

Subsequent to Contract award, all changes to the M/WBE Participation Plan must be submitted via a modified M/WBE Participation Plan to the Manager for review and approval by the Authority's Office of Business Diversity and Civil Rights. For submittal of modifications to the M/WBE Plan, Contractors are directed to use form PA3749C, which may be downloaded at http://www.panynj.gov/business-opportunities/become-vendor.html. The Contractor shall not make changes to its approved M/WBE Participation Plan or substitute M/WBE subcontractors or suppliers for those named in their approved plan without the Manager's prior written approval. Unauthorized changes or substitutions, including performing the work designated for a subcontractor with the Contractor's own forces, shall be a violation of this section. Progress toward attainment of M/WBE participation goals set forth herein will be monitored throughout the duration of this Contract.

The Contractor shall also submit to the Manager, along with invoices, the Statement of Subcontractor Payments as the M/WBE Participation Report, form PA3968, which may be downloaded at http://www.panynj.gov/business-opportunities/become-vendor.html. The Statement must include the name and business address of each M/WBE subcontractor and supplier actually involved in the Contract, a description of the work performed and/or product or service supplied by each such subcontractor or supplier, the date and amount of each expenditure, and such other information that may assist the Manager in determining the Contractor's compliance with the foregoing provisions.

If, during the performance of this Contract, the Contractor fails to demonstrate good faith efforts in carrying out its M/WBE Participation Plan and the Contractor has not requested and been granted a full or partial waiver of the M/WBE participation goals set forth in this Contract, the Authority will take into consideration the Contractor's failure to carry out its M/WBE Participation Plan in its evaluation for award of future Authority contracts.

48. HARMONY

a. The Contractor shall not employ any persons or use any labor, or use or have any equipment, or permit any condition to exist which shall or may cause or be conducive to any labor complaints, troubles, disputes or controversies at the Facility which interfere or are likely to interfere with the operation of the Port Authority or with the operations of lessees, licensees or other users of the Facility or with the operations of the Contractor under this Contract.

The Contractor shall immediately give notice to the Port Authority (to be followed by written notices and reports) of any and all impending or existing labor complaints, troubles, disputes or controversies and the progress thereof. The Contractor shall use its best efforts to resolve any such complaint, trouble, dispute or controversy. If any type of strike, boycott, picketing, work stoppage, slowdown or other labor activity is directed against the Contractor at the Facility or against any operations of the Contractor under this Contract, whether or not caused by the employees of the Contractor, and if any of the foregoing, in the opinion of the Port Authority, results or is likely to result in any curtailment or diminution of the services to be performed hereunder or to interfere with or affect the operations of the Port Authority , or to interfere with or affect the operations of lessees, licensees, or other users of the Facility or in the event of any other cessation or stoppage of operations by the Contractor hereunder for any reason whatsoever, the Port Authority shall have the right at any time during the continuance thereof to suspend the operations of the Contractor under this Contract, and during the period of the suspension the Contractor shall not perform its services hereunder and the Port Authority shall have the right during said period to itself or by any third person or persons selected by it to perform said services of the Contractor using the equipment which is used by the Contractor in its operations hereunder as the Port Authority deems necessary and without cost to the Port Authority. During such time of suspension, the Contractor shall not be entitled to any compensation. Any flat fees, including management fees, shall be prorated. Prior to the exercise of such right by the Port Authority, it shall give the Contractor notice thereof, which notice may be oral. No exercise by the Port Authority of the rights granted to it in the above subparagraph shall be or be deemed to be a waiver of any rights of termination or revocation contained in this Contract or a waiver of any rights or remedies which may be available to the Port Authority under this Contract or otherwise.

b. During the time that the Contractor is performing the Contract, other persons may be engaged in other operations on or about the worksite including Facility operations, pedestrian, bus and vehicular traffic and other Contractors performing at the worksite, all of which shall remain uninterrupted.

The Contractor shall so plan and conduct its operations as to work in harmony with others engaged at the site and not to delay, endanger or interfere with the operation of others (whether or not specifically mentioned above), all to the best interests of the Port Authority and the public as may be directed by the Port Authority.

* * *

ATTACHMENT B

PART II – COST PROPOSAL FORM

ATTACHMENT B

PART III (A) - COST PROPOSAL FORM

COMPANY NAME _____

Vendor's pricing shall be "all inclusive" and firm for the term of the agreement. The prices shall include, but not be limited to, all delivery, installation, removal, equipment, labor, training, maintenance & support, insurance, project management and administrative services that the company provides in order to delivers Services that meet or exceed the requirements set forth in the Scope of Work of this RFP.

Entry of Prices:

1. The prices quoted shall be written in figures, in ink, preferably in black ink where required in the spaces provided on the Cost Proposal Form attached hereto and made a part hereof.

2. All Proposers are asked to ensure that all charges quoted for similar operations in the Contract are consistent.

3. Prices must be submitted for each Item required on the Cost Proposal Form.

4. All Proposers are asked to ensure that all figures are inserted as required, and that all computations made have been verified for accuracy.

5. The request for Hourly Rates apply to work associated with the Supplemental Work provision of the contract, which the Port Authority may or may not implement at its sole discretion.

6. Proposers shall identify any underlying cost-related assumptions in the section named "Assumptions", in the Cost Proposal Form.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1A - Permanent and Portable Noise Monitoring Terminal Units

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Portable NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Grand Total ($):			

Note: Cost for Permanent and Portable NMT shall be inclusive of all accessories and peripherals including but not limited to housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – Handheld South Level Meters

Equipment	Cost ($)
Handheld Sound Level Meter (Per Unit)	
Total Cost for Two (2) Units	
Handheld Calibrator (Per Unit)	
Total Cost for Two (2) Units	
Grand Total ($):	

Note: Cost for handheld sound level meters and handheld calibrators unit shall include the carrying case for each unit.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1C - Computer Hardware

Equipment	Cost ($)
One (1) Computer/Server for NY TRACON to Collect and Transfer Flight Tracking Data	
One (1) Computer/Server for TEB to Record ATC Transmissions	
Grand Total ($):	

Note: Computer Systems for both TEB and NY TRACON facilities shall include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE ID – Hardware Installation

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit				11	
Installation of Portable NMT Unit				11	
Installation of Computer/Server for NY TRACON to Collect and Transfer Flight Tracking Data				1	
Computer/Server for TEB to Record ATC Transmissions				1	
				Grand Total:	

Notes: 1. Equipment installation cost shall be inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost shall be inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

COST PROPOSAL FORM

SOFTWARE SERVICES

TABLE 2 - Software Services

Task	Cost ($)			
	Base 3 Years	**First - 2 Yr Option**	**Second - 2 Yr Option**	**Third - 2 Yr Option**
Transfer of 10 Year Historical Data		Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information				
NOMS Software (8 User Licenses)				
Web Based Software (Public Web Portal)				
Web Site Hosting for General Noise Information				
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)				
Voice To Data Transcription Service for Noise Complaints				
INM Noise Contour Calculation				
Noise Calculation at a Certain Chosen Location on a GIS Map				
Software Upgrades				
Additional User License				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

COST PROPOSAL FORM

CONTRACT SERVICES

TABLE 3 - Contract Requirements

Task	Cost ($)			
	Base 3 Years	**First - 2 Yr Option**	**Second - 2 Yr Option**	**Third - 2 Yr Option**
Contract Management and Administrative Services				
System Testing Requirements		Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation		Not Applicable	Not Applicable	Not Applicable
Ongoing Training				
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals - Training Manuals				
System Maintenance & Repair (Hardware & Software)				
System Support (On-Site Troubleshooting Support)				
Hardware and Software Warranty				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

COST PROPOSAL FORM

TOTAL COST

TABLE 4 - Estimated Total Contract Costs

		Total Cost ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	
TABLE 1B	Handheld Sound Level Meters	
TABLE 1C	Computer Hardware	
TABLE 1D	Hardware Installation	
TABLE 2	Software Services	
TABLE 3	Contract Requirements	
	Grand Total:	

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

COST PROPOSAL FORM

HOURLY RATES

Table 5 - Hourly Rates for Supplemental Work – Straight Time

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Straight time is defined as normal business hours between 8:00 AM and 5:00 PM EST

Table 6 - Hourly Rates for Supplemental Work – Overtime

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Overtime is defined as time between 5:01 PM and 7:59 AM EST

COST PROPOSAL FORM

ASSUMPTIONS

Proposers should identify any underlying cost-related assumptions in this in the space below or on additional sheets if the space provide below is insufficient.

3g	3rd generation mobile telecommunications is a generation of standards for mobile phones and mobile telecommunication services fulfilling the International Mobile Telecommunications-2000 (IMT-2000) specifications by the International Telecommunication Union. Application services include wide-area wireless voice telephone, mobile Internet access, video calls and mobile TV, all in a mobile environment.
ADS-B	Automatic Dependent Surveillance-Broadcast, is a surveillance technology for tracking aircraft as part of the Next Generation Air Transportation System (NextGen)
ANOMS	Airport Noise & Operations Monitoring Study
ARR	Arrival, a type of runway operation
ARTSIII	Abbreviation for Automated Radar Tracking System (US DoD)
ASDI	Aircraft Situation Display to Industry (ASDI),the Federal Aviation Administration (FAA) is making air Traffic Flow Management (TFM) data, such as filtered Aircraft Situation Display (ASD) and National Airspace System (NAS) Status Information (NASSI) data, as well as subsets of that data, available to the aviation and other industries based on defined classes of users. The ASD data includes the near real time position and other relevant flight data for every civil instrument flight rules (IFR) aircraft receiving radar services within the NAS. The filtered data, meaning that military and sensitive operations are not included, is referred to as ASD to Industry (ASDI) data. The NASSI data includes a wide range of information regarding the status of NAS components, such as airport Runway Visual Range (RVR) and special use airspace data. "
ASDE-X	Airport Surface Detection Equipment - X (frequency). Airport Surface Detection Equipment, Model X, or ASDE-X, is a runway-safety tool that enables air traffic controllers to detect potential runway conflicts by providing detailed coverage of movement on runways and taxiways. By collecting data from a variety of sources, ASDE-X is able to track vehicles and aircraft on airport surfaces and obtain identification information from aircraft transponders.
ASR	An Airport Surveillance Radar (ASR) is a radar system used at airports to detect and display the position of aircraft in the terminal area.
ASTA	Airport Surface Traffic Automation
ATC	Air Traffic Control
B&K	Brüel & Kjær (Sound and Vibration Measurement A/S) is a manufacturer and supplier of sound and vibration measurement apparatus.

CALL SIGN	The Federal Aviation Administration regulates call sign standards within United States airspace. These conventions are generally used world wide. Call signs in aviation are derived from several different policies, depending upon the type of flight operation and whether or not the caller is in an aircraft or at a ground facility. In most countries, unscheduled general aviation flights identify themselves using the call sign corresponding to the aircraft's registration number (also called N-number in the U.S., or tail number). In this case, the call sign is spoken using the International Civil Aviation Organization (ICAO) phonetic alphabet. Aircraft registration numbers internationally follow the pattern of a country prefix, followed by a unique identifier made up of letters and numbers. For example, an aircraft registered as N978CP conducting a general aviation flight would use the call sign November-niner-seven-eight-Charlie-Papa. However, in the United States a pilot aircraft would normally omit saying November, since that would be assumed
DVR	Abbreviation for Digital Voice Recorder
DATIS	Stands for Digital Automatic Terminal Information Service (recorded messages that provide weather and airport services information).
dB	Abbreviation for Decibel(s)
dBA	Stands for Decibels A-weighted. The A-weighted Decibel (dBA) is the most common unit used for measuring environmental sound levels. It adjusts, or weights, the frequency components of sound to conform with the normal response of the human ear at conversational levels. dBA is an international metric that is used for assessing environmental noise exposure of all noise sources
DEP	Departure
DNL	Day-Night Equivalent Sound Level (Also called Ldn)
EWR	Newark Liberty International Airport (IATA: EWR, ICAO: KEWR, FAA LID: EWR), first named Newark Metropolitan Airport and later Newark International Airport, is an international airport which straddles the municipal boundary between Newark and Elizabeth, New Jersey, United States. The airport is owned by the city of Newark and operated by the Port Authority of New York and New Jersey. It is about 15 miles (24 km) southwest of Midtown Manhattan in New York City.
FAA	The Federal Aviation Administration (FAA) is the national aviation authority of the United States. An agency of the United States Department of Transportation, it has authority to regulate and oversee all aspects of civil aviation in the U.S.
GA	General aviation (GA) is one of the two categories of civil aviation. It refers to all flights other than military and scheduled airline and regular cargo flights, both private and commercial. General aviation flights range from gliders and powered parachutes to

large, non-scheduled cargo jet flights. The majority of the world's air traffic falls into this category, and most of the world's airports serve general aviation exclusively.

GIS	A geographic information system is a system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data.
GPS	The Global Positioning System (GPS) is a space-based satellite navigation system that provides location and time information in all weather, anywhere on or near the Earth, where there is an unobstructed line of sight to four or more GPS satellites. It is maintained by the United States government and is freely accessible to anyone with a GPS receiver.
IFR	Instrument Flight Rules (IFR) govern flight procedures by FAA during limited visibility or other operational constraints. Under IFR, pilots fly under the guidance of radar
INM	The FAA Integrated Noise Model (INM) is a computer model that evaluates aircraft noise impacts in the vicinity of airports. It is developed based on the algorithm and framework from SAE AIR 1845 standard, which used Noise-Power-Distance (NPD) data to estimate noise accounting for specific operation mode, thrust setting, and source-receiver geometry, acoustic directivity and other environmental factors. The INM can output either noise contours for an area or noise level at pre-selected locations.
ITT Exelis	ITT Exelis (NYSE: XLS), also known as Exelis Inc., is an aerospace, technology and security company created in October 2011 as a result of the spinoff of ITT Corporation's defense business into an independent, publicly traded company. The company is headquartered in McLean, Virginia and is led by CEO and President David F. Melcher. The Washington Post highlighted Exelis as a top company in the Washington, DC region in 2011.
IVR	Interactive Voice Response System
JFK	John F. Kennedy International Airport (IATA: JFK, ICAO: KJFK, FAA LID: JFK) is an international airport located in the borough of Queens in New York City, about 12 miles (19 km) southeast of Lower Manhattan. In 2011 it was the busiest international air passenger gateway to the United States, handling more international traffic than any other airport in North America.
LD	Larson Davis (LD) was founded in 1981, as a manufacturer of precision acoustic test and vibration measurement instrumentationi. After joining the PCB Group in 1999, Larson Davis is a division of PCB Piezotronics, Inc. (www.pcb.com) with ISO 9001:2008 certified manufacturing and engineering in Provo, Utah and sales and marketing in Depew, New York. LD has grown into a globally recognized source for seamless sound and vibration systems with the PCB® guarantee of Total Customer Satisfaction.
LEQ	Equivalent continuous sound level, express in db

LEN	Stage Length used by Airline to mark/determine Fuel onboard to a single Destination from an Origin, usually assigned a numeric value from 1 to 9, where the lower the number would represents a shorter trip.
LGA	LaGuardia Airport (IATA: LGA, ICAO: KLGA, FAA LID: LGA) is an airport located in the northern part of the New York City borough of Queens. The airport is located on the waterfront of Flushing Bay and Bowery Bay, and borders the neighborhoods of Astoria, Jackson Heights and East Elmhurst.
MLAT	Multilateration is commonly used in civil and military surveillance applications to accurately locate an aircraft, vehicle or stationary emitter by measuring the time difference of arrival (TDOA) of a signal from the emitter at three or more receiver sites.
METAR	METAR is a format for reporting weather information. A METAR weather report is predominantly used by pilots in fulfillment of a part of a pre-flight weather briefing, and by meteorologists, who use aggregated METAR information to assist in weather forecasting.
NEM	Stands for Noise Exposure Map. A noise map is a graphic representation of the sound level distribution existing in a given region, for a defined period. In the case of aircraft noise, the INM generally produces these maps to highlight or encompass a contour line around the geographical area of impacted by jet noise.
NFTMS	Noise and Flight Track Monitoring System see also NOMS
NMT	Abbreviation for Noise Monitoring Terminals. Hardward belonging to The Port Authority of NY & NJ for aircaft noise abatement system - see ANAMS.
NOISE	In common use, the word noise means any unwanted sound.
NOISE ABATEMENT	Procedure or technique used by aircraft at an airport to minimize the impact of noise on the communities surrounding an airport.
NOISE EVENT	A Noise Event is the measured sound produced by a single source of noise over a particular period of time. An aircraft noise event begins when the sound level of an over-flight exceeds a noise threshold and ends when the level drops down below that threshold.
NOMS	Defined as Noise & Operations Monitoring System. ITT Exelis' proprietary Airport Management & Analytical software that contracts out airport services thoughout the U.S.A. & the U.K.
NOTAM	Quasi-acronym for "Notices To Airmen". NOTAMs are created and transmitted by government agencies and airport operators under guidelines specified by Annex 15:

	Aeronautical Information Services of the Convention on International Civil Aviation (CICA). A NOTAM is filed with an aviation authority to alert aircraft pilots of any hazards en route or at a specific location. The authority in turn provides a means of disseminating relevant NOTAMs to pilots.
NWS	National Weather Service
NYTRACON	The New York Terminal Radar Approach Control (TRACON) is located in Westbury, New York. New York TRACON, also known as N90, is a consolidated TRACON meaning that a single location provides approach service for several large airports. The primary responsibility of the New York TRACON is the safe, orderly, and expeditious flow of arrival, departure, and en-route traffic. N90 is responsible for three major airports, all located within the same New York Class B airspace: John F. Kennedy International Airport, Newark Liberty International Airport, and LaGuardia Airport.
OAG	Official Airline Guide. The Official Airline Guide provides passengers with flight times, schedules, airline information and other travel issues related to air travel.
PA	Port Authority
PANYNJ	Port Authority of New York & New Jersey
PCA	Stands Point of Closest Approach. Also known as "CPA = Closest Point of Approach"
PNdB	Abbreviation for Perceived Noise Decible(s). A unit for measuring perceived levels of noise by comparison with the sound pressure level of a reference sound judged equally noisy by a normal listener.
RMS	Stands for Remote Monitoring System, also known as an NMT - see NMT.
RW or RWY	Stands for Runway
SLA	Service Level Agreement
SPL	Sound pressure level (SPL) or sound level is a logarithmic measure of the effective sound pressure of a sound relative to a reference value. It is measured in decibels (dB) above a standard reference level. The commonly used ""zero"" reference sound pressure in air is 20 μPa RMS, which is usually considered the threshold of human hearing (at 1 kHz).
SQUAWK CODE	A Transponder is an electronic device that produces a response when it receives a radio-frequency interrogation. Aircraft have transponders to assist in identifying them on radar and on other aircraft's collision avoidance systems. Air traffic control units use the term "squawk" when they are assigning an aircraft a transponder code, e.g., "Squawk 7421".

SWF	Stewart International Airport (IATA: SWF, ICAO: KSWF) is a public use, joint civil-military, airport located in the southern Hudson Valley, west of Newburgh, New York and over 60 miles (97 km) north of Midtown Manhattan, New York City.[1] The airport is located in the Town of Newburgh and the Town of New Windsor
TEB	Teterboro Airport (IATA: TEB, ICAO: KTEB, FAA LID: TEB) is a general aviation relief airport located in the Boroughs of Teterboro, Moonachie, and Hasbrouck Heights in Bergen County, New Jersey, United States.[2] It is owned and operated by the Port Authority of New York and New Jersey. The airport is 12 miles (19 km) from midtown Manhattan in the New Jersey Meadowlands, which makes it very popular for private and corporate aircraft.[3] The airport has a weight limit of 100,000 lbs on aircraft meant to make it nonviable as a commercial airport.
TRACON	Many airports have a radar control facility that is associated with the airport. In most countries, this is referred to as Terminal Control; in the U.S., it is referred to as a TRACON (Terminal Radar Approach Control.) While every airport varies, terminal controllers usually handle traffic in a 30-to-50-nautical-mile (56 to 93 km) radius from the airport.
UPS	Stands for Uninterruptible Power Supply. An uninterruptible power supply, also uninterruptible power source, UPS or battery/flywheel backup, is an electrical apparatus that provides emergency power to a load when the input power source, typically mains power, fails. A UPS differs from an auxiliary or emergency power system or standby generator in that it will provide near-instantaneous protection from input power interruptions, by supplying energy stored in batteries or a flywheel.
VFR	Visual flight rules (VFR) are a set of FAA regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going. Specifically, the weather must be better than basic weather minimums.
VRS	Voice Recording System

ATTACHMENT B

PART II - COST PROPOSAL FORM

COMPANY NAME _____

Vendor's pricing shall be "all inclusive" and firm for the term of the agreement. The prices shall include, but not be limited to, all delivery, installation, removal, equipment, labor, training, maintenance & support, insurance, project management and administrative services that the company provides in order to delivers Services that meet or exceed the requirements set forth in the Scope of Work of this RFP.

Entry of Prices:

1. The prices quoted shall be written in figures, in ink, preferably in black ink where required in the spaces provided on the Cost Proposal Form attached hereto and made a part hereof.

2. All Proposers are asked to ensure that all charges quoted for similar operations in the Contract are consistent.

3. Prices must be submitted for each Item required on the Cost Proposal Form.

4. All Proposers are asked to ensure that all figures are inserted as required, and that all computations made have been verified for accuracy.

5. The request for Hourly Rates apply to work associated with the Supplemental Work provision of the contract, which the Port Authority may or may not implement at its sole discretion.

6. Proposers shall identify any underlying cost-related assumptions in the section named "Assumptions", in the Cost Proposal Form.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1A - Permanent and Portable Noise Monitoring Terminal Units

	Cost by Type of Telecommunication Mode ($)		
Equipment	**Phone Land line**	**Broadband (Cable/DSL)**	**Wireless (3G or 4G)**
Permanent NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Portable NMT (Per Unit)			
Total Cost for Eleven (11) Units			
Grand Total ($):			

Note: Cost for Permanent and Portable NMT shall be inclusive of all accessories and peripherals including but not limited to housing (cabinet), power supply, back-up battery, telecommunication cables, conduits, carrying/transportation case, and climate control devices inside the cabinet.

TABLE 1B – Handheld South Level Meters

Equipment	Cost ($)
Handheld Sound Level Meter (Per Unit)	
Total Cost for Two (2) Units	
Handheld Calibrator (Per Unit)	
Total Cost for Two (2) Units	
Grand Total ($):	

Note: Cost for handheld sound level meters and handheld calibrators unit shall include the carrying case for each unit.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE 1C - Computer Hardware

Equipment	Cost ($)
One (1) Computer/Server for NY TRACON to Collect and Transfer Flight Tracking Data	
One (1) Computer/Server for TEB to Record ATC Transmissions	
Grand Total ($):	

Note: Computer Systems for both TEB and NY TRACON facilities shall include all the necessary hardware, software, peripheral devices, and accessories to perform functions defined in the Scope of Work.

COST PROPOSAL FORM

HARDWARE SERVICES

TABLE ID – Hardware Installation

	Cost for Each Following Category ($)				
Task	**Removal of old Unit**	**Installation of New Unit**	**Materials/Tools**	**Total Quantity**	**Total Cost ($)**
Installation of Permanent NMT Unit				11	
Installation of Portable NMT Unit				11	
Installation of Computer/Server for NY TRACON to Collect and Transfer Flight Tracking Data				1	
Computer/Server for TEB to Record ATC Transmissions				1	
				Grand Total:	

Notes: 1. Equipment installation cost shall be inclusive of labor and all materials and/or tools necessary for installation.

2. Equipment installation cost shall be inclusive of retrofitting or replacing the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telecommunication connection line, cables, conduits, and climate control device(s) inside the cabinet.

COST PROPOSAL FORM

SOFTWARE SERVICES

TABLE 2 - Software Services

Task	Cost ($)			
	Base 3 Years	**First - 2 Yr Option**	**Second - 2 Yr Option**	**Third - 2 Yr Option**
Transfer of 10 Year Historical Data		Not Applicable	Not Applicable	Not Applicable
Flight Data and Tracking Information				
NOMS Software (8 User Licenses)				
Web Based Software (Public Web Portal)				
Web Site Hosting for General Noise Information				
Noise Complaint Hotline with Automated Voice Prompts (Toll Free No. for All Five Airports)				
Voice To Data Transcription Service for Noise Complaints				
INM Noise Contour Calculation				
Noise Calculation at a Certain Chosen Location on a GIS Map				
Software Upgrades				
Additional User License				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all software services as described in the Scope of Work.

COST PROPOSAL FORM

CONTRACT SERVICES

TABLE 3 - Contract Requirements

Task	Cost ($)			
	Base 3 Years	**First - 2 Yr Option**	**Second - 2 Yr Option**	**Third - 2 Yr Option**
Contract Management and Administrative Services				
System Testing Requirements		Not Applicable	Not Applicable	Not Applicable
Training during Project Implementation		Not Applicable	Not Applicable	Not Applicable
Ongoing Training				
Documentation - Hardware Documentation and Manuals - Software Documentation and Manuals - Training Manuals				
System Maintenance & Repair (Hardware & Software)				
System Support (On-Site Troubleshooting Support)				
Hardware and Software Warranty				
Total Cost ($):				

Note: Cost for each term of the contract shall be inclusive of full cost of labor, any equipment and miscellaneous costs to provide the all contract services as described in the Scope of Work.

COST PROPOSAL FORM

TOTAL COST

TABLE 4 - Estimated Total Contract Costs

		Total Cost ($)
TABLE 1A	Permanent and Portable Noise Monitoring Terminal Units	
TABLE 1B	Handheld Sound Level Meters	
TABLE 1C	Computer Hardware	
TABLE 1D	Hardware Installation	
TABLE 2	Software Services	
TABLE 3	Contract Requirements	
	Grand Total:	

Note: For TABLE 1A Total Cost include the highest cost out of the three (3) telecommunication options quoted.

COST PROPOSAL FORM

HOURLY RATES

Table 5 - Hourly Rates for Supplemental Work – Straight Time

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Straight time is defined as normal business hours between 8:00 AM and 5:00 PM EST

Table 6 - Hourly Rates for Supplemental Work – Overtime

	Hourly Rate ($)			
Resource	Base Term (3 yrs)	First Option (2yrs)	Second Option (2 yrs)	Third Option (2 yrs)
Contract Manager				
Project Manager				
Software Developer/Engineer				
Trainer				
Report Writer				
Installation Technician				
Technical Support (Hardware/Software)				

Note: Overtime is defined as time between 5:01 PM and 7:59 AM EST

COST PROPOSAL FORM

ASSUMPTIONS

Proposers should identify any underlying cost-related assumptions in this in the space below or on additional sheets if the space provide below is insufficient.

ATTACHMENT C
SCOPE OF WORK

ATTACHMENT C

SCOPE OF WORK

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ATTACHMENT C

SCOPE OF WORK

I. General Description of Services

A. Overview

The Port Authority of NY & NJ, hereafter referred to as the "Authority", has a commitment to reduce aircraft noise exposure for residents in the vicinity of the Airports it operates: John F. Kennedy International (JFK), Newark-Liberty International (EWR), LaGuardia (LGA), Stewart International (SWF) and Teterboro (TEB) Airports. In order to meets its commitment, the Port Authority currently uses a Noise & Operations Monitoring System (NOMS) consisting of permanent and portable noise monitoring stations manufactured by Bruel & Kjaer and Larson Davis, and the AirScene/FlightGraph software package for analysis of aircraft noise and flight track data. Permanent and portable noise monitoring stations are deployed in communities surrounding the Airports with few spare units in the storage. The AirScene/FlightGraph portion of the system is remotely hosted with no system components present at Authority facilities. The existing noise monitoring units are over twenty years old, and the noise and flight-tracking analysis software requires upgrades for modern capabilities. Replacement of noise monitoring stations will be phased in over a three (3) year period with JFK Airport being the first Airport scheduled for replacement, and EWR and LGA during the second phase. None of the noise monitors at TEB will be required to be replaced under this Contract; further, there are no noise monitors at SWF currently. Total contract term is 9 years of which 3 years will be the base contract and the remaining six (6) years will be divided into three (3) two-yr options, to be exercised solely at the discretion of the Authority.

The Port Authority intends to modernize its NOMS capabilities by replacing the existing system (hardware and software) with a new system that has additional enhancements and technological capabilities to serve both present and future needs of Airport Staff and other stakeholders. The selected NOMS shall be a web-based application that provides comprehensive monitoring, control, reporting, and analytical capabilities to facilitate and optimize user functionality. The new NOMS must integrate the existing historical data that is currently used by the Airport Staff including flight data and tracks, noise readings, noise violations, and noise complaints. The new system must also modernize Port Authority's noise complaint collection system with the ability to file noise complaints electronically through a website. The new system must have robust reliability, allow for back-ups with off-site data storage, and remote archival and retrieval capabilities.

The following scope of work and technical specifications are intended to provide guidelines for the preparation of proposals. These specifications are Authority's desired minimum performance goals as the Authority prefers to allow Proposers maximum flexibility to achieve the NOMS design objectives. Therefore, proposals may include variations in

specific system design features, especially where current technology provides cost-effective solutions to the Authority's needs.

B. Summary of Services

The Contractor shall design, furnish, install, host, operate and maintain a secure Noise & Operations Monitoring System (NOMS), hereafter referred to as the "System," that will provide the necessary tools to Airport Staff in dealing with noise issues in communities surrounding John F. Kennedy International (JFK), LaGuardia (LGA), Newark Liberty International (EWR), Stewart International (SWF), and Teterboro (TEB) Airports. Elements of the service shall align with industry best practices and be adapted to meet Airport needs. The Contractor shall furnish and install necessary field hardware and software in locations selected (i.e. Noise monitoring terminals (NMTs) in surrounding communities and software at Authority facilities), host the System, establish connectivity between the System and external systems, and enable secure remote access through the Internet and provide maintenance of the System. The Contractor shall provide all hardware, software, specialized equipment, communications, tools, transportation and labor required to design, build, install, host, and transfer existing data (to be provided by the Authority) in order to make the System operational and provide the Services as described herein.

II. Project Delivery

A. Implementation Schedule

The project shall be delivered in two phases or "Implementation Periods". The two Implementation Periods are Phase A and Phase B. Phase A shall be the implementation and commencement of a system software to replace the existing system software and services that presently exist and are being provided under the current NOMS contract as described in Section III.D., Software Requirements, with a final delivery/completion to be on a date as mutually agreed upon and accepted by the Authority (Base Date of Operational Usage).

Also beginning on the Base Date of Operational Usage, the Contractor shall assume responsibility for hosting, operation, administration and maintenance of the System, which shall continue, to the end of the contract.

Phase B shall consist of the delivery, installation, and operation of the Hardware units, as described in Section III.C. Hardware Requirements. Implementation of Phase B shall be based on the schedule provided in Section III.B.3, Table 1.

B. Base Date of Operational Usage

The Base Date of Operational Usage shall be a date as mutually agreed upon and accepted by the Authority. The Contractor shall complete all work, finish the Operational Acceptance Test and begin to provide the System and Services as described herein prior to the Base Date of Operational Usage. Noise monitoring terminal (NMT) installation shall take place in accordance with the schedule presented in Section III.B.3, Table 1.

III. System and Functional Requirements

A. System Hosting

The Contractor shall host the System and its components in a protected, secure environment that is not on Port Authority property. The System shall be built using a fault tolerant architecture, and the backup or failover servers and components shall be installed in a diversely located data center to maintain operational availability specified in Section IX.A.3.

B. Existing Hardware

The list of all existing hardware associated with the NOMS system is provided in Exhibit 1. This information is being provided for informational purposes only. The Contractor shall use the list as a reference to select and provide equipment suitable to meet the functional requirements of the NOMS in this Contract.

C. Hardware Requirements

The Contractor shall provide the following services to the Port Authority as described below:

1. Equipment to be Replaced

For JFK, EWR, and LGA, the Contractor shall:

i) Replace existing eleven (11) permanent NMTs and associated hardware (as listed in Section III.C.3) for JFK, LGA, and EWR Airports.

ii) Replace existing eleven (11) portable NMTs and associated hardware that are either deployed in communities or currently in storage.

iii) Communication devices for NMTs shall include the option of using either wireless, broadband or landline connection, depending on the availability and cost of type of connection at each NMT site. Authority's contract manager will determine the type of communication connection to be used for each NMT site.

iv) Replace the existing stainless steel housing cabinets for both portable and permanent NMT units along with any mounting brackets. The new housing cabinets shall be built out of durable material such as stainless steel and be able to house all the supporting hardware and equipment for the NMT unit. Dimensions of existing housing units are approximately 3 ft. by 3 ft., which are installed on wooden poles approximately 14 feet from the ground. Existing housing cabinets can support up to 50 lbs. of equipment weight.

For TEB, the Contractor shall:

v) Provide computer system (DVR Computer System and PC MON – Data Acquisition System listed in Table 2) at TEB to record transmissions from the FAA's Air Traffic Control Tower (ATCT). The digital voice recorder shall be integrated into the personal computer and must record Air Traffic control (ATC) frequencies and correlate transmissions in time to specific flights arriving at and departing from the Airport.

vi) None of TEB's NMTs are required to be replaced as part of this Contract.

For SWF:

vii) There are no NMTs currently installed at SWF Airport. The Authority is not requiring any new installation at SWF Airport at this time. However, the Contractor shall be responsible for flight tracking services for SWF Airport under this Contract as specified in Section III.D.2.

General Hardware Requirement:

viii) The Contractor shall replace the existing two (2) handheld sound level meters with two (2) new handheld meters that must be able to operate on alkaline batteries. The Contractor shall also provide two (2) handheld sound level calibrators for calibrating both the handhelds and NMT units.

ix) The Contractor shall evaluate the existing NMT units being replaced for salvageable value, which can be credited towards the new NMT units and handheld devices.

x) The Contractor shall be responsible to disconnect, remove and dispose all hardware components of the existing System.

2. Hardware Specifications

All the hardware provided by the Contractor shall meet the following requirements.

i) The NMT hardware, including portable, permanent and handheld units, shall be capable of measuring sound levels in D-weighted frequency using ANSI slow response with measurement accuracy of less than +/-0.1 dB.

ii) Each NMT shall be approved to IEC 61672 Class 1 specification with dynamic range in excess of 120 dB.

iii) NMT units shall be capable of storing at least 10 days of hourly noise readings and event data, sampling data, and recorded noise event sound files, in case of telecommunication equipment failure, malfunction of NMT units, or due to disruptions of telecommunication connection service.

iv) NMT units shall be capable of initiating a self-calibration of its microphone assembly as recommended by manufacture specifications.

v) NMT units shall be capable of calibration by the Contractor as deemed necessary due to any power outage or resetting of the NMT. The Contractor shall be able to perform the calibration remotely via manual or automated process.

vi) NMT units shall be equipped with an option of using either analog phone line or broadband connection including wireless. Currently all NMTs,

except for TEB Airport, use landline analog phone connection. However, the Authority requires to have all connectivity options available for future upgrades based on availability of type of connection and associated costs. The Port Authority will be responsible for paying for telecommunication line for each NMT.

vii) Each NMT installed shall be housed in a weatherproof cabinet that will protect the equipment, including telephone and electrical lines, from adverse weather conditions. The cabinet shall be made of rust-resistant material and shall provide protection from vandalism and tempering. Entry points for electrical and telephone connections must be weather-sealed and tamper resistant. Surge protection shall be provided for all electrical equipment to protect from voltage spikes. A surge protector shall have joule energy rating of 720 joules or higher with a minimum of 5 outlets.

viii) NMT units shall be capable of operating on standard 110 V AC power and shall include a backup battery to ensure operation of the unit of at least 96 hours (four days) in case of power outages.

ix) NMT units shall check the current date and time on a daily basis against a coordinated universal time (UTC) reference and adjust its own time clock to maintain accuracy with the UTC within 1 second. If global positioning system (GPS) is used for time synchronization then the GPS antenna shall be mounted outside the housing cabinet to allow seamless connectivity to satellites. be capable of performing a check on time daily and adjust time clock within 1 second accuracy automatically. If global positioning system (GPS) is used for time synchronization then the GPS antenna shall be mounted outside the housing cabinet to allow seamless connectivity to satellites.

x) NMT units shall have available the option of transmitting audio files (in wave or other formats compatible with Microsoft Windows Operating System) of noise events and real-time noise level data.

xi) Microphones shall be equipped with an internal calibrator and capable of external acoustical calibration. The microphone assembly shall also be waterproof (protected from precipitation) and equipped with a windscreen and bird spikes for reliable and consistent operational performance.

xii) All cables for each new NMT installation shall be placed inside a conduit for protection from adverse weather and vandalism.

xiii) The Contractors shall provide appropriate carrying case for each portable noise monitor assembly for easy storage and transportation. The carrying case shall contain the packaging foam, be waterproof and durable for long-term use.

xiv) The Contractor shall provide appropriate hardware capable of continuously receiving and recording ATC and Pilot communications at TEB Airport. The intent of this capability is to provide Airport staff with a system for reviewing radio communications related to aircraft operations that are under investigation for aircraft noise violations.

3. **Hardware Installation**

The Contractor shall fulfill the following requirements regarding all hardware installation:

i) The Contractor shall replace and install all permanent NMTs for JFK, LGA, and EWR Airports at existing locations. This shall include installation of six (6) NMTs at JFK, three (3) NMTs at EWR, and two (2) NMTs at LGA Airports (total of 11 NMTs). For each NMT installation, the Contractor shall replace all the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telephone line, cables, conduits, and climate control device(s) inside the cabinet.

ii) The Contractor shall replace all portable noise monitors for JFK, LGA, and EWR (total of 10 NMTs). This shall include the installation of all the portable NMTs that are currently deployed into communities surrounding JFK, LGA, and EWR Airports. For each portable NMT installation at a community site, the Contractor shall replace all the existing infrastructure including but not limited to NMT housing (cabinet), power supply, telephone line, cables, conduits, and climate control device(s) inside the cabinet. For the portable NMTs in storage, the Contractor shall provide all the necessary components of a NMT for an easy installation at a new undetermined location in future.

iii) The Authority will provide at least one personnel for the installation of portable NMTs and help facilitate site access for each site.

The Contractor shall:

iv) Provide all equipment, labor, materials, and tools necessary for each NMT installation which shall include providing and operating a bucket truck with a 40 foot boom for permanent NMT installations. The Contract shall be responsible for maintaining traffic and/or applying lane closures while bucket truck is in use at each permanent NMT site in accordance with local traffic rules and regulations.

v) Coordinate appropriate disposal of salvaged units with the Authority's Contract Manager. Equipment/units deemed unsalvageable by the Authority Staff must be disposed of properly, along with any associated scrap and debris cleanup, at the Contractor's own cost. The Contractor shall provide the Authority a proof of proper disposal for each salvaged unit.

vi) Provide cleanup and restoration of any damage caused by any work performed at the Airport or NMT site locations. All restoration shall be done in coordination with the Authority's Contract Manager.

vii) Install a computer systems (DVR Computer System and PC-MON Data Acquisition Computer System listed in Table 2) at TEB for recording ATC and pilot communication. The digital voice recorder shall be integrated in the new computer system and must record ATC communication at all frequencies and correlate transmission in time to specific flights arriving and departing at the Airport.

The schedule for Hardware installation is as follows:

TABLE 1

Year/Quarter	No of NMTs	Airport
2013 – 4th Quarter	7	6 Permanent NMTs for JFK 1 Portable NMT for JFK 1 DVR Computer System for TEB
2014 – 2nd and 3rd Quarters	7	3 Permanent NMTs for EWR 2 Permanent NMTs for LGA 2 Portable NMTs for JFK 2 Handheld Sound Level Meters and Calibrators
2015 – 2nd and 3rd Quarters	8	8 Portable NMTs in communities surrounding JFK, LGA, and EWR (Installation at a site or parts replacement in storage)

The Authority shall reserve the right to change the order of priority of NMT installation deemed necessary at any given Airport. An updated schedule will be provided upon any changes to the schedule.

D. Software Requirements

The Port Authority currently uses a NOMS system to record noise monitoring readings, noise violations, noise complaints (via manual entry), and flight tracks. The system is remotely hosted by the current vendor and allows password-protected login from any personal computer on Authority's network via internet. The Port Authority plans to expand the current system to include newly available features and technologies to make the task of noise management more efficient and streamlined for all of its five Airports. The "System" shall be able to provide the following services:

1. **General System Requirements**
   - i) The System shall provide Authority staff with password protected web-based access to the System in accordance to Authority Standards provided in Exhibit 2, Web Based Application Checklist.
   - ii) The System shall provide general public with non-password protected web-based access to various features of the application, such as flight tracking, analysis of flights that caused noise disturbance, and submitting noise complaints online.
   - iii) The System software shall be compatible with Microsoft Windows 7 operating system and later versions.
   - iv) The System software shall include a graphical user interface with simple on-screen management of information, data transposition and layering. The graphical user interface is described in Section IV.H.
   - v) All licenses, including for System users and any third party software required for System operations and functions, shall be provided by the Contractor.

2. **Flight Tracking & Information**

i) The System shall have the ability to acquire flight tracking data from next generation flight tracking technology such as ADS-B/UAT, ASDE-X, MLAT, ASDI, PASSUR data etc. The Contractor shall provide flight tracking data from the FAA's approved, secure and controlled connections (e.g., Internet Enterprise gateways or similar) consistent with latest National Institute and Technology (NIST) standards and FAA Order 1200.22E, *External Requests for National Airspace System (NAS)* data. The flight tracking data shall be available and accessible in the System within 24 hours of actual flight operations.

ii) The System shall be able to capture flight information and tracks for Visual Flight Rules (VFR) traffic including helicopters to the greatest extent possible.

iii) The positional accuracy of flight track shall meet or exceed current industry standards. Flight tracks shall be available in terminal airspace with at-least 40 NM radius from each Airport and as close to the runway as possible. The minimum data collection ceiling shall be no less than 20,000 feet above Airport elevation.

iv) The System shall be modular and readily expandable to support additional data feeds from the FAA or other sources for flight tracking and radar. The Contractor shall be able to integrate the System with the new data feeds as the new data feeds become available.

v) The System shall provide automatic daily downloading of flight track data on daily basis from the data source(s) available.

vi) The System shall be capable of assigning aircraft operations to the runway used for departures and arrivals at each Airport with an accuracy of 96% or better.

vii) The System shall be able to acquire and record the following flight identification data for each operation:

a. Airport ID.
b. Type of operation (e.g. arrival, departure, overflight, touch and go, and missed approach).
c. Runway used.
d. Flight operator category (e.g. air carrier, commuter, cargo, general aviation, and military).
e. Aircraft propulsion categories (e.g. air carrier jets, corporate/regional jets, turboprops, piston propeller, helicopter).
f. Aircraft registration number (for commercial and general aviation aircraft).
g. Aircraft type.
h. Available flight plan data.
i. Flight time (actual and scheduled).
j. Beacon code.
k. Aircraft altitude, speed, and navigation fixes.
l. Airline ID and flight number associated with filed flight plan.
m. Flight origin and destination.

n. Aircraft owner and/or operator (if available).
o. INM stage based on distance traveled.
p. Day/Night operation for INM input.
q. Specific airframe and engine specification (if available).

viii) The System shall have the ability to plot flight tracks on latest available GIS maps with option of adding GIS layers showing noise sensitive entities such as schools, hospitals, city and county boundaries, zip code boundaries, etc. The map shall also provide the ability to toggle between roadmap, satellite and hybrid imagery.

ix) The System shall provide all necessary analytical tools needed to analyze flight tracks associated with noise complaints including, but not limited to, gates, point of closest approach (pca), corridors, flight track density etc. The System shall allow to save the results of the flight track analysis in a spreadsheet (MS Excel compatible) and database file format (SQL compatible).

x) The System shall include the ability to 1) playback flight tracks in 2D and 3D, 2) depict aircraft operations in plan view and 3D, and 3) calculate and show lateral distance over ground, vertically and at closest point of approach to any location within the mapping area. The playback of a particular flight track shall be available in slow motion, real time, and fast forward modes.

xi) The System shall display flight tracks of multiple Airports in different colors and allow filtering of flight tracks based on following criterions: airport, flight equipment, call sign, flight type, operation type, runway, stage length, corridor, gate, pca, route, air carrier, time of day, time of week, flight Id, aircraft registration number, navigational fix, propulsion type, squawk code, flight scheduled time, and noise levels.

xii) The System shall provide the ability to easily save and output flight tracks in format that is compatible to FAA's INM and AEDT models input.

xiii) The System shall include the aircraft registration number for operations at all Airports. This shall include the registration numbers of general aviation aircraft operations at TEB Airport. If a special software or program is required to locate specific records, or to correlate tail numbers with aircraft ownership then that software or program must be integrated in to the System database.

xiv) The Contract shall create, operate and maintain a website to enable the general public to view the flight tracks in near real-time or playback stored aircraft flight tracks over specified time period through the standard web browsers listed above in Section IV.C.4. The website shall provide an analysis tool with will enable the user to determine which aircraft was likely to have caused the noise event of concern by entering their home address and time of the event. The System shall provide information such as flight ID, time, pca, speed, and altitude by clicking on the aircraft icon or flight track.

xv) The public web portal shall allow the user to select a specific flight track to view flight information and be able to click on the flight track anywhere to view the speed and altitude of the selected track.

xvi) The public web portal shall be designed to allow login or access for 1,000 concurrent users.

3. **Noise Monitoring**

i) The System shall provide automatic daily download of noise monitoring data from each NMT in service.

ii) All NMTs that are equipped with a broadband connection shall be able to provide at a minimum the following features:

a. Display real time noise readings and provide graphic representation of the instantaneous sound levels.
b. Provide the ability to troubleshoot the NMT and its components remotely
c. Allow a calibration check of any NMT using the System software on a PC.
d. Ability to record noise events in audio files in wave (*.wav), Windows Meta files (*.wmf), or other Authority approved formats compatible with Microsoft Windows Operating System.

iii) All NMTs shall be able to provide at a minimum the following features:

a. Allow the application administrator to modify the NMT parameters such as noise measurement thresholds and other basic parameters remotely via a computer connected to the System.
b. Allow to set up a new NMT or remove an existing NMT in the System Software.

iv) The System software shall email the daily status of each NMT to a distribution list of Authorized Users indicating whether the NMT data download was successful or not. The Authority shall have the ability to modify the distribution list of Authorized Users who will receive the download status.

v) The System software shall provide a record of each noise event at each NMT listing the date and time of occurrence, the maximum sound level (Lmax), the event duration, and the sound exposure level (SEL). The noise monitored data shall be available in following metrics:

a. Hourly equivalent noise level (Leq) for aircrafts, community and total combined.
b. Daily Leq for aircrafts, community and total combined.
c. Monthly Leq for aircrafts, community and total combined.
d. Daily Day Night Level (DNL) for aircrafts, community and total combined.
e. Monthly DNL for aircrafts, community and total combined.
f. Annual DNL for aircrafts, community and total combined.

vi) The System software shall automatically correlate each noise event with an aircraft operation to the maximum extent possible.

vii) The System software shall differentiate between an aircraft noise event and a community noise event and store each one separately.

viii) The System software shall automatically distinguish between noise events associated with operations from the Airports versus operations from over flights to or from other nearby Airports. Noise events due to over flights

from Airports other than Authority's shall be excluded from the System noise event database but shall be retained as a component of background community noise.

ix) The System software shall perform automatic calibrations daily for each NMT, and record the time and results of the calibration. The noise readings during both manual and automatic calibrations shall be excluded from aircraft, community and total noise levels.

x) The System shall be capable of calculating noise levels based on flight tracks at a certain chosen location on a GIS map. This capability to calculate noise shall be based on FAA's INM model or similar methods and shall be available for any location within 40 NM radius of each Airport.

4. Noise Complaints

i) The Contractor shall create a standard noise complaint entry form for manual noise complaint entry into the System database for Authority approval. The format of the form and information needed shall be established in coordination with the Authority's Contract Manager.

ii) The System shall provide means of correlating each noise complaint with an associated aircraft operation and noise event. The System shall readily show the correlated flight track of the aircraft that likely caused the noise complaint.

iii) The System shall provide the information on weather conditions and runway use during the period of the reported noise complaint.

iv) The System shall allow to map the location of the noise complainant on the GIS map based on the address entered on the complaint entry form.

v) The System shall provide a built in query function to search for noise complaint by different parameters such as address, name, date, time, airport, etc.

vi) The Contractor shall design, for Authority's approval, and host a website for filing noise complaints online via a web entry form. The System must be able to recognize repeat noise complainants by a unique identifier such as their phone number or login ID. The noise complaint web entry shall be set up in such a way to avoid bulk or spam noise complaints by integrating technologies such as CAPTCHA defined as "Completely Automated Public Turing test to tell Computers and Humans Apart".

vii) The Contractor shall create and host a website for general public with its link embedded in the noise complaint entry form. The content of this website, to be provided by the Authority, will contain general information on aviation noise, frequently asked questions about Airport noise, and Airport construction announcements. The Contractor shall update the website upon Authority's request.

viii) The System shall be capable of generating both standard and custom complaint response letter or email incorporating the data collected from the complaint and noise event databases. The System shall allow authorized users to send response emails to noise complainants directly from the System.

ix) The Contractor shall design, for Authority approval, build, operate and host an interactive voice response system (IVR) that uses a toll free number for collecting noise complaints. The information collected via the IVR shall match the information required in the noise complaint form.

x) The IVR shall be designed to convert noise complaint received in voicemail format to wav files and automatically translate to text using "voice to text" transcription technology and save directly in to the System's database.

xi) The System database and interface shall be designed to allow import of noise complaints into the new System from Authority's existing noise complaint database system.

5. Noise Violations

i) The System software shall calculate the noise for each noise event in terms of Perceived Noise Decibel Level (PNDB in terms of D-weighted frequency) at each noise monitor for JFK, LGA, and EWR Airports. The System must be able to generate a bi-weekly report of all noise events exceeding a configurable noise limit, currently set to 112 PNDB for departures. The noise violation report shall contain the following parameters for each event:

a. Airport ID
b. Airline name and flight ID
c. Aircraft type
d. Noise event date and time
e. Time difference between noise event and PCA time
f. PCA time
g. Name of the NMT
h. Calculated PNDB
i. Noise level in SEL for the particular aircraft
j. Event duration
k. Runway utilized
l. Type of operation
m. PCA altitude
n. PCA range
o. Difference between PNDB and SEL

ii) The System software shall filter out all the departures at TEB exceeding the specified maximum noise level (Lmax) in decibels (A-weighted frequency) for a given time of day (i.e. day or night time) and by Runway utilized.

iii) The System software shall maintain a record of individual aircraft that are assessed with noise violations, including date/time, number of violations and incident noise levels.

6. Weather Data

i) The System shall integrate the weather information for each Airport from Digital Automatic Terminal Information Service (D-ATIS). The database shall consist at a minimum of the following weather parameters:

a. Date and time
b. Wind speed and direction

c. Wind gust alerts
d. Runways in use
e. Visibility and ceiling
f. Precipitation
g. Temperature
h. Dew point
i. Altimeter
j. Instrument approach
k. Notices to Airmen (NOTAMs)

The System shall acquire this data on an hourly basis and should be stored in the System database for linking with noise events, flight tracks, noise complaints and violations.

E. Reporting Requirements

The Contractor shall provide standard and custom reports module within the System to produce reports in accordance with the requirements described herein.

The System shall provide the capability to export report data in a format that can be imported into standard Microsoft 2007 Office suite of tools and later versions, including but not limited to the following formats:

- Microsoft Word (*.Docx)
- Microsoft Word 97- 2003 (*.Doc)
- Web pages (HTM, HTML, MHT and MHTML)
- Microsoft Excel (*.xls)
- Comma Separated Value (*.Csv)
- Text (ASCII).
- Adobe Acrobat Readable Files (*.Pdf) ,
- Microsoft Access database format (*.mdb)

The System shall provide advanced data querying and reporting capabilities enabling Users to create tabular and graphical reports from a database. Upon initial implementation, the System shall begin saving and storing data, which shall be used to generate the Reports. Last ten (10) years of stored historical data shall be available for generating reports as well. The System shall provide the flexibility to create, save, execute, and download comprehensive reports on flight operations (Over-flights, Touch & Go, Arrivals and Departures), runway utilization, gate/corridors/pca analysis, noise events, NMT calibrations, noise complaints, noise violations, weather conditions, system status, and database audit reports. Reports shall be sortable by each parameter included in the report.

In addition to the ability to generate reports "on demand," the System shall have a scheduling capability that enables Users to schedule the automatic generation of periodic reports on a daily, weekly, monthly, quarterly, and yearly basis, and include the capability to schedule reports on specific days of the year. The System User who scheduled a report

shall have the ability to configure the System to automatically receive a report via email once it is generated.

1. **General Reporting Requirements**
   i) Headings on all reports shall be standardized (Report Name, Airport ID, Date Report Run, Date Range of Report, Page Numbers, Column Headings on every page, Totals, etc.) and appear in a consistent manner throughout all report formats.
   ii) All reports shall be easily displayed and navigated on the User's access terminals, sent to a choice of any email address, network printer at the user's facility and saved to the User's desktop over the Port Authority's existing wide area network.
   iii) All reports shall be easily sorted by each parameter included in the report.
   iv) Each report shall bear the time and date stamp when the report was generated in the lower left hand corner.

2. **Standard Reports**
   The Contractor shall include the standard reports that are normally included in the System and Services that it provides. At a minimum, the following standard reports shall be included in the System:

   i) Noise Event Report – The System shall provide noise event reports that exceed the noise event trigger threshold for each NMT. The report shall include the data such as duration of the noise event, measure noise values (available in various noise metrics). The report shall have for each noise event the associated flight information, runway use and weather conditions. The report shall also be able to indicate whether the noise event was associated with an aircraft or community.
   ii) Daily System Status Report – The System shall generate a daily system report showing the status of each NMT (i.e. data download success or failure), total number of noise events and calculated DNL value for each NMT, number of noise violations, and status of flight tracking data download.
   iii) Runway Utilization Report – The System shall generate aggregate runway utilization report listing the arrivals and departures by each runway on hourly, daily, monthly or annual basis. The report shall list each individual operation tied with parameters such as aircraft type, airline name, propulsion type, date, time of day, wind speed, wind direction, precipitation and other parameters on a daily, monthly or annual basis.
   iv) Noise Complaints Report – The System shall provide detailed noise complaint report with option of including or excluding various parameters. These parameters, at a minimum, shall include a listing of total number of complaints by each complainant, date, time, nature of complaint, address, jurisdiction, complaint airport, etc. on daily, weekly, monthly, or annual basis. The System shall provide graphical reports showing the location of noise complaints on a GIS map and listing of complaint statistics graphically

based on daily, weekly, monthly, annual, certain day of the week, or certain time of day.

v) Noise Violation Report – The System shall provide noise violation report listing the Airport, airline/operator, flight id, equipment type, pca time, time difference between noise event and pca time, NMT site, calculated PNDB value, SEL, event duration, runway used, operation type, pca altitude, pca range, and difference between PNDB and SEL. The System shall allow to generate this report for JFK, LGA, and EWR Airports on daily, weekly, monthly, or annual basis. The report shall include graphical depiction of noise violations by noise monitor, airline/operator, or runway utilization.

vi) Gate/Corridors/PCA Analysis Report - The System shall generate a report on a particular gate/corridor/pca generated graphically on a GIS map. The report shall provide the flight events information for a given gate/corridor/pca by day of the week, or time of day on daily, weekly, monthly, or annual basis. The report shall include graphical depiction of flight tracks associated with the gate/corridor/pca and tabular listing of date/time, flight id, penetration time, aircraft type, altitude, aircraft speed, and average wind speed and direction reported for the time of the flight time.

vii) Weather Report – The system shall provide a report on Airport weather conditions (i.e. wind speed & direction, precipitation, ceiling, humidity level, etc.) by airport, and date/time based on hourly, daily, weekly, monthly or annual basis. The report shall include the runway(s) utilized for the hourly weather data. The System shall provide the predominant wind directions and speed for weekly, monthly, and annual reports. For example, within a certain time frame as chosen by the User, the System shall provide the percentage of predominant wind direction and speed such as 90% of wind out of southeast direction while 10% of wind out of east direction, and 80% of wind speed over 10 knots while 20% of wind speed under 10 knots, etc.

viii) Maintenance Report – The System shall generate report listing the time and results of daily automatic and/or manual calibration of each NMT. The maintenance report shall also be able to provide the current settings and various parameters of each NMT such as location, coordinates, threshold settings, pca settings, etc.

ix) Database Audit Report – The System shall generate report containing edit logs associated with any editing or modifications made to the System databases. The report shall document the nature of changes made, the date and time stamp for the change, any comments made by the authorized user for the change, and the original values of the information that were changed.

x) Event Log Report – The System shall provide the capability to enable the Application Administrator to filter and sort the event log and generate a customized event log report.

xi) User Access Report – The System shall provide a report on authorized users' access permissions, logins/passwords, and history of past logins into the System.

3. **Database Query Reports**

i) In addition to the established predefined reports, the System shall feature an advanced database query or *ad-hoc* reporting capability that generates reports based on customizable User-defined criteria. This shall be a free-form query capability where Users would be able to generate reports identifying the various data fields to be included and by selecting time period(s) and other parameters. The ad-hoc queries or reports created in the System shall belong to the Authority.

The Contractor shall provide additional, custom reports, beyond those reports specified herein when requested by the Authority throughout the term of the contract period. Once the Port Authority identifies the content of the reports, the Contractor shall submit a report proposal that contains a scope of work, detailed labor breakdown, schedule and a cost proposal for approval by the Authority's Contract Manager. The labor cost to provide custom reports shall not be included in the cost to provide the basic System and Services, but shall be compensated in accordance with the provisions stated in Section IX.E. Supplemental Work.

IV. General System Design Requirements

A. Overview of Application

The System shall provide the following:

- Secure access and protection of Authority data against intrusions and internal misuse of data.
- Continuous operations in the event of a catastrophic failure.
- Consistent user interface.
- Interface with external systems through an open systems architecture.

The Contractor shall build the System to comply with the most current version of the Authority's Audit Department's Control Guidelines included in Exhibit 3 and satisfy the checklist therein.

All computing and networking equipment shall comply with the Standards and Guidelines for Port Authority Technology, included in Exhibit 4, unless written approval is received from the Technology Services Department.

B. Security Requirements

1. **Data Security**

The System shall provide secured access and protection of Authority data against intrusions and internal misuse of that data. The techniques used to secure access and protect the data shall include, but not be limited to the following:

- Transparent Data Encryption
- Secure transmission of data

- Secure encryption of data
- Strong, best practices password policy
- Record all User logins (both successful and unsuccessful login attempts) and activities

2. **Physical Security**
The Contractor shall provide secured access and protection of the System against unauthorized physical contact to ensure that System operations are never compromised. Only authorized personnel shall be permitted access to the System to perform their designated assignments. The Contractor shall control, monitor and document access to the System and all System components. Protect the System and the building(s) where the System components are located from theft, vandalism, natural disaster, manmade catastrophes, and accidental damage and provide an appropriate environment that is conducive for proper System operation in accordance with the requirements stated herein.

C. System Architecture

1. **Redundancy**
The System shall be redundant and configured to provide for continuous operation in the event of the failure of any server or software component. Once implemented, the hardware and application shall continue to operate if one server fails. The System may be designed to automatically failover from the failed component to its secondary counterpart, otherwise, the Contractor shall manually failover from the active primary server(s) to the secondary server(s) within four (4) hours of detection of a hardware failure in any of the system servers.

2. **Diversely Located Secondary/Redundant System**
The secondary/redundant components of the system shall be diversely located, both physically and logically, in an alternate computer site, to ensure continuity of operations in event a catastrophic event adversely affects the site where the primary components are located.

3. **Fault Tolerance**
A fault tolerant computing solution shall be provided so that the system may continue to run upon detection of a communications failure between the central servers and the NMT's. Once communications is restored, the central servers shall upload the field data from the NMT's and resume normal processing.

4. **Web-Enabled**
The System shall be web-enabled to the extent that allows the general public to access various features of the application, such as flight tracking, submitting complaint forms, through a secure, web-enabled interface on normal desktop or laptop computers using standard Internet Browsers in their native operating systems, including, but not limited to, the following:
- Internet Explorer, version 7 (and later)

- FireFox 3 (and later)
- Safari 4 (and later)
- Chrome (all versions)
- Opera 9 (and later)

D. Database Requirements

1. **Data Ownership**
The Contractor shall propose ownership rights of the data collected by and used for the System operation. The Contractor shall include a detailed description of which data will be owned by the Authority and which data will remain in ownership of the Contractor. The Contractor shall guarantee that at the end of the Contract the data owned by the Authority will be transferred back to the Authority in a usable format specified by the Authority.

2. **Data Security**
The Contractor shall take all appropriate actions and measures to protect the data from unauthorized access and describe its approach in the proposal. Within 30 days of the end of the contract period including any extension periods, a copy of the data collected throughout the entire time period of the contract shall be provided in a digital format to the Port Authority. Data should be stored in a database which is physically and logically separated from other customers.

3. **Historical Data**
The Contractor shall transfer 10 years of data (from April 1, 2003 through May 31, 2013) and System shall maintain this historical data in the new System. The historical data shall be available in the new System within thirty (30) calendar days of May 31, 2013. The data, to be provided by Authority in external hard drive in database format, shall include noise monitor readings, noise violations, noise complaints and flight information and tracks.

4. **Database Replication**
The System database(s) shall be replicated onto the backup application server, (and/or backup database server if a separate server is used), which is located in a different data center for diversity in order to maintain System operation in the event that the primary application server (or primary database server if used) fails without loss of data or user control.

5. **Data Storage and Archive**
The System shall provide online storage of data for a minimum of ten (10) years of data without any degradation in System performance. For each month beyond the current ten (10) years of storage, the System shall automatically archive the data for long-term storage to a external hard drive, tape or R/W-DVD, and deleted from the online database storage.

6. **Database Backups**
The Contractor shall backup all servers at the hosting facility that are used as part of the application. The backup shall contain all data, application and system files and be performed as follows:
- A full backup of each server shall be performed on a weekly basis.
- An incremental backup of each server shall be performed on a daily basis and backup all files that have changed since the last backup.
- After the commencement of this new Contract, the backed-up data shall be provided to the Authority on a quarterly basis or anytime upon request (i.e. last 3 months of data starting from the date of new contract and so on). The data shall include flight information and tracks, noise monitor readings, noise complaints, noise violations, and weather data. The data shall be provided on a DVD and shall be in an approved database file format, either SQL or Oracle database.

7. **Testing the Restore Procedure**
The Contractor shall verify that system backups can be used to successfully restore the backed up data. The Contractor shall performthe test restore on a single non-critical directory only, not the entire server. When incremental or differential backups are routinely used, the test restore procedure shall incorporate the following:
- Immediately prior to performing the test restore procedure, do a special full backup on the directory being tested.
- Testing a full restore shall only be performed on a non-production server.
- Testing shall be performed, at a minimum, at least annually.
- Test results shall be documented.

8. **Database Setup**
The Contractor shall provide a fully functional system that includes the configuration, data entry and fine-tuning of a database and configuration of the system to meet the requirements of the Contract.

E. Screen Display and User Control

The System shall provide critical information on all screens to provide a context for Users of the application (i.e. flight tracking window, noise event window, etc.). Report headings shall be standardized, and shall appear in a consistent manner throughout all presentation formats of the application on both the standard or custom reports.

F. Access Privileges

The Contractor shall provide at-least three (3) user accounts with full access to the System and at-least seven (7) user accounts with limited access (i.e. read only access). The primary user or Application administrator must be able to create and reset passwords for all other user accounts.

The System software shall be configured to handle two level of access privileges. The first level shall be for 'System Users' which shall be dependent on access permissions/restrictions as set by the Application Administrator (i.e. read only access, access to only flight tracks or noise event data, etc.). The second level shall provide full system access to a user termed as a 'Application Administrator' including the ability to edit database, add or remove users, create login and passwords for users, grant access to various system modules to users, and allowing read only or read/write access to other users. The System software shall provide the capability to allow the System Administrator to examine, modify and print the list of user access permissions/restrictions and functions associated with each System User.

The default user privileges associated with each access level are defined as follows:

- Level One – System User
  This level will provide users with read-only access to monitor all system data and obtain all reports including standard report and custom reports. User with level one access shall not be able to modify any data.

- Level Two – Application Administrator
  This level will provide authorized users with the ability to administer and maintain the application. Level two users shall have the ability to maintain a list of authorized users and their passwords, access to all Level one function and be able to do the following:

  i. Make operational adjustments to system thresholds and parameters.
  ii. Examine, modify, print database entries and perform all database maintenance function.
  iii. Backup and restore the system configuration, libraries, database.
  iv. Maintain user and password controls and application access permissions.
  v. Assign user access permissions to different modules of the System such as noise monitoring, noise violation, weather data, etc.
  vi. Access and maintain the event log.

The Contractor shall provide three (3) user accounts with Level Two access and seven (7) user accounts with Level One access.

G. Event Logging

The System shall record all system activity and maintain the activity log for subsequent reporting. The System shall record all events and changes made by the users. Each record shall contain, at a minimum, the User name, time, and date of the event/activity occurred, and include the event or activity performed. The log record shall include, but not be limited to the following information:

- Log in and log out activity by each user

- All events and changes made by the users to operational data
- All changes made to the setup or configuration
- All equipment failure and restoration

Description for each change shall include the values of the data both before and after the changes were applied.

H. Graphical User Interface

A user-friendly graphical user interface (GUI) shall be furnished that is ergonomically designed to facilitate user operation in an intuitive manner and to minimize operator actions for information retrieval and system operation. The user shall be able to invoke any action or command with no more than three (3) mouse clicks and any additional required data. The user interface shall be designed with streamlined display screens to facilitate easy data entry and general viewing. Navigation tools/menus/keys shall be prominently displayed and provide consistent, easy movement within and between screens.

All control and reporting features shall have a logical hierarchical arrangement to engage the user through such features as pull-down menus, interactive graphics, dialog boxes, or other user-friendly means. The user interface shall prompt the operator with instructions or for additional information when user entry is required. Context sensitive help or another form of on-line documentation for all functions and operations shall be provided.

I. System Sizing

The System shall be capable of supporting the following:

- 10 user licenses including 3 for System Administrators and 7 for System Users
- Maximum of up to 50 NMTs
- New NMTs for SWF Airport in the future, if needed
- Storage for 10 years of flight tracking, noise event, noise violation, and noise complaint online data.
- The website for general public for investigation noise events shall support 1,000 concurrent users with no degradation in system performance or discernable delay.

J. Equipment Failure Management

The System shall:

1. Provide a Failure Management capability that will perform the following functions for the equipment and systems as follows and specified below:
   - monitor system components for equipment failures and when the equipment operation is restored.
   - log an error message, noting the equipment failure, type of failure, location of the failed equipment, time and date the failure occurred.

- Notify the system users of the equipment failure
- Log a message once the system detects when the equipment is repaired and operation is restored

2. Provide a graphical display to view equipment status on a workstation or as a hardcopy report. This display shall illustrate in a geographically correct manner the location of all field equipment and indicate the failure status of each device.

3. Provide the User with the capability to search the Failure logs, perform targeted searches, and sort log entries by the following:
   - Time and Date
   - Location or range of locations
   - Type of event, or failure
   - Type of equipment
   - Filter out equipment or failures from report

4. Flight tracking data - If the download fails or is interrupted, the System shall notify automatically both the Contractor and the Authority's Contract Manager and allow the Contractor to download the data manually.

5. Noise monitoring data download - If the download fails or is interrupted, the System shall automatically notify, via an email message, to the Contractor and the Authority's ontract Manager and allow the Contractor to download the data manually.

6. In case of data download failure, the Contractor's technical support team shall identify the possible reason such as power failure or communication device/line failure, etc. and recommend possible solutions via telephone call or email to Authority's Contract Manager. If a site visit is required to troubleshoot then the Contractor shall dispatch its own technician to troubleshoot within the time period as specified in Section VIII.5.c.2.

V. General System Performance Requirements

A. General System Performance Requirements:

The System shall consist of readily available, proven hardware and software elements, which are fully consistent with the System's design and operation as specified. It shall have the throughput, capacity, and availability, as specified herein, to provide the required functionality. It shall meet the performance requirements identified herein and under the maximum loading when all Users, as specified in Section IV.I. System Sizing, are connected and interacting with the System and all System devices are engaged and performing their specified functions, with no loss of data or user control.

At a minimum, the System shall:

1. Update user workstation display within 10 seconds of user action/request if Workstation is connected to the Internet through a broadband Internet connection, except for reports or database queries, animation, and GIS mapping.
2. Use a maximum of 50% of internal random access memory and disk storage in the servers and Workstations.
3. Use a maximum of 50% loading on individual processors under worst case loading when all devices are engaged and all System elements are in operation.
4. Provide the capability for the numbers of users, specified in Section IV.I System Sizing, at different Workstations to access the same application concurrently without any degradation of system performance.

B. System Availability

The System shall be a redundant, fault tolerant architecture with an availability of 99%. The application software furnished and installed by the Contractor shall be designed and built so that the applications software always operates properly on an active server and meet the availability requirement of 99%.

During periods of outages, disruption and maintenance, periodic updates shall be emailed to System Users highlighting the impact to the service. The updates shall include, at a minimum, the following information:

1. Work to be performed
2. Date and Time of Maintenance Activity
3. Anticipated impact on System performance
4. Notification about how the Contractor plans to capture information about the specific activity
5. Timeframe describing the forecasted outage, disruption or maintenance completion time
6. A follow-up message indicating completion of the event and System restoration.
7. A phone number and email address where the User can call or write with questions regarding the activity.

VI. Training

Training shall be provided to maximum of ten (10) Authority users after the System is up and running and in future with introduction of new System features. Refresher training shall also be provided on as needed basis. The location of the training will be at one of the Port Authority's facilities to be determined at a later time.

The Contractor shall provide operation and administrative training for the entire System to designated Authority staff through the means of practical demonstrations, seminars and other related technical teaching procedures. The training program shall be implemented with formal classroom training and/or other forms of presentation as recommended by the

Contractor. The curriculum shall be designed so that trainees shall be trained in the full repertoire of system commands that they may have to use in the course of performing their designated functions. Trainees shall be provided with complete sets of training materials during the training sessions, which they shall retain for use on the job at the completion of training. The Contractor shall complete all training on-site prior to the commencement of the System Inspection and Testing.

The Contractor shall also provide supplemental refresher training on as needed basis, when requested by the Authority's Contract Manager. The refresher training can be provided via teleconferencing and/or web meetings utilizing the training material provided previously.

VII. Acceptance and Testing

A. System Inspection & Tests

After the Contractor completes its integration with existing NMTs, development, internal testing and configuration of its application to meet the contract requirements, the System shall be formally tested in its entirety at an Authority's facility to be determined at a later date. System Inspection & Tests for Phase A are due within ninety (90) days after the Contract award date. The System test must cover testing of all equipment, hardware, networking, software and application functionality. The Contractor shall conduct two tests on the System, one involving the applications and software and second for the NMT installation (when any one of the NMT installation is complete).

The Contractor shall notify the Authority's Contract Manager that it is ready to schedule a System Inspection and Tests. The Authority's Contract Manager has the right to include not more than two additional Authority professionals, who have been deemed the technical and operational experts to assist in witnessing the System Inspection and Tests.

1. Testing shall be performed by the Contractor and witnessed by the Authority's Contract Manager using test procedures submitted by the Contractor and approved by the Authority.
2. Testing shall be conducted with all devices and components integrated as a System with use of real data. Testing shall demonstrate proper System operation in the fully integrated environment to validate the intended function and performance of all field devices and infrastructure components functioning in accordance with the Contract requirements and operating as a fully integrated system.
3. The Inspection and Tests shall be conducted in their entirety in order to demonstrate that every feature and function of the hardware, software, firmware and network components of the System is fully integrated and is in conformance with the Contract documents. Testing shall demonstrate end-to-end connectivity and full functionality of all System components. Testing shall include a stress test to demonstrate that the System meets the performance requirements when processing all devices in the final system configuration.
4. The success (pass) or failure of each test and any detailed test results will be recorded by the Authority's Contract Manager.
5. All hardware, software, network, equipment, external connectivity, licenses and labor required for the test shall be furnished by the Contractor.

6. The Inspection and Tests shall be conducted in their entirety in order to demonstrate that every feature and function of the hardware, software, firmware and network components of the System is fully integrated and is in conformance with the Contract documents. Testing shall demonstrate end-to-end connectivity and full functionality of all System components.
7. The Contractor shall demonstrate that Users can access all features of and control the System from a minimum of two (2) User Workstations simultaneously.
8. In the event of a test failure, the Contractor shall make all repairs or modifications required for passing the test. The failed test shall be repeated, from the point of failure, until the results are satisfactory to the Authority's Contract Manager. Any subsequent planned tests that, in the opinion of the Authority's Contract Manager, are dependent on the satisfactory passing of the failed test shall not be performed until the failed test is repeated and has satisfactorily passed. To demonstrate a satisfactory resolution of a failed test, the Authority's Contract Manager may require that the Contractor perform additional tests. These additional tests shall be made at the expense of the Contractor.
9. If, in the opinion of the Authority's Contract Manager, there are an excessive number of failed tests, the System Inspection and Test shall be halted and the Contractor shall repeat all or part of the Inspection and Test, at the discretion of the Authority's Contract Manager, at a later date.
10. At the conclusion of the test, the Contractor shall submit to the Authority's Contract Manager an acceptance test report for the purpose of verifying and validating the accuracy and integrity of the System as installed. The Port Authority's Contract Manager will review the report and respond within five (5) business days; indicating approval or noting changes required either in the performance of the work or in the report. The Contractor shall make all changes and perform such necessary work as the Authority's Contract Manager's direction.
11. Neither the witnessing of a test by the Authority's Contract Manager, or the waiving of a right to witness a test shall relieve the Contractor of the responsibility of furnishing the System that is in compliance with the Contract requirements. The witnessing of any tests by the Authority's Contract Manager's designated representative, or the approval for shipment of System shall not be deemed as acceptance of the System, the associated hardware, applications, electronics and communications equipment.

Any System malfunction or problems discovered during the testing shall be corrected by the Contractor at no cost to the Port Authority. Problems identified in each test shall be corrected and the percentage of the entire system as determined by the Authority's Contract Manager shall be re-tested before any subsequent testing phase is performed. Acceptance of any test will be the sole discretion of the Authority's Contract Manager.

B. Field Acceptance Testing

In Phases B of the project, as each new NMT is installed and agreement by the Contract manager to initiate testing is received, the Contractor shall conduct a two-part Field Acceptance Test. Initial testing shall be conducted on the stand-alone NMT to demonstrate the NMT and local infrastructure components were installed in accordance with the approved design, provide the contract-required functionality and perform in compliance

with the Contract documents herein. Subsequent to approval of the Contract Manager to continue to the second part of the Field Acceptance Test, the Contractor shall connect the NMT to the approved communications provider and configure the System to commission the NMT for operational usage. The NMT and all associated control, electronics, and communications equipment and the System as a whole shall be tested to show the NMT is fully integrated with the System and complies with the Contract documents.

Testing shall be performed by the Contractor and witnessed by the Contract Manager using the test plan submitted by the Contractor and approved by the Contract Manager. All items and functions of the NMT's, all associated control, electronics, and communications equipment shall be tested in their entirety and all portions of the System that are impacted by the addition of a NMT shall be tested as well in accordance with the Field Acceptance Test procedures. The Contractor shall develop separate test scripts to demonstrate the stand-alone functionality and performance of the NMT's. All portions of the System that are impacted by the addition of a NMT's shall be tested using, at a minimum, all tests and procedures incorporated in the System Inspection and Test that was approved by the Contract Manager. Actual inputs and outputs shall be used for the field test as they become available. Simulated inputs and outputs may only be used in the field test to demonstrate compliance with the Contract documents if the actual inputs and outputs are not available at the time the field tests are being conducted. Said testing shall continue until the results are satisfactory to the Contract Manager. The Contractor shall perform any repairs, construction, or modifications necessary to comply with these requirements.

Subsequent to testing, submit to the Contract manager a Field Acceptance Test Report at the conclusion of the test for the purpose of verifying and validating the accuracy and integrity of the System as installed. The Contract manager will review the report and respond; indicating approval or noting changes required either in the performance of the Work or in the report. Make all changes or perform additional Work as the Contract manager may direct prior to the start of the 14-Day Operational Test for the NMT's.

C. 14 Day Operational Test

Upon notification from the Port Authority's Project Manager of approval of the System Inspection and Test Report and the Contractor's certification that the System is ready for operational testing, an Operational Test phase shall commence for each phase of the project. The Port Authority operating staff with the advice and assistance of the Contractor shall perform the Operational Test during a 14 consecutive day period. During this period, Authority staff will operate the System using the latest version of all applicable manuals, printed guides and procedures.

1. Failures during Operational Test

If there is a major system or component failure during the 14 day Operational Test, the Contractor shall correct any malfunctions as they occur. After the Contractor corrects a malfunction, the 14 day test shall restart, at day one, and shall continue until the System and all associated control, electronics, and communications equipment have operated without interruption or malfunction for 14 days, and the

results are satisfactory, with the written approval of the Port Authority's Project Manager.

2. **Performance Period**
The Performance Period for operational testing shall begin on the date operational testing commences. It shall end when the System has met the 14 consecutive days of operation in conformance with the Contract requirements at the required availability level stated herein.

D. Submittal Requirements for Testing

1. A test plan shall be submitted to the Authority's Contract Manager for approval not less than 14 days prior to the proposed start of the System Inspection and Test and shall include, at a minimum, the following details:
   a. A summary statement of the purpose and goal of each portion of the test.
   b. The method of testing. Functional procedure, including use of any test equipment.
   c. Hardware and software used for the test.
   d. Detailed test procedures that demonstrate that the features and functions to be provided in the furnished hardware and software conforms to the requirements of the Contract.

2. The Contractor shall identify the:
   a. Steps for each test to be performed.
   b. Purpose of the test.
   c. Conditions which exist at the start of each test procedure.
   d. Conditions/results expected at the conclusion of each test procedure.
   e. The specification requirement that will be demonstrated by the test procedure.

3. The record keeping document for the testing shall include the following:
   a. the actual test results
   b. check boxes for the test outcome (pass or fail)
   c. dated signatures of both the person performing the test and the Authority's authorized (witness) representative, and
   d. Comments of the test witness(es).

4. A request to conduct the test shall be submitted to the Authority's Contract Manager for approval, not less than 14 calendar days prior to the proposed start of the test. The request shall include the estimated length of time required to complete the testing and shall include an agenda that identifies when each of the tests are scheduled to be conducted. The Contractor shall submit copies of all user manuals to enable test participants to become familiar with the System's operation.

5. A test report shall be submitted to the Authority's Contract Manager after the completion of the test. The report shall include the signed test document, including all annotations and notes from the actual tests and all failed test reports. The test report shall also state the test results and indicate the nature of any failure(s), the reasons for

the failure(s), what corrective actions were taken and on which units the corrections were made, and a list of any outstanding items.

E. Acceptance of the System

Acceptance of the System, indicating its ability to perform in accordance with the Specifications provided in the Scope of Work, will be determined by the Authority's Contract Manager. Performance of the System shall equal or exceed the Specifications stated for each individual System component or feature. If the System does not perform satisfactorily, the Contractor shall make corrections and modifications and schedule a new acceptance test with the Authority's Contract Manager. Determinations as to the System's compliance with the Specifications shall be at the sole discretion of the Authority's Contract Manager.

VIII. Submittal and Documentation Requirements

Unless specifically stated otherwise, the Contractor shall submit to the Authority's Contract Manager following items:

A. General Submittal Requirements

1. **Submittal Review**
   Allow the Authority's Contract Manager a minimum of five (5) workdays to review each Contractor submittal and re-submittal. The Contractor is responsible for maintaining the approved schedule even if multiple review cycles are required for each submittal.

2. **Submittal Format**
   The Contractor shall submit all narrative text or tabular list-based submittals as follows:
   a. No documentation shall be smaller than 8.5" x 11". Document pages shall be numbered sequentially. Revised documentation shall be identified with a version number and revision date on the cover and each page. For all hard copies submittals, bind all 8.5" x 11" documentation, except standard spiral bound materials, in logical groupings in 3-ring loose-leaf binders. Each bound grouping of documentation shall be permanently and appropriately labeled.
   b. Three sets of hardcopy documents.
   c. One set in a electronic format that shall be viewable and easily modifiable with the Microsoft Office 2007 suite of tools.

B. Submittal Schedule

1. Project Plan and Schedule

Within fourteen (14) days after receipt by the Contractor of Contract Award, the Contractor shall submit a Project Plan and Schedule to the Authority's Contract Manager. Elements of the Plan shall include, but are not limited to: overall project implementation plan; installation plan drawings; product installation literature for all primary components of the System, plans and schedule for transferring historical data to the new System; a schedule and plan for the installation of all noise monitoring hardware/devices, computer hardware, development of custom software features and the loading of all software (with emphasis on what precautions shall be taken to minimize disruption of current operations); plans for loading of the initial database, training; and, responsibilities for application administration during installation.

The Project Schedule shall be presented in a graphical format showing when tasks occur, when resources are required, and what task dependencies exist. The Project Schedule shall be of sufficient detail and clarity so that all work can be reviewed and the Authority's Contract Manager can monitor progress. The charts shall indicate a logical sequence of work and identify all dependencies, personnel resources, material, equipment, and work areas required for completion of the work. The Project Schedule shall be submitted both electronically and in hard copy.

The degree of detail shall be sufficient to identify at a minimum:

a. All activities, tasks and stages of construction, milestones and deliverables as specified both within the Contractor's system development and installation methodology and those specifically identified herein.
b. All the activities and tasks associated with the development, installation, integration, configuration and preparation of the System and all subsystem components, submittals, testing and training.
c. Project activities with associated tasks and sub-tasks.
d. Interfaces and dependencies with preceding, concurrent, and succeeding work effort.
e. Resources needed and assignments down to the task level for staff, material, and equipment.

2. Progress Schedule - Preparation, Updating & Reporting

The Contractor shall prepare and submit updated progress schedules to the Authority's Contract Manager every other week, with a complete outline of all tasks and activities required for the execution of this project.

The Contractor shall also schedule and conduct regular status meetings on strategic, tactical and operational issues via telephone conference calls no less frequently than on a weekly basis with the Authority's Contract Manager, and other service providers as necessary for resolution of agenda items. At the sole discretion of the

Authority, the frequency of meetings may be adjusted. The purpose of these meetings shall be, (but is not limited) to:

- tracking the status of the work activities;
- reporting on the operational status of the services, infrastructure and communications links and availability of connectivity between the Authority and the Contractor;
- reviewing and reporting on any operational issues;
- reviewing Contractor's invoices for services provided;
- reporting or communicating on all availability of services and the environment directly impacting the Port Authority's services; and
- resolving any disputes.

The Contractor shall produce and deliver to the Authority's Contract Manager, at least 24 hours prior to each status meeting, an agenda that includes a status report listing strategic, tactical, and operational items and issues and the status of each. The report shall at a minimum provide a complete statement of the system's status through performance measure reporting, and indicate progress made on operational, project or task issues or activities during the reporting period.

3. **System Diagrams**

Within thirty (30) days after Contract Award, the Contractor shall submit to the Authority's Contract Manager for review and approval the following detailed system design documentation:

a. System Block Diagram illustrating the interrelationship between all system components.
b. Connectivity Diagrams to illustrate the connections among all system components including, but not limited to, the primary and backup application and database servers, workstations, communications network and any proposed external connections. The connectivity diagram shall identify the use of all ports and communications protocols.
c. Schematic diagrams to show the proposed locations of the equipment that are to be furnished and installed.

4. **Security Practices and Policies**

Within thirty (30) days after Contract Award, the Contractor shall submit to the Authority's Contract Manager a description of all system security features, practices and policies that are designed into the System to protect, control and monitor access to the System and its components (e.g., hardware, software and data) to achieve the security requirements as described herein.

5. **System Documentation**

Within thirty (30) days after Contract Award, the Contractor shall submit to the Authority's Contract Manager for review and approval a detailed description of the products to be furnished for installation as part of the Contract. System

documentation shall include comprehensive and detailed technical descriptions of the System hardware, software, and communications architecture.

6. **System Hardware Documentation**
Within thirty (30) days after Contract Award, the Contractor shall submit to the Port Authority's Contract Manager for review and approval a detailed description of the system hardware. Hardware documentation shall include:
   a. Hardware Specifications
      Complete specifications for each hardware component of the System.
   b. Component Drawings
      Drawings that clearly and completely indicate the function of each System hardware component.
   c. Computer Hardware Requirements
      Provide detailed requirements of the computer hardware that is required by the applications software to satisfy the functional and performance requirements of the Contract. The requirements shall state all computer hardware considerations, and include, at a minimum the computer architecture, processor speed, memory, secondary storage and peripheral considerations.
   d. Commercial Off-the-Shelf Products
      The Contractor shall furnish a complete list of Commercial Off-the-Shelf (COTS) products furnished as part of the Contract. Include the name, manufacturer, part number and material specifications as applicable.

7. **Manuals**
Within thirty (30) calendar days prior to the start of the System Inspection and Test, prepare and submit, for approval, all manuals for the Authority review and approval. A site-specific manual shall also be provided to document the specific site-related configuration and operations / maintenance. Additionally, all Manuals shall be available electronically for local and geographically disbursed Users.
All manuals shall be specifically written for this Contract. Pages from the original equipment manufacturers standard operations and maintenance manuals can be referenced in the manuals written for this Contract, provided all of the referenced items are included in the manuals.

   a. **Operations Manuals**
      A set of Operations Manuals shall be provided that clearly describes all User operations. The manuals shall explain all the features and functions of the System for day-to-day operations and how to use the system to manage more complex situations.

      The Operations Manual(s) shall contain detailed description of system operations and procedures on how to perform all user functions, including but not limited to the following: using analytical tools for investigating noise complaints, editing database, entering data into the database, various NMT operations and functions, creating reports both standard and custom, explanation

of various system features and uses, filter and sort the event log, error handling procedures, etc.

The Operations Manual shall be written for intermediate computer users who are familiar with basic computer operations and terms. The Operations Manual shall contain step-by-step procedures with examples containing pictures of the computer screens, explanation of the user interfaces and graphics to illustrate the overall concepts. The manual shall be for instructional, study and refresher use.

b. Application Administration Manual

The Application Administration Manual shall include, but not be limited to all sections covering administration of the application, configuration functions, including but not limited to the following items:

- Detailed instructions and procedures for the installation and configuration of the software;
- Detailed description and procedures for configuration of user access privileges and access levels to use of all application functions;
- Detailed description and procedures for the configuration and management of the application and its databases;
- Detailed description and procedures for installing the application software;
- Detailed description and procedures for event logs maintenance activities including downloading, sorting, printing and clearing;
- Detailed instructions on how to manage multiple users accessing the System.

8. Disaster Recovery Plan

Prior to the completion and acceptance of the System Inspection and Test, the Contractor shall obtain and submit, for the Authority's Contract Manager's approval, a disaster recovery plan to recover all System components and data operating as part of this Contract, to ensure continuity of operations in case a catastrophic event eliminates one or more of the locations where the System is housed. See Exhibit 5 for Disaster Recovery requirements.

9. System Security and Audit

Prior to the completion and acceptance of the System Inspection and Test, the Contractor shall obtain and submit, for the Authority's Contract Manager's approval, SSAE 16 SOC 2 certification of the security policies and practices employed in its System operation which demonstrate that the following protections are provided:

- Physical access to the production environment, stored data, and documentation is restricted to prevent unauthorized destruction, modification, disclosure, or use.
- Logical access to the production environment, data files, and sensitive system transactions, is restricted to authorized users only.
- The production environment is protected against environmental hazards and related damage.

- Regularly scheduled processes that are required to maintain continuity of operations in the event of a catastrophic loss of data, facilities, or to minimize the impact of threats to data, facilities or equipment, are performed as scheduled.
- System hardening measures have been adequately applied to protect the System against risks to which it is exposed.
- Logging of IT security events is enabled for the System, security logs are reviewed in a timely manner, and appropriate actions are taken by Contractor IT staff in response to System security events.
- Routine virus scanning and web application security.

10. Training

a. Training Plan

Submit to the Authority's Contract Manager for approval, not less than fourteen (14) days prior to the intended start date for training, a Training Plan that includes, but is not limited to the following for each training class:

1. Detailed description of the course curriculum;
2. Draft copies of the course material including but not limited to manuals, study guides, workbooks, technical reference material, etc.;
3. Technique that will be used to provide training to the System Users;
4. Comprehensive schedule for the delivery of all training classes. The schedule shall include the dates, times and exact locations for the training courses. The training courses shall be held at the Authority facility, at a location designated by the Port Authority's Contract Manager. The dates and times shall be coordinated with and approved by the Authority's Contract Manager.

b. After completion of all Training Courses, submit the following:

1. One unbound, reproducible master set of all manuals and a copy of each manual in a digital format. These master sets shall include a written non-disclosure and copyright waiver allowing the Authority to make unlimited copies, for its own use, of any copyrighted material within, royalty free, during the term of the Contract.
2. Six (6) bound sets of operations manuals.
3. Six (6) bound sets of Applications Administration and System Administration.

11. Change Management

Prior to the completion and acceptance of the System Inspection and Test, the Contractor shall submit procedures that will be performed before attempting to effect a change to any part of the system, whether hardware, software, database or network. The Contractor shall notify the Authority's Contract Manager and seek approval before making any changes to the System.

12. Database Documentation

Prior to the completion and acceptance of the System Inspection and Test, the Contractor shall submit to the Authority's Contract Manager for review and

approval a detailed description of the database. Database documentation shall include:

a. **Database Schema**

Database schema is a description of the overall organization of the files and tables to be used in the System. This description shall include an identification of all data files, tables, and fields, and the relationships between fields and tables and demonstrate compliance with the data requirements specified herein. This description shall also include, but not be limited to full details regarding any third party database products including version, release, functional characteristics, operation requirements and any other relevant characteristics of the product.

b. **Data Dictionary**

A listing of all System data elements, including the size, definition, validation rules and other information pertaining to the data elements.

c. **Data Storage Analysis**

The techniques employed to ensure that the System can meet the storage requirements for on-line and historical data and expansion capabilities. The analysis shall include identification of all files (e.g., system, message, report files), databases, and their retention cycles and indicate the accessibility to the data, i.e. whether the information will be available for on-line retrieval or archived in off-line storage.

d. **Data Flow Diagram**

A graphical depiction of the logical processes that comprise the System and an illustration that depicts the data flow as the data moves between these processes. This description shall identify all of the System's functional processes and show the flow from the data's inception to its long-term storage. The documentation shall include data flow diagrams and other necessary documentation to understand how the data is handled and stored.

e. **Entity-Relationship Diagram**

A graphical illustration of the interactions between the various entities for which data is collected in the System that depicts the relationships between the entities and their associated data. This description shall identify all significant System entities (person, object, place, events, etc.) and show the nature of all significant interactions from the data's inception to storage.

13. **Final Versions of the Documentation**

Prior to certification by the Authority that the Contractor has completed all work as specified in the Detailed Project Plan (except for maintenance), the Contractor shall submit all design documentation, manuals, and/or drawings, which have been revised to reflect the as-built conditions. System Documentation shall be provided in both a bound copy and an electronic version in a machine-readable form, which is

viewable with the Microsoft Office 2007 suite of tools. System documentation submittal(s) shall include but not be limited to versions of the System Drawings and System Documentation that have been updated to reflect the as-built conditions.

14. **Annual Calibration Reports**
The Contractor shall provide a detailed report listing the results of annual NMT calibration during the term of the Contract. This report shall be provided within sixty (60) days after the completion of annual NMT calibration.

IX. Maintenance of the System

A. Maintenance Requirements:

Upon certification by the Authority that the System has satisfactorily completed Inspection and Test and that the Contractor has completed all work as specified in the Detailed Project Plan (except for warranty and maintenance), the Contractor shall then provide the maintenance required for the System to perform in accordance with, but not limited to, the following requirements:

1. **Maintenance and Warranty Period**
The maintenance & support tasks identified in this section must be performed:
   - Under the warranty period for the system which extends Twelve (12) months from the successful completion of the System Inspection and Test.
   - Under the maintenance provisions which starts one (1) day after the one (1) year warranty period.
   - Under the warranty period for the new NMTs installed, which start after the successful installation of each new NMT deemed satisfactory by the Port Authority's Contract Manager.

2. **Maintenance and support tasks**
Maintenance and support tasks shall include all expenses (parts, labor, tools, equipment, software, travel, signage, shipping costs, etc.), without additional cost to the Authority, required to perform (but not limited to) the following:
   a. Host, operate and maintain the System in a secure and protected environment in order to meet the functional, performance and availability requirements as defined herein.
   b. On-call remedial and scheduled preventive maintenance in order to meet the availability requirements stated herein.
   c. Provide on-site repair of NMT and associated equipment (existing or new) that cannot be repaired remotely by the Contractor. The Contractor shall dispatch its own technician(s) for any on-site troubleshooting or repair needed to have the NMT in working condition.
   d. On-Call Help Desk Support by telephone during weekdays between 9:00 AM to 5:00 PM (EST) is required, except during holidays observed by the Contractor.

Note: Help Desk Support is intended for User questions on the use of the application and is independent of any notifications made to report errors or maintenance issues with the System or application.

e. Resolve any problems with telecommunication connection for NMTs by directly contacting the Service provider. The Contractor shall arrange a vendor meet with its own technician if needed for repair to telecommunication connection(s).
f. Correct defects in the furnished applications software.
g. Validate and correct (when necessary) the applications software furnished by the Contractor to ensure that it performs in accordance with the specifications of the Contract within ten (10) days after Microsoft and other software providers release patches and updates to the operating system, database and other third-party software that is furnished or used in the System;
h. User support to administer the application;
i. System Administration (See Exhibit 6 for the System Administration Requirements);
j. Update and Test disaster recovery plan on an annual basis.
k. Provide maintenance and support services for all existing NMT and associated hardware listed in Exhibit 1 until each is replaced.
l. Provide maintenance support services for all new NMTs and associated hardware installed under this Contract.
m. Establish spare components and parts levels necessary to maintain optimum level of reliability for the existing NMTs as well as for newly installed NMTs and associated hardware.
n. Provide parts and labor necessary to keep the existing and newly installed NMTs and associated equipment in good operating condition. Replacement part shall be new or reconditioned parts that meet the original functional requirements, and, upon installation, become the property of the Port Authority. While the replaced parts removed from the equipment will become the property of the contractor.
o. Monitor the System and its components and effect all repairs to maintain the System and Services identified herein in accordance with Section IX.A.3 Operational Availability.
p. Provide on-site manual calibration of each NMT unit once per year. All the necessary equipment and tools, including ladders and 40 ft boom bucket truck, shall be supplied by the Contractor.
   Note: The Contractor, may, with prior approval from the Authority, elect to subcontract maintenance and support services from qualified third-party service vendors. All subcontractors must be approved by the Authority.

3. **Operational Availability**

The Operational Availability of the System and Services shall meet the percentages stipulated below each calendar month for the term of this Contract:

System Hardware (NMTs)	98%
System Software and Database	99%

As used in this numbered Clause (and in this clause only) "Operational Availability" means the time during any twenty-four (24) hour period the System Software and Hardware is Available to Airport Staff. "Available" means that during any twenty-four (24) hour period, the furnished and installed software applications and any Contractor furnished equipment perform according to the manufacturer's specifications.

In the event that Operational Availability fails to meet the percentage stipulated herein, and is not responded to or repaired within the Service Level Agreement time requirements, damage amounts for unavailability for operation are as specified herein.

4. **Maintenance Work**

The Contractor shall perform complete scheduled preventive maintenance and on-call remedial maintenance so that the System meets the Operational Availability (Section IX.A.3). The maintenance program shall be performed with all reasonable care to keep the System in a proper, safe, and efficient operating condition capable of correct operation and reporting. The Contractor shall furnish all labor, travel, materials, supplies, parts, equipment, warning signs, other safety devices, and all other things necessary or proper for, or incidental to, such maintenance.

The Contractor, at its option, shall repair or replace System components maintaining all original specified performance requirements, within the time(s) stipulated in Section IX.C, Time to Repair, for any part, component, equipment item, software or firmware of the System that become unsuitable for continued use. Replacement parts or components shall be identical to the original, or equal, as approved by the Authority's Contract Manager.

The maintenance performed by the Contractor shall include, but not be limited to, scheduled preventive maintenance, error correction, hardware, software and firmware diagnostics and corrections, validation that the applications software continues to work (in accordance with the Contract requirements) with manufacturer-released patches to third-party software and engineering updates of the System as described below. The Contractor shall submit to the Authority's Contract Manager for review a schedule of preventive maintenance activities and a description of preventive maintenance procedures no less than 30 days prior to the Warranty Start Date and each anniversary thereof. The Authority's Contract Manager will review the submission, and make comments, within ten (10) working days.

In order to make replacements and repairs as expeditiously as possible, the Contractor shall stock, keep and maintain a sufficient supply of parts and materials, tools or other equipment as may be necessary to make such replacements and repairs.

In order to meet the requirements stipulated in Section IX.C, Time to Repair, in this contract, the Contractor shall maintain an
adequate number of qualified staff to provide the required technical support.

5. **Maintenance Description**

All maintenance shall be performed in accordance with the equipment and component manufacturers' recommendations. The results from all inspections, tests, diagnostics, equipment repairs, calibrations, and corrective actions shall be reported to the Authority's Contract Manager.

The maintenance performed by the Contractor shall include, but not be limited to on-site maintenance of NMTs, error correction, and software and firmware diagnostics and corrections of the System as described herein.

a. **On-Site Maintenance**

On-Site maintenance includes the following:

1. One annual trip for manual calibration of each NMT that is deployed in the community. During this annual visit, the Contractor shall inspect each NMT and associated component and must replace any part or equipment in need of replacement. The Contractor shall provide all the necessary tools and vehicles required for the calibrations. The schedule and plan for annual calibration must be submitted to the Authority's Contract Manager thirty (30) days prior to the actual calibration date.
2. The Contractor shall be responsible for on-site repair work pursuant to On-Call Remedial Maintenance Requirements in accordance with Section IX.C, Time to Repair. Note: The Contractor shall be responsible for notifying the Authority about malfunction of telecommunication lines and the Authority will coordinate the repair of telecommunication lines through third party provider/vendor.

b. **Scheduled Preventive Maintenance**

Scheduled preventive maintenance shall consist of all actions necessary to inspect, test, diagnose, repair equipment failures, correct System malfunctions and restore System operation to perform in accordance with the manufacturer's stated specification, performance and tolerances. Scheduled preventive maintenance shall include, but not be limited to adjustment, repairs, the replacement of field installable parts that are approaching unserviceable status, all actions necessary to prevent System failures and extend the System's useful life, verify adequate empty disk space available for program usage (i.e., temporary files, logs, etc.,), verify log files are saved to removable media and log files are purged on a regular basis, review reports on communications throughput and errors and perform communications diagnostics on each communications channel to identify equipment or cabling problems.

c. **On-call remedial maintenance**

On-call remedial maintenance shall consist of all unscheduled actions necessary to obtain the Operational Availability (Section IX.A.3), diagnose and correct all System malfunctions and failures and restore the equipment in accordance with the manufacturer's stated specification, performance and tolerances and the System to perform in accordance with the Contract requirements. The Contractor shall provide a specified telephone number and FAX number and email address at no additional cost to the Authority, which shall be in operation twenty-four (24) hours a day and seven (7) days per week and staffed only during regular business hours (9:00 AM to 6:00 PM EST, Monday through Friday), to enable the Users to report System errors and malfunctions.

Within twenty-four (24) hours of each reported on-call remedial maintenance problem, the Contractor shall provide written documentation of the reported problem and all actions performed related to the maintenance call in a computer-readable format to Authority's Contract Manager.

6. **Loss of Service**

The Users will notify the Contractor via the 24-hour telephone or fax number or email, described above, when the System does not perform in accordance with the Contract requirements due to a loss of service. The Contractor shall provide support to diagnose, debug, repair, replace and correct all malfunctions or restore lost services required for the System to perform in accordance with the Contract requirements within the time(s) stipulated in Section IX.C, Time to Repair.

7. **Error Correction**

The Users will notify the Contractor via the 24-hour telephone, fax number or email, described above, when the System does not perform in accordance with the Specifications stipulated in the Contract due to error in the applications software (including firmware) or any modifications thereto. Hardcopy documentation of the error condition will be mailed, faxed or emailed to the Contractor. The Contractor shall correct any such error in the System as identified by the Authority or through the Contractor's investigation of the reported error(s). Errors shall include, but not be limited to, flaws in operations and errors due to flaws in the design and coding of the System.

The Contractor shall diagnose, debug, repair, replace and correct all malfunctions required for the System to perform in accordance with the Contract requirements within the time(s) stipulated in this Maintenance Section IX.C, Time to Repair. The Contractor shall provide documentation in machine-readable format, if any, relating to the error correction. The Contractor in an off-line test environment shall test the corrected software. The Contractor shall then prepare a test report and submit it to the Authority for review and approval before the corrected software is installed into the System. Such corrections to the software shall be provided at no additional cost to the Authority.

The Contractor shall repair all software malfunctions maintaining all original specified performance requirements, within the time(s) stipulated in Attachment C, Section IX.C, Time to Repair.

B. Time to Respond

In response to a call for maintenance by the Authority, the Contractor shall acknowledge the receipt of such inquiry within eight (8) hours of the initial notification via an email or a phone call to the Authority's Contract Manager. The acknowledgement shall provide the time expected for a response or resolution to the problem.

C. Time to Repair

1. **On-Call Remedial Maintenance**
   The Contractor shall reply back with a resolution to the problem or status update if more time is needed for a resolution within twenty four (24) hours of the time the loss of service or maintenance request was submitted by the Authority's Staff. If an on-site troubleshooting or repair is needed, the Contractor shall dispatch its own technician to troubleshoot or repair the NMT site within seven (7) business days of the time the original trouble ticket was submitted. Failure to provide on-site repair service within seven (7) business days will result in liquidated damages as described in the Attachment B – General Contract Provisions– 10. Liquidated Damages.

2. **Validate and Correct Applications Software with Patches and Updates to Third Party Software**
   The Contractor shall complete performance of such testing, validation and correction to ensure that the software furnished by the Contractor performs in accordance with the Contract requirements with the released patches and updates within ten (10) business days from the date that Microsoft and other software providers used in the System release patches and updates to fix software defects or security vulnerabilities to the operating system, database and other third-party software that are furnished or used in the System.

3. **Error Correction**
   The Contractor shall investigate System errors to diagnose, debug, test, repair, replace and correct all malfunctions required for the System to perform in accordance with the Specifications stipulated in the Contract within ten (10) business days from the date of notification of System malfunction.

D. Upgrades and Enhancements

The Contractor shall notify the Authority's Contract Manager whenever upgrades and/or enhancements to operating system, the software provided under the Contract or third party software become available and provide a proposal for the proposed enhancement and upgrade. The proposal shall describe the work to be performed, contain a detailed estimate

of the labor involved by labor category, a lump sum price and a proposed schedule for the work, if applicable. The Contractor shall also provide the Authority's Contract Manager with an analysis of the potential effects of such upgrades/enhancements on the System. This analysis shall include, at a minimum, the following:

- Compatibility of the application software with the new operating system or third-party software
- Potential increases or decreases in System performance
- The availability of product support for the current (older) version of the operating system or third party software
- The testing required ensuring that the upgrade will perform as expected
- The cost of the software upgrade, including testing and any other tasks which may be associated with the upgrade

The Authority's Contract Manager will then determine whether to order the upgrade. If the Authority's Contract Manager selects the upgrade, the Contractor shall perform the recommended testing. The testing shall be conducted at the Contractor's facility in an environment designed to support the Authority's site implementation. If there is an incremental cost involved with the System upgrade then this work shall be completed under the Supplemental Work provision of the Contract.

E. Supplemental Work

The Authority's Contract Manager will notify the Contractor whenever Supplemental Work is requested. In response to the request, the Authority's Contract Manager shall submit a proposal that describes the work to be performed, contain a detailed estimate of the labor involved by labor category, a lump sum price and a proposed schedule for the work. The Contractor shall also provide the Authority's Contract Manager with an analysis of the potential effects of the requested supplemental work on the System. Supplemental work may include, but not limited to, design, development and implementation of custom reports, development of new enhanced features to the System, installation of new permanent NMT unit, purchase of new NMT unit(s), etc.

In response to the Authority's Directive, the Authority's Contract Manager shall submit a written proposal that describes the work to be performed, contain a detailed breakdown of the labor involved by labor category, and state a firm lump sum price and a proposed schedule for the Work. The Work expended to prepare proposals is not a reimbursable expense. Labor costs to perform the work shall reflect the unit cost for labor itemized in the Attachment B, Part II - Cost Proposal Tables, accepted by the Authority and made a part of the Contract, for Unit Costs for Supplemental Work. Prior to performance of any Supplemental Work, the Authority's Contract Manager shall approve any such Work in writing prior to execution.

F. Hours of Scheduled Maintenance

Scheduled preventive maintenance of System components shall be conducted between the hours of 8:00 PM and 5:00 AM EST:

G. System Administration

The Contractor shall perform all system administration tasks and functions in accordance with the Contract and best industry Information Technology IT Standards, Guidelines and practices. The Contractor shall be responsible for routine operation of the system, management of the hardware configuration, files and data, diagnosing and effecting correction of all problems that impact system operations. The Contractor shall perform all tasks necessary to assure functioning of the system at the required standards of performance and availability defined herein and in Section IX.A.3 "Operational Availability".

H. Disaster Recovery Plan

The Contractor shall create, review and test the Disaster Recovery Plan in accordance with the requirements stated in Exhibit 5. In the event a catastrophic event causes damage to the System or a portion of the System's components, the Contractor shall restore the System and its operation in accordance with the approved Disaster Recovery Plan.

ATTACHMENT D - PROPOSER REFERENCE FORM

Name of Proposer:_____

Please provide a list of references on the firm's performance of similar work within the last five years, including all current contracts. Use additional sheets as necessary.

Include the following information for each reference:

Customer Name:_____
Address:_____
Contact Name and Title:_____
Phone and Fax Numbers of Contact:_____
Contract date(s):_____
Contract cost:_____
Description of work:
_____
_____
_____

Customer Name:_____
Address:_____
Contact Name and Title:_____
Phone and Fax Numbers of Contact:_____
Contract date(s):_____
Contract cost:_____
Description of Work:
_____
_____
_____

Customer Name:_____
Address:_____
Contact Name and Title:_____
Phone and Fax Numbers of Contact:_____
Contract date (s):_____
Contract cost:_____
Description of work:_____

ATTACHMENT E - M/WBE PARTICIPATION PLAN

THE PORT AUTHORITY OF NY & NJ

STATEMENT OF SUBCONTRACTOR PAYMENTS

PA3968 / 03-09

M/WBE Participation Report

Instructions for Statement of Subcontractor Payment: To be submitted with every invoice to be used in conjunction with the M/WBE Participation Plan.

Contract/PO No.: _____

Contract Title: _____

Prime Contractor Name: _____

Contract/PO Amount: _____

PA Project Manager: _____

Date of Invoice: _____

Committed M/WBE Goals: M _____ W _____

Award Date: _____

Completion Date: _____

M/WBE Participation to Date: M _____ W _____

Subcontractor's Name	Address & Phone #	Description of Work Performed or Materials Supplied	M/WBE Status	Total Contract Amount Awarded	Total Previous Requests	Amount Paid to Date	Amount of This Request

In connection with the above-captioned contract: I HEREBY DECLARE AND AFFIRM that I am a duly authorized representative of this company, and that the following Minority and Women Business Enterprises have been contracted with and have furnished, or are furnishing and preparing materials for, and have done or are doing labor on the above captioned contract; that there is due and to become due them, respectively, the amounts set opposite their names for materials or labor as stated; and that this is a full, true, and complete statement of all such MBEs/WBEs and of the amounts paid, due, and to become due to them.

Signature _____ Print Name _____ Title _____ Date _____

ATTACHMENT F - Certified Environmentally Preferable Products/Practices

Proposer Name: _____ **Date:** _____

In line with the Port Authority's efforts to promote products and practices which reduce our impact on the environment and human health, Proposers are encouraged to provide information regarding their environmentally preferable/sustainable business practices as they relate to this contract wherever possible. Proposers **must** complete this form and submit it with their response, if appropriate. Proposers **must** submit appropriate documentation to support the items for which the Proposer indicates a "Yes" and present this documentation in the proper sequence of this Attachment.

1. Packaging

Has the Proposer implemented any of the following environmental initiatives? **(A checkmark indicates "Yes")**

____ Use of corrugated materials that exceed the EPA recommended post-consumer recycled content

____ Use of other packaging materials that contain recycled content and are recyclable in most local programs

____ Promotes waste prevention and source reduction by reducing the extent of the packaging and/or offering packaging take-back services, or shipping carton return

____ Reduces or eliminates materials which have been bleached with chlorine or chlorine derivatives

____ Eliminates any packaging that may contain polyvinyl chloride (PVC), or polystyrene or heavy metals

If yes, a description of the practices being followed must be included with the submission.

2. Business Practices / Operations / Manufacturing

Does the Proposer engage in practices that serve to reduce or minimize an impact to the environment, including, but not necessarily limited to, the following items? **(A checkmark indicates "Yes")**

____ Recycles materials in the warehouse or other operations

____ Use of alternative fuel vehicles or vehicles equipped with diesel emission control devices for delivery or transportation purposes

____ Use of energy efficient office equipment or signage or the incorporation of green building design elements

____ Use of recycled paper (that meets federal specifications) in their marketing and/or resource materials

____ Other sustainable initiative

If yes, a description of the practices being followed must be included with the submission.

3. Training and Education

Does the Proposer conduct/offer a program to train or inform customers and employees of the environmental benefits of the products to be offered under this contract, and/or does the Proposer conduct environmental training of its own staff?

☐ Yes ☐ No If yes, Proposer must attach a description of the training offered and the specific criteria targeted by the training.

4. Certifications

Has the Proposer or any of its manufacturers and/or subcontractors obtained any of the following product / industry certifications? **(A checkmark indicates "Yes")**

____ ISO 14000 or adopted some other equivalent environmental management system

____ Other industry environmental standards (where applicable), such as the CERES principles, LEED Certification, C2C Protocol, Responsible Care Codes of Practice or other similar standards

____ Third Party product certifications such as Green Seal, Scientific Certification Systems, Smartwood, etc.

If yes, Proposers must attach copies of the certificates obtained.

5. Other Environmental Criteria

Proposers are encouraged to respond to criteria specifically indicated in this RFP as "Management Approach" (and attach the appropriate documentation) to receive consideration in the evaluation.

I hereby certify, under penalty of the law that the above statements are true and correct.

_____ _____**Name** _____**Date**

THE PORT AUTHORITY OF NY & NJ

PROCUREMENT M/WBE PARTICIPATION PLAN

PA 3749B / 12-11

Office of Business Diversity and Civil Rights

NOTE: The Proposer/Bidder shall submit to the Manager, Line/Facility Dept. Form PA 3749C - MODIFIED PLAN for any changes to the original plan: i.e.; subcontractor, dollar amount or work performed.
If more than 1 page is used, complete totals on last page.

PAGE: _____ OF _____

Purchase Order #: _____

Proposer/Bidder Name: _____

Mailing Address: _____

Telephone Number: _____

Contract Description: _____

Contract Amount: _____

Contract Goals: **MBE** _____ **WBE** _____

Name, Address, Phone Number of PA Certified M/WBE subcontractor (including name of contact person)	Indicate MBE or WBE	Description of Work, Services to be provided. Where applicable, specify, "supply" or "install or both "supply" and "install."	Anticipated date work will start and finish	Approximate $ amount of M/WBE Subcontract	M/WBE % of Total Contract Amount
			TOTAL:		

Signature of Contractor: _____

Print Name: _____

Title: _____ Date _____

FOR OBDCR USE ONLY

Contract Goals: ☐ Approved ☐ Waived ☐ Rejected

Reviewed by: _____
OBDCR Business Development Representative

Print Name: _____ Date _____

Distribution: Original – OBDCR; Copy 2 –Manager, Line/Facility Department; Copy 3 –Proposer/Bidder, Copy 4 – Procurement Dept – Award File

INSTRUCTIONS

PROPOSER INSTRUCTIONS: In accordance with Section 6. M/WBE Subcontracting Provisions, the proposer shall submit this form as the M/WBE Participation Plan and/or good faith documentation as part of Section 8. Proposal Submission Requirements.

BIDDER INSTRUCTIONS: In accordance with Part 1, Section 17of the contract book, the bidder shall submit this form as the M/WBE Participation Plan and/or best efforts documentation with their bid to the Procurement Department.

MANAGER/DESIGNEE INSTRUCTIONS: After a review of the submitted M/WBE Participation plan, forward to the Office of Business Diversity and Civil Rights via fax at (212) 435-7828 or PAD to 233PAS 4th Floor for review and approval. Approved/waived/rejected plan will be returned within 5 business days of receipt of this document. Manager/Designee will advise vendor of the results of the M/WBE Participation Plan review.

EXHIBIT 1
EXISTING HARDWARE

The Authority currently owns total of 29 noise monitoring terminals (NMTs) consisting of microphones, noise analyzers, and communication devices. Most of the hardware equipment except for TEB NMTs are more than 20 years old and in need of replacement. Each NMT is connected with a telephone landline or broadband internet connection (TEB only) for downloading data. Following table lists the existing NMT inventory by each Airport:

TABLE 1 – Noise Monitoring Equipment

Airport	No. of NMT Sites	Brand/Model No.	Status
JFK	6 Permanent 3 Portable	Bruel & Kjaer Model No.: 3597C	Currently Deployed
LGA	2 Permanent 2 Portable	Bruel & Kjaer Model No.: 3597C	Currently Deployed
EWR	3 Permanent	Bruel & Kjaer Model No.: 3597C	Currently Deployed
TEB	6 Permanent	Larson-Davis Model No.: LD831	Currently Deployed
Spare Inventory	- 1 Portable for TEB - 6 Portable for JFK, LGA, & EWR - 2 Handheld Sound Level Meters	- Larson-Davis Model No.: LD831 - Bruel & Kjaer Model No.: 3597C - Bruel & Kjaer Model No.: BZ7126	In Storage

Notes:

1) Portable NMTs are temporarily located in communities surrounding the airport and subject to be removed or rotated after a certain time period.
2) All B&K NMT units were acquired about 20 years ago while L&D NMTs for TEB were acquired about 2 years ago. TEB monitors are not being requested to be replaced in the new Contract.
3) Currently all existing NMT units communicate via telephone line.

TABLE 2 – Computer Systems

System Name/Function	System Components/Brand	Location
PC MON – Data Acquisition System / Acquires ATC Communication on multiple radio scanners	- Optiplex GX1 450 MHz Pentium III, 128 MB RAM, 10 GB EIDE HDD / Dell - 15" Monitor / Dell - Digiboard, Digi PC/8 ISA, (PC MON) / Digiboard - Digiboard Cable, RJ45 Connector / Digiboard - UPS (3 ea) Batteries Excluded / APC - Modem, 56K, External (5 ea) / US Robotics - Radio Scanner (10 ea) / Bearcat Uniden - Smart Antenna / Acutime - 2 Port KVM Switch (2 ea) / Cybex - PS-2 Cable Set (4 ea)	TEB Airport

DVR / Digital Voice Recorder	- Pentium III 1.0 GHz, 256 MB SDRAM (2 x 128 MB), 60 GB IDE HDD (3 ea), Windows 2000 OS, Mouse, Onboard NIC, 48X IDE CD ROM / Dell - 8 Port Loop Start PCI Voice Card (2 ea) / Brooktrout - PC Anywhere / Symantec - KVM Switch, 4 Port / Avocent	TEB Airport
TRACON – ARTS IIIE Gateway #2 / Acquires ARTS flight track date from FAA and transfer to NOMS System Vendor	- Optiplex GX150 Pentium III 933 MHz, 256K Cache, 128 MB SDRAM (1 DIMM), 40 GB ATA HDD, Windows 2000 OS, Zip 250 MB, 17" Monitor / Dell - Modem, 56K / US Robotics - UPS / APC	FAA TRACON Facility in NY

Exhibit 2

Web Based Application Checklist

Web Environment Controls

- Network Architecture:
  - Ensure firewall hides the structure of the internal network.
  - Ensure outside traffic is filtered by the external firewall, and should be allowed to access the DMZ with only those services that are required (i.e. HTTP, HTTPS, FTP)
  - Ensure that all traffic passing between the internal and external networks pass through the DMZ.
  - Intrusion Response Controls Intrusion Detection/Prevention:
    - Use intelligent IDS (intrusion detection system) or IPS (intrusion prevention system) to detect or block DoS (denial of service) attacks.
    - Prepare an intrusion response strategy and document and test policies and procedures to respond to intrusions in a timely manner and eliminate potential errors, and omissions.
- Hardening of Host/Operating System:
  - Disable unnecessary ports/services
  - Remove all sample sites from the box
  - Change all default passwords; delete all default content and scripts.
  - Limit user account access.
  - Follow PA password standards (i.e. 90-day expiration, minimum of 6 alphanumeric characters, lock account after 3 incorrect passwords)
  - Set "automatic session logout" to 15 minutes of inactivity and require user to log back in with a valid ID and password.
  - Implement access control at the database level (i.e. user roles and permissions, passwords, secure links)
  - Apply all new patches and fixes to operating system and application software for security.
  - Use secure and encrypted remote access methods.
  - Log (and monitor) web traffic and trend the activity looking for abnormal activity.
- Directory Structure for Web Server:
  - Use separate directories, partitions or disk locations for web server logs, contents, scripts and other information vs. system directories and user information. In addition, use a single directory exclusively for all programs executed as part of web server content
- Web Server Security Related Configuration Settings
  - Block an IP if there are numerous requests for the URL to prevent a possible attack. (IP scan)

Web Site Management Issue

- Use certificates on the site. So users can confirm they are on the right site.
- A formal "content management" process (and supporting tools) should be in place to provide change controls, approvals, version controls, and security over changes to web site content to prevent unauthorized changes.
- Validate links periodically to identify dead or misdirected links for correction
- Ensure compliance with Payment Card Industry (PCI) Data Security Standard (DSS) Requirements (e.g. Visa, Master Card, etc).

- Systems monitoring should be in place for the server and other relevant devices including the use of automated systems management tools.
- Backups of the website including web server configuration files, static content files, script directories and etc. regularly.
- Secure application, logs, encryption keys, certificates and passwords on the production box. If possible move them to another secured or restrict access to administrators only.
- In the System Development Life Cycle (SDLC), ensure that there are application development and coding standards.
- Legal Issues:
  - The site should have a privacy statement and term of usage.
  - American Disability Act – Section 508 should be consider during the development process due to the requirement that federal agencies' electronic and information technology is accessible to people with disabilities.
- Web Authentication: To prevent passwords from being passed in the clear, have authentication occur within an SSL encrypted tunnel. Use SSL (certificate) to protect the password.
- Access Controls:
  - Ensure that separation of duties occur at the two levels of access control for web applications: Functional access controls (URL –based) and Data-level access control (handled within application)
- Password Reset:
  - For internal applications, reset passwords via the helpdesk or security administrator of the site
  - Send forgotten password to known e-mail address or via customer service screens after the user has been validated for customer service application.
- Conduct regular audits, vulnerability testing, security scanners and MD5 hash comparisons of the production site. (MD5 – An algorithm that produces a checksum that is revalidated to detect any modification to sensitive hidden form fields, files, directories, etc.)
- All sensitive or confidential data (including passwords, session IDs for sensitive applications, confidential or sensitive business transactions, etc.) should be transmitted between browser and server within an SSL-encrypted session.

Web Application Vulnerabilities and Controls

- Best Practice and Standards:
  - The Open Web Application Security Project (OWASP) - www.owasp.org
  - www.webappsec.org (a consortium of web application security professionals)
  - Center for Internet Security (CIS) – www.cisecurity.org
- Sessions IDs:
  - Ensure sessions IDs are difficult to spoof/guess.
    - Session IDs should be long (at least 30-40 digits for secured applications) and contain alphanumeric characters
    - Session Ids should be unique, random and non-predictable.
    - Session Ids should expire after a reasonable time limit (1-3 hours) or for inactivity (10-15 minutes)

  - Ensure session IDs are negotiated whenever a user crosses a secured boundary (from an unsecured to a secured portion of the site)
  - Ensure session IDs are transferred only within an SSL session.
- Cookies:
  - Session cookies should be assigned randomly (non-sequential).
  - Ensure that session cookies/tokens are non-persistent and are not written to a user's browser history or cache. Use a server-based session cookie/token.
  - Ensure session cookies expire and are removed from the server for elapsed time (30 minutes-2 hours) or inactivity (10-15 minutes)
  - Invalidate the session cookie/token on the server when the user logs out or leaves the site.
- Use the Post HTTP Methods to transfer information from the browser to the server.
- Preventing Hacking Reconnaissance:
  - HTTP Status Error Codes should be monitored.
  - Never use default names for directories, (e.g document root, CGI directories, etc.)
  - DNS (Domain Name Services) zone transfer – Ensure default names are changed because these are keywords hackers are searching, (e.g. "gateway", "firewall", and "proxy").
- Store User dependent Data in a Session table:
  - Whenever possible, only the session ID should be stored on the browser and sent with each request
  - All other user-specific and session-specific variables should be stored on the server in a session table.
- Perform data validation & integrity checks for field values and ensure the HTML special characters are stripper for all HTML request.
- At a minimum, applications should strip all (HTML) meta-characters (e.g. <, >, &, etc.), including OS and related SQL meta characters, from user input.
- Restrict the use of the hidden fields.
- Ensure that ID, passwords and system comments are not be included in scripts and pages.
- Ensure the application will not process SQL commands from the user browser
- Do not allow site pages to be cached by user browsers.
- Error Messages:
  - Applications should trap all specific system error messages, especially those from other infrastructure components that reveal information about the application internals.
  - Ensure that only generic messages with little to no information content should be sent to the user's browser.

Exhibit 3

Audit Department
Controls Requirement Contract Checklist

General

- Documented procedures, flowcharts and process maps for the application.
- Conduct regular audits, vulnerability testing, security scanners.
- SSAE 16 (previously known as SAS 70 Level 2)
- ISO27001 Certification
- Physical access to the application hardware should be appropriately restricted.
- The application should have a warning banner, terms of use, and/or privacy statement that was approved by the PA Law Department on the login screen.
- Remote access should be restricted and documented in accordance with PA policy.
- Background check should be performed on all personnel.

System/Security Administration

- Administrative personnel should receive adequate training.
- System and security administration procedures should be documented and distributed.
- Administrator(s) roles and responsibilities should be documented.
- Developers and/or programmers should not have access to the production server.
- Operating system administrators should not have access to the production database and application.

Hardening of operating system/database that supports the application:

- Disable and/or remove unnecessary ports/services.
- Remove all sample from the box.
- Default, public, and guest accounts should be secured/locked/removed.
- Change all passwords; delete all default content and login scripts.
- Limit administrative and user account privilege and access.
- Document system accounts like administrator, root, oracle, and sys.
- Document user/group access rights
    - Users/groups should be setup with least access required to perform job responsibilities.
- Follow PA password standards or better (90-day expiration, lockout after 3 incorrect password attempts, no concurrent logins, 6 alphanumeric characters)
- Set "automatic session timeout" to 15 minutes of inactivity and require user to log back in with valid ID and password.
- Implement access control at the database level (i.e. user roles and permissions, passwords, secure links)
- Use secure encrypted remote access methods.
- If the application is a web application, log (and monitor) web traffic and trend the activity looking for abnormal activity.
- Ensure that appropriate security and vulnerability assessment tools are running.
- At login, last user login should not display.
- Inventory listing of hardware and software should be current and maintained.

License Management

- Ensure that application licensing requirements are documented, reviewed and maintained.
- Application licenses should be current/valid and individuals/groups with application access should have completed the necessary access request forms and adhere to licensing requirements.

Logical Access Controls

- Procedures to grant/modify/delete access should be documented.
    - Access request forms for adding/modifying/deleting users should be used.
    - Account expiration for contractors and consultants.
    - Accounts adequately identify the user – no generic accounts
- Ensure that security administrator procedures exist to:
    - Create/remove application access in a timely manner
    - Review user roles/permissions
- Validate that all users have accessed the application within the past 90 days.
    - Review dormant accounts
    - Inactive accounts should be removed.
- Each user has a unique user ID as described in the Port Authority Standard and Guidelines.
    - All user accounts profile should include Employee ID# and full user name.
- Roles should have a segregation of duties/roles.
    - Roles are setup with least access required to perform job responsibilities.
- Access Control List (ACL) should include:
    - Current list of ACL
    - Creation and updates to ACL
    - Testing and approvals of ACL
- The application should have the PA's warning banner on the login screen.
- Remote access should be approved, secured, and documented in accordance with PA policy.
- Encryptions level at a minimum should be AES 256bit when encryption is used.

Password Controls

- Ensure that password controls for the application are consistent with PA requirements
    - Passwords must be at least 6 alphanumeric characters long
    - Passwords must be changed every 90 days
    - Passwords must not be shared
    - Accounts should be locked after a three logon failures
    - Passwords should not be the same account name
    - No concurrent login capabilities
- Password file should be securely stored with limited access and encrypted.
- Application forces initial passwords to be changed and the initial passwords should not be easily guessable.
- Maintain a password dictionary and password history should be set to 5.

Application Controls

Data Validation & Input Controls

- The application should have input controls to verify the validity of the data entered.

Data Retention and Management

- All data should be classified according to its sensitivity (confidential, etc) and protected accordingly.
- Data archive strategy should be documented and in place.
    - Should specify how long active data is kept.

Data Integrity and Security

- Sensitive data, such as credit card #s and social security #s, should be encrypted.
- Data should be restricted and audit trails should be available to identify all user activity include view access to sensitive data.
- Data should be stored in the database encrypted and blocked from user views in the application unless it is authorized.

Application Interfaces

- Interface file should be secured and archived.
- Reconciliation of data should be done on a batch record and totals. Detail data reconciliations should be completed on periodic basis.

Processing Controls

- Application databases/interfaces should have the necessary controls to prevent processing of inaccurate, duplicate, or unauthorized transactions and producing inaccurate outputs.
- Controls to ensure that all data is processed and accounted for should be in place.
- Rejected items should be logged, tracked and resolved in a timely manner.

Change Management

- Processes and tools should be used to report, track, approve, fix, and monitor changes on the application.
- The application and all changes to the application should be tested before being put into production.
    - Documentation of approval for change and evidence of testing should be in place.
    - Specific timetable/schedule should be documented.
- Emergency procedures should be documented and distributed.

Application Logging, Audit Trails and Record Retention

- Audit trails for operating, application, and database systems should exist and reviewed.
- Users and roles should be tracked and reviewed
    - Maintain documentation
- All failed logon attempts should be logged.
- All sensitive transactions and changes should be logged and an audit trail created.

- Audit trails should contain who made the change, when it was made, and what was changed.
- Only the security administrator should have access to change or delete these logs or audit trails.
- Audit trails should be reviewed by the business owner(s) and security administrator.

Management Reporting

- Management reporting should be produced through the application.
- Transaction logs should be maintained and reviewed periodically.
- Access reports by user and privilege should be produced and reviewed periodically including access violation reports and exception transaction reporting.

Contingency Planning, Disaster Recovery and Backup Management

- A business contingency plan and a disaster recovery plan for the application should be documented and stored off-site, including escalation plan and current call tree.
- Plans should be tested and the outcomes of the tests (success/failure) should be documented.
- Regular backups of the application and the application data should be stored off-site.
- Application executables should be stored off-site or in escrow.
- Application configurations should be documented and backed-up.
- Full system backup should be encrypted.
- Backup procedures should be documented.
- Tape maintenance should include:
    - Periodically testing integrity of tape
    - Procedures for tape destruction due to faulty or scratched hardware.

Performance Monitoring

- Incident monitoring procedures should be documented and incidents logs should be reviewed to ensure that appropriate action is taken.
- Performance statistics should be examined and reviewed periodically by system administrators/business owner(s).
    - If vendor(s) support the application, a vendor contract and service level agreement should be in place. The SLA should have provisions for uptime, performance monitoring, updates, etc.
- Baseline tools or security products should be used and checked on a quarterly basis.

Patch Management

- Patch management procedures and documentation
    - Procedures should include testing, approvals, and distribution.
    - Documentation should include emergency procedures.
- Apply all new patches and fixes to operating system and application software for security.

Physical Protection

- Physical access to the application hardware should be appropriately restricted.

    - Physical access secured by single authentication mechanism i.e. swipe card.
    - Physical security adequate for equipment (locked cabinets).
- Appropriate fire suppression systems should be in place.
- Environmental condition adequately controlled (no water, dirt, clutter) and monitored.
    - Temperature and humidity monitoring should be implemented.
- Security cameras installed in sensitive areas
- Power surge protection and emergency power backup are in place.

Anti-virus Management

- Virus patch management procedures should be documented, including emergency update procedures.
- Virus software should be implemented and up-to-date.
- An engine and definition management should be in place.
- A remote distribution server should be implemented
    - Documentation on remote distribution should be current and maintained.
- Intrusion detection system should be in place, including incident response procedures.
- Firewalls should be implemented
    - Firewall rules documentation should be up-to-date.

Wireless Device

- Devices should be using WPA/WPA2 and AES encryption or better.
- Devices should disallow broadcasting of the SSID.
- All default parameters should be changed.
- Devices should have MAC address filtering enable or some type of authentication mechanism in place.

Web Application Vulnerabilities and Controls

- Best Practice and Standards:
    - The Open Web Application Security Project (OWASP) - www.owasp.org
    - www.webappsec.org (a consortium of web application security professionals)
    - Center for Internet Security (CIS) – www.cisecurity.org
- Perform data validation & integrity checks for field values and ensure the HTML special characters are stripper for all HTML request.
- Do not allow site pages to be cached by user browsers.
- All sensitive, personal or confidential data (including SSN, passwords, session IDs for sensitive applications, confidential or sensitive business transactions, etc.) should be transmitted between browser and server within an SSL-encrypted session (or other encrypted transmission) and are encrypted in the database at rest.
- All sensitive and personal data should be masked and encrypted were possible.
- Legal Issues:
    - The site should have a privacy statement and term of usage.
    - American Disability Act – Section 508 should be consider during the development process due to the requirement that federal agencies' electronic and information technology is accessible to people with disabilities.

- Web Authentication: To prevent passwords from being passed in the clear, have authentication occur within an SSL encrypted tunnel. Use SSL (certificate) to protect the password.
- Password Reset:
    - For internal applications, reset passwords via the helpdesk or security administrator of the site
    - For external applications, send temporary password to known e-mail address, that must be changed upon login and/or
    - Have customer service reset after the user has been validated.
    - If possible, use two factor authentication like Secure ID fobs.

Credit Card Processing Checklist

- PCI Standards should be enabled and be PCI compliant. Ensure all vendors and consultants are required to be PCI compliant. Attachment - PCI DSS v1-2
- A segregated network and/or an approved Point of Sale terminal should be in place for the system or terminal used to process credit card transactions.
- The credit card processor standard and requirements should be enabled, i.e. maintain transaction data for two years.
- Maintain the security of the customer information, including not storing credit numbers, the cardholder CVC/CVV numbers or any of the data from the magnetic strip on the credit card.
- Maintain the transaction data for contesting chargebacks, ensure that the processor fees are appropriate and do reconciliations of the transactions processed and the money deposited in the Port Authority bank accounts.
- Make Treasury (Cash Mgmt) and Comptroller's (Revenue Accounting) aware credit card processing. Have Treasury fill out the Merchant form to get a Merchant ID for MasterCard/Visa, Discover and American Express.
- Have Treasury and Procurement enter into an agreement for credit card processing.
- Create a privacy policy and procedure for staff and consultants.
- Perform quarterly vulnerability scans of the network that contains the credit card processing, annual PCI reviews according to the PCI DSS, and annual system penetration testing.

Exhibit 4

THE PORT AUTHORITY OF NY & NJ

Standards & Guidelines

for Port Authority Technology

(for distribution in RFP's)

Technology Services Department

Version 7.2
March 25, 2010

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Introduction

The purpose of this document is to communicate the standards established by the Technology Services Department (TSD) and provide guidance in proposing IT solutions for the Port Authority of New York & New Jersey (PANYNJ), the Agency.
To that end, these guidelines are intended to help RFP Submitters do the following:

- Implement computing and networking solutions that ensure the utmost reliability, availability and security.
- Procure hardware and software that advances current and mandated business needs and enables departments to work with other departments/offices more effectively.
- Easily and efficiently communicate and exchange information throughout the agency.
- Achieve greater systems integration through leveraging and building upon standardized infrastructure and facilitating systems management.
- Adherence to these standards ensures that IT investments achieve Enterprise connectivity, interoperability, consistency, and will enhance performance in a cost-effective way.

1.0 The Port Authority Wide Area Network (PAWANET)

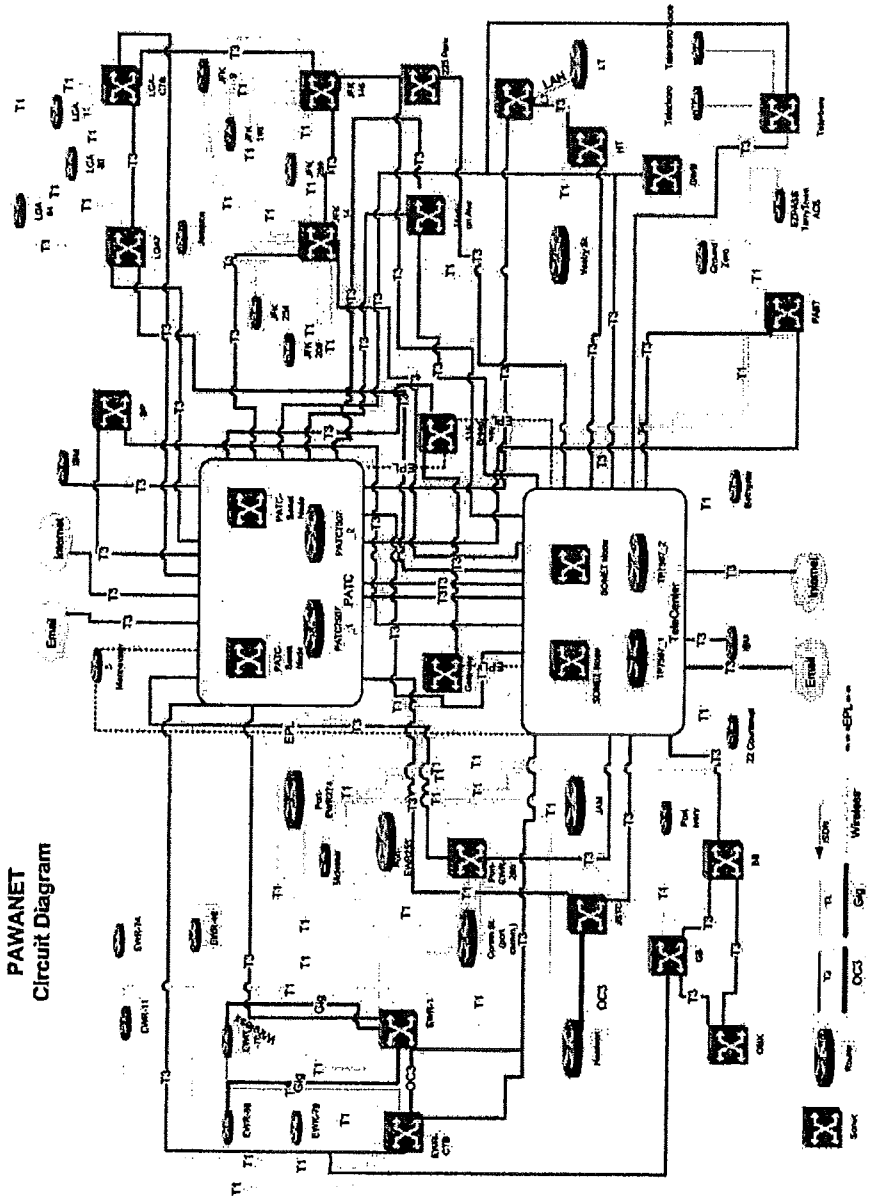
1.1 PAWANET Overview

The Port Authority has a modern distributed computing network, called the Port Authority Wide Area Network (PAWANET), which is managed as an Enterprise resource. It connects all the various Port Authority facilities and transportation systems using high-speed voice, data, and video lines or links.
This network is crucial to all Port Authority businesses because it provides the connections for applications such as e-Mail, Internet and Intranet access, SAP, PeopleSoft, Electronic Toll Collection, CADD, Lease Image, Closed Circuit Television (CCTV) surveillance systems, and in the future, videoconferencing, and more.

PAWANET consist of a Managed Fiber Optic SONET network, provided by Verizon Select Services. This network consists of two dual OC48 SONET Rings that connects key Port Authority facilities, and intersects the Port Authority's two Data Centers. High-speed DS1, DS3, and Resilience Packet Ring (RPR) links are allocated on this network to form PAWANET's Wide Area Network (WAN) topology. Additional high-speed Ethernet Private Lines (EPL) has been deployed to support Key Port Authority's off-ring facilities. Remote nodes are linked using high-speed dedicated communication lines. Alternate high speed dedicated communications lines and high-speed dial up communication links (ISDN Lines), provide back up paths should the primary links fail.

The network consists of state-of-the-art Cisco Systems equipment and services, such as, high performance Cisco Catalyst switches and routers. The Port Authority use Cisco Systems SMARTnet hardware/software maintenance services, and Cisco's Technical Assistance Center (TAC) to support and maintain the network.

1.2 PAWANET Circuit Diagram (Note: IGXs are no longer in the network)



Remote nodes are linked using high-speed dedicated communication lines. Alternate high speed dedicated communications lines and high-speed dial up communication links (ISDN Lines), provide back up paths should the primary links fail.

1.3 Inter-site Services Providers

The Technology Services Department (TSD) has contracted with a variety of companies to provide inter-site services Companies providing communications services for the Wide Area Network are listed below.

- AT&T Local Services
- Verizon

1.4 PAWANET Functions

Currently PAWANET provides the following functions:

Data	Supports the low and high volume transfer of data used for applications, such as SAP and PeopleSoft, and for network communications, such as e-Mail. Provides a data path for off-site, data backup of file, print and application servers. Enables the use of Storage Attached Network (SAN) for network storage of user files and routing jobs to shared network printers.
CCTV	The transfer of Closed Circuit TV (CCTV) data is supported across the entire network to provide security for the Port Authority's key facilities.
Voice	The network provides the hardware capabilities for voice transmission for future implementation.
Videoconferencing	The network switches and transmission lines are capable of handling videoconferencing to support the agency's future needs.

1.5 Features of PAWANET

PAWANET provides a high performance and reliable fail-safe communications network. These are its key features:

- Alternate paths of communication
- Support of high volume traffic such as CADD, CCTV and others
- Catalyst 3000, 4000 and 6500 switches at all the major sites, and at the Teleport.
- Cisco high performance 2000, 7200 and 7507 router family products with redundant power supplies.

1.6 Supported Protocols

The network supports the following network protocols, allowing dissimilar platforms to communicate within PAWANET:

TCP/IP:	TCP/IP is the universal protocol that allows communications between all systems within the Port Authority's network, as well as other networks.
IPX/SPX:	This protocol allows communications between all Novell platforms.

SNA/SDLC This protocol allows communications between all IBM systems and other systems that support SNA.

1.7 PAWANET Switches and Routers

The current standard switches and routers used on PAWANET are:

- Dual SONET OC48 Rings that connects key Port Authority facilities and data centers.
- Cisco 7200 high performance routers
  Provide high-speed connectivity and routing capabilities across the ATM network in support of TCP/IP, IPX/SPX and bridging functions and provides routing capabilities for Port Authority Internet access.
- Cisco 7500 series high-capacity redundant routers
  Serve as the -network backbone core router that provides high speed routing functions between the, Teleport, Port Authority Technical Center and all PAWANET connected facilities as well as the IBM mainframe. Also provide high-speed connection and routing capabilities to the disaster site for data recovery in the event of a catastrophe.
- Cisco 2000 series medium capacity routers
  Provide high-speed connectivity and routing capabilities to the Port Authority's remote locations.

1.8 Approved Servers

IBM File/ Print/Application and NEC Express 5800 series servers may be connected to PAWANET. The use of Vmware's ESXi virtual infrastructure is also an approved configuration, Specialized servers (e.g., appliances) to support a specific line department application will be reviewed on a 'case-by-case' basis.

Replacement server must conform to the category listed above. Deviation from this policy will not be allowed without prior approval of the Chief Technology Officer or her/his designee.

1.9 Enterprise Addressing Scheme (including IP addressing)

The Port Authority's Enterprise network is a TCP/IP Class B network allowing for a maximum of 255 subnet assignments. Subnets are assigned on a geographical basis according to the number of resources required. Workstations are configured for dynamic assignment of IP addresses via Dynamic Host Configuration Protocol (DHCP).

1.10 Enterprise Network Monitoring Software

The Port Authority continually monitors its WAN and the availability of its links. To provide for real time monitoring, the following software utilities are used:

- HP Open View Network Management software
- Cisco Works for Switched Internetworks

2.0 Network Resources

2.1 *Network Overview*

The Port Authority has a modern distributed computing network, which is managed as an Enterprise resource. The network connects all individual PCs, servers, printers, and other devices in a unified computing infrastructure that makes it possible for the Port Authority to conduct its business.

The Enterprise Network consists of the PAWANET (see Section 1.1) and connected Local Area Networks (LAN's). The line of demarcation between the cable and wiring which is the responsibility of the carrier and the Port Authority's area of responsibility is usually a wiring closet. The Port Authority's Enterprise Network consists of the following components on the Port Authority side of demarcation:

- Enterprise Devices
    - Cabling
    - Routers
    - Switches
    - Wiring Closets
    - Communications Equipment Racks
    - Server Racks
    - File and Print Servers
    - Application Servers
    - Storage Area Networks (SAN)
    - Network Printers
- LAN Devices
    - Desktop PCs
    - Workstations
    - Laptops
    - Local Printers
    - Scanners
    - Copiers
    - PC Peripherals

2.2 *Enterprise Network Architecture*

The Port Authority operates an extensive network of Enterprise file, print and application servers. These devices are linked to an Enterprise Wide Area Network. The

flexibility provided by the use of multiple servers, server clusters and Storage Area Networks (SAN) offers users improved network response, greater reliability, increased data security and reduced operating cost. Adherence to the standards outlined in this section allows the Port Authority to manage their systems, applications and data in a way that best meets our business needs while maintaining interoperability and safeguarding Port Authority's information assets.

2.2.1 Operating System and Software

All Enterprise File & Print services in the Port Authority are currently based on the Novell Netware 6.5 operating system (the agency will be migrating to Microsoft networking services during Y2010). Microsoft Windows 2003 and 2008 servers (Standard and Enterprise) are the primary operating system in use. Sun Solaris is also supported as application servers and only when required for functionality.
In addition to the base operating system, all servers must include the following components:

- Virus Protection (minimum: McAfee Engine 8.5.0i, with current DAT files)
- Network Security
- Remote Monitoring and Management
- Intrusion Detection
- Systems Backup (minimum: Upstream 3.5.0c)
- Uninterrupted Power Supply (If central UPS is not installed at the location)
- Current Service Packs and security patches (minimum: SP1)

Note: All operating system and server software will be provided by the Technology Services Department.

2.2.2 Configuration

All network devices--including servers, workstations, network printers, and network faxes--must use IP addresses which conform to the standards outlined in sections, 1.9 *Enterprise Addressing Scheme*, and 2.3.1, *Server Names*. All servers will be configured using the following parameters:
Base Configuration:

- C: (OS Drive) Minimum 25 GB
- D: (Application Drive) Minimum Based on Application's space requirements
- IP Protocol

2.2.2.1 Drive Mapping Conventions and Organization

Mapping of workstation drive pointers to SAN or server disk volumes or folders is currently accomplished through a Novell NetWare Login Script or the Microsoft equivalent. The following drive letters are reserved for Novell installations:

Pointer	Volume or Folder

H:	Novell login (first network drive)
M:	Reserved
P:	Public Applications
Q:	Installation and Upgrade Utilities
S:	Departmental shared directories and files
T:	Reserved
U:	Users Private Home Directory
Z:	Novell system files (Search mapping)

- Public (Shared) application software installed on file and print servers, or server cluster must reside on a separate volume named "APPS".
  Example: P:\APPS
- Each software application installed on file and print servers, or server cluster, must have its own sub-folder.
  Examples: P:\APPS\EXCEL
  P:\APPS\LOTUS
- SYS volume must be used for operating system and support software only.
- Shared Data stored on file and print servers, or server cluster, shall reside in a volume named Data, and shall be mapped to the "S:\" drive pointer.
  Example <Server _name>:\DATA\SHARE on a single server
  <Cluster_name>:\DATA\<Department_NAME>\SHARE on a server cluster
- Each Department's SHARE folder will contain at least three sub-folders titled Org, Everyone and Projects.
- The Projects folder is provided for storage of project related files. All departmental projects will be kept in a sub-folder under the Projects folder and the folder will be named using the same name as the project. User rights will be assigned by a group having the same name as the project folder. Only colleagues requiring access to the project files should be granted rights to that project folder.
- Under the Projects folder will be two additional folders, one called "Active" and one called "Completed". Active projects reside in the "Active" folder.
- When staff identify a project as being completed, the project folder will be moved to the "Completed" folder and all rights, except for "Read" and "FileScan" will be removed from the folder. This will ensure that the final project documents remain unchanged, while still allowing authorized staff to review the old documents and use them as templates for new documents if desired. The "Completed" folder will be set to archive its data.
- Under the "ORG" folder will be subfolders with names corresponding to the various divisions within the department. By default, only staff within a division will have access to a division's folder. These folders are intended to hold data for a specific division that would not normally be shared departmentally. Staff from other divisions would not have access to these folders unless the division manager of the

owning division gives their approval. Having folders setup by divisions will simplify the process of identifying who is responsible for the contents of a folder.

- The "S" and "U" drives should only be used to store business related files.
- The Systems Administrator, at the direction of the Director, may from time to time remove any data deemed to be non-business related.
- A folder called "Everyone" will be created in the Share folder. All staff in the department will have full access to this folder to store and retrieve files that are not related to a project or a division's day-to-day operations.
- Additional shared folders, with access restricted to only specific users, if required, will be created in the Share folder. Access will be restricted through the use of Inherited Rights and access will be granted through the use of groups. These groups will be named using the same name as the folder name.
- In general, rights to any folder will be granted through the use of a group having the same name as the folder. The group would have trustee rights to the folder, and users would be added to or removed from the group as needed. All rights would be granted or revoked through an internal workflow approval process.
- A user "U" drive will be assigned to each standard network account for use by each individual user to store business related data on the network. Access to the "U" drive is restricted to the account owner only. Users receive all rights to this folder except for "Access Control" and "Supervisory". Users cannot share data on their "U" drive. Files should be shared only by using the Share, ("S") drive.
- Access to a user's home directory, by anyone other than the owning user is prohibited and will be removed after notifying the end-user.
- Installation files used in the installation of desktop software must reside in a sub-folder under the "APPS" volume

  Example P:\APPS\Psoft

2.2.2.2 Connecting LAN Devices to the Enterprise Network

The Technology Services Department (TSD) is responsible for connecting all LAN devices to the Enterprise Network (PAWANET) provided they meet the Port Authority's standards.

2.2.3 Network Resources Security

2.2.3.1 Server Physical Security

All network equipment must be physically secured in a locked room.

2.2.3.2 Server Logical Security

To safeguard the Port Authority's Information Technology (IT) systems and data, TSD has implemented a number of processes and procedures, including the requirement that all users accessing the Port Authority's networks authenticate to a Directory Service

(using either Novell Netware e-Directory or Microsoft Active Directory (AD). Both Directory Services contain descriptions of all network devices including servers, printers, shared drives and user accounts.

TSD is responsible for providing all Enterprise servers with the following protection of their logical resources:

- Guard against unauthorized access by making sure that servers cannot be booted from a floppy.
- Scan all workstations for viruses daily.
- Scan all laptops for viruses at log-in.
- Scan all incoming data from users, server peripherals, diskette, CD-ROM, tape drives, other servers, and the Internet for viruses
- Perform regularly (daily and/or weekly) backups as defined by the Technology Services Department. (see section 2.5 - System Backup and Recovery)
- Test recovery procedures annually.
- Use system and application passwords that conform to the Technology Services Department standards.
- Configurations must conform to security parameters identified by NetVision Suite software.
- Perform deleted file purges immediately or no later than 6 days after file deletion.
- Control all remote access using the Port Authority's Remote Access System.

2.2.4 Network Access and User Account Security

2.2.4.1 Account Creation

User and Application accounts are unique and provisioned and managed in our Directory Service for both the Novell and Windows network resources. Documentation for the creation of user accounts and authority for access is maintained by the System Administrator.

2.2.4.2 Time Restrictions

Due to the fact that The Port Authority serves its clients 24 hours a day, we do not have Login Time Restrictions on network resources. All staff may access their Novell account 24 X7.

2.2.4.3 Concurrent Logins

Login sessions will be limited to one connection per user. User accounts should not have the ability to login to multiple workstations after establishing one active connection to the network.

2.2.4.4 Intruder Detection

These system-monitoring features must be active:

- Restrict the count of incorrect login attempts to three before the account is locked out.
- The time for which unsuccessful login attempts are retained to determine a possible intruder attack should be a minimum of 30 minutes before the counter is reset to zero.
- The time for which a user account remains disabled before the account can be used again should be a minimum of 30 minutes.

2.2.4.5 Passwords

All user accounts must have passwords conforming to the following standards:

- Minimum length is six (6) characters.
- Should not be easily guessed. It should not be related to one's job and should not be a word in the dictionary or a proper name.
- Should be set to expire at least every 90 days and 30 days for accounts with system or application administrator access.
- Grace Logins should be activated and limited to three.
- Users should be notified several days in advance of password expiration.
- Users should be forced to change their password on initial login and once it expires.
- Unique passwords should be required when changed. Users should be prevented from reusing a previous password for a minimum of one-year.
- Users should not be permitted to change their passwords more than once a day.
- Passwords should be encrypted in storage.
- Passwords must be entered in a non-display field with a re-enter verify function for new passwords.
- Passwords must not be available on hard copy.
- Passwords used in system startup files and login scripts must be encrypted.
- If an application uses a default password, change it on installation.
- Do not use cyclical passwords, such as the word, February, during the month of February.
- Do not reveal your password to anyone except authorized persons.
- Use both upper and lower case characters and special characters where possible.
- Change password if it has been disclosed or compromised.
- Protect by using a screen saver password with a recommended 15-minute time-out period.
- Passwords should not be the same as the user ID

Passwords are considered confidential data. They protect the Port Authority's network resources and grant system privileges and access. Disclosure may result in unauthorized access to data, system files and transactions. Passwords are also your signature and identify you as the individual who is responsible for the system activity.

2.2.4.6 Modems

Staff are prohibited from connecting dial-up modems to workstations that are simultaneously connected to PAWANET or another internal communication network unless approved by the Technology Services Department (TSD).
Where modems have been approved, users must not leave modems connected to personal computers in autoanswer mode, such that they are able to receive in-coming dial-up calls.

2.2.5 Remote Access System

The use of local modems to establish direct dial connections to devices on the Port Authority's network is prohibited. Exceptions to this policy require the approval of the Technology Services Department (TSD).
The approved mechanism for remote access to the Port Authority network is through the Remote Access System (RAS). The Remote Access System utilizes an Internet-based Virtual Private Network (VPN) tunnel established over the Internet linking remote users to the Port Authority Wide Area Network (PAWANET) (remote client to PA site). It is designed to provide authorized Port Authority users with secure access to corporate applications and to files available on their departmental file servers. This access to applications and resources is delivered through a thin-client environment consisting of a farm of Citrix MetaFrame/ Microsoft Terminal Services servers capable of supporting 200 or more simultaneous users each. There is no provided access to the user's office PC desktop. The system also provides access to IBM enterprise server ("mainframe") applications. Port Authority offices without direct connection to the Port Authority Wide Area Network (PAWANET) can use this system to establish remote access to corporate applications located on PAWANET.
RAS provides multiple security mechanisms to ensure that only authorized users gain access to the Port Authority's computing resources and systems. Through multiple security steps, the user must respond to security challenges. After successful authentication verification, authorized users are provided with access to corporate applications and their departmental network resources through the thin-client environment.
The Port Authority also supports corporate site-to-site VPN connections and utilizes Cisco equipment for these connections.

2.2.6 Network Resources Hardware Standards

2.2.6.1 Standard Servers

A representative sample of standard servers is as follows:

PORT AUTHORITY SERVER STANDARDS

Server Description	IBM Model
WEB Server, Small applications server	xSeries 3550M2
Medium applications server	xSeries 3650M2
Database Server, Multiple and Large application server	xSeries 3850M2

Each server shall have at least 3 network interface ports to support a production, management and backup network, and redundant power supplies.

The Port Authority manages servers models via a lifecycle process with a minimum 'in service' life of three (3) years.

2.3 Network Naming Conventions

2.3.1 Server Names

The Port Authority employs a naming convention for all servers within PAWANET. That convention will be discussed during a solution implementation phase,
Static IP addresses for servers, printers and faxes will be assigned by Technology Services Department (TSD).

2.4 Directory Services and Structure

The Port Authority uses Novell e-Directory and Microsoft Active Directory to manage network resources and user access. Port Authority departments are designated as organizational units (OU) and servers are network objects contained within the OU. All network printers should be created as e-Directory objects. NDPS should be utilized. Applications are distributed using Novell's ZENworks. Applications are distributed based on the type of workstation and user definitions. Scheduling of distributions is done in conjunction with client departments.

2.5 System Backup and Recovery

The Port Authority, for distributed servers, has standardized on FDR Upstream software for data backups.

- The System Administrator is responsible for verifying that system backups, both local and remote can be used to restore the data. Tests of the ability to successfully restore from the backup system will be performed annually. It is recommended that the test data restore be performed on a single non-critical directory only, not the entire server. Tests of the ability to restore system and application files will be

performed on a non-production server in a controlled environment. When incremental or differential backups are routinely used, the test restore procedure should incorporate both.

- Immediately prior to performing the test restore procedure, do a special full backup on the directories being tested.
- Testing a full restore should only be performed on a non-production server.

Depending on the criticality of the data and the redundancy needs, other products are in use within the Port Authority. Double-Take software is used for 'file-level' copies across distributed servers. IBM's SAN-to-SAN replication (block level copy) for database protection.
All backup media and records must be treated with the same level of security and confidentiality as the original data.

2.5.1 Backup Logs

The System Administrator will maintain the following logs for a period of two years:

- Back-up activity
- Rotation of back-ups,
- Usage/rotation of back-up media
- Off-site data storage.

2.5.2 Backup Scheduling

The System Administrator is responsible for performing back ups of data, application and system files. This must be as follows:

- Weekly full back up of each server. A full back up is a back up of <u>all</u> files on the server.
- Daily differential, incremental or full back up of each server or server cluster. The type of back up performed is dependent on time constraints and the amount of data to be backed up. Incremental back ups are back ups of all files changed since the last back up. Differential back ups are back ups of all files changed since the last <u>full</u> back up.
- A Grandfather, Father, Son (GFS) scheme based on a 33 tape rotation should be used to ensure complete back up and recovery.
- Store daily and weekly back-up media in a locked fire proof cabinet outside of the server room. Monthly media must be stored outside the immediate building at a location defined by the Port Authority.

2.6 Business Resumption Plan

The Vendors will work with the Technology Services Department (TSD) to develop a disaster recovery and contingency plan. The System Administrator will participate in the planning, design, implementation, testing, updating and documentation of the plan. <u>Appendix 1</u> shows a recommended outline for such a plan. The Business Resumption Plan will be reviewed quarterly and tested at least annually.

2.7 *Telecommunications Standards for Enterprise Network Resources*

To see the standards and guidelines for the following telecommunications components, please see the Appendix.

Appendix 2 -- Standards for Setting up Closets & Communication Rooms

Appendix 3 -- Standard Cabling Schemes

Appendix 4 -- Unified Wiring Specifications

Appendix 5 -- Telephone Closet / IDF Termination Blocks

Appendix 6 -- Workstation Jacks

Appendix 7 -- Standard Switches

Appendix 8 -- Workstation and Lateral Cable Identification Management

Appendix 9 – Fiber Optics Specifications for Network Services - PAWANET

2.7.1 Closet and Telecommunications Room Access

The following standards must be followed regarding access to closets and communication rooms.

- All telecommunications rooms must be physically secured. Remote locations which are not secured by a guard or within line of sight of personnel must be secured by a card access system and/or video cameras.
- The Network Connections (NC) group is responsible for installing routers, switches (along with Cisco Staff when applied) and station drops. They also patch connections and troubleshoot LAN cabling.

System Administrators requiring routine maintenance of data communications equipment should call the Customer Support Desk when new devices or reconfigurations are required.

2.7.2 Telecommunications Installation Contractor's Responsibilities

1. Adherence to all of the above specifications.
2. Assurance of labor harmony by providing installation technicians whom currently maintains appropriate union membership.

3. The contractor must supply all cable, blocks, brackets, connectors, jacks, housings, face plates, special tools, etc., as necessary to perform an installation which is satisfactory to the Port Authority.
4. The contractor must label every workstation (jack faceplate) and the corresponding cross connect point (punch down block or patch panel) in accordance with the cable identification management plan, as previously described.
5. Install all Category 5e cabling in the proper manner, with the appropriate number of twists, so as to maintain Category 5e integrity and capabilities, as outlined in the TIA/EIA 568-B.2 standard.
6. The contractor must ensure that cable connections are in accordance with standard telecommunications practices and that all cabling maintains normal connectivity and continuity.
7. All materials must be agreed upon by PA Network Services prior to the start of installation.
8. All computer or network communication rooms and closets are to be isolated, locked, and secured. No other equipment, storage area, or smoking area are to be located in this room. This room must provide appropriate cooling and ventilation. Access to this room will be reserved to TSD staff and an agreed upon member of the site where the PAWANET equipment is located. This procedure is to ensure the security and the integrity of the Port Authority's computer network and its users.

2.7.3 Electrical Requirements

The following power and receptacles should be installed to support different equipment requirements such as:

- Standard 110/120 volt power receptacles
- Standard and/or NEMA L6-30P 208/220 volt power receptacles
- Dedicated circuit breaker per AC feed, with alternate power source.
- Server rack electrical requirements are specified in the appropriate design document.

Currently, services obtained through the PA's contract are required to have the APC (American Power Conversion) UPS included in the delivered service if central UPS is not installed at the equipment location.

2.7.4 Telephone Company Interface

The following items are needed for the telephone company interface, if needed for a specific vendor solution::

a) Install a dedicated wallboard for Telco demarcs (if none available for implementation)

b) Standard Telco Demarcs:

- P66 Block
- Network Termination Unit (RJ48 interface) Smartjacks
- Network Termination Unit (DB15-pin female interface)
- Network Termination Unit (V.35/V.36 female interface)
- Digital Signal X-connect (DSX)
- Basic T1 CSU/DSU
- Basic DS3 handoff coax/HSSI unit
- High-speed dialup modems for network trouble-shooting when needed

2.8 Documentation

It is the responsibility of the System Administrator to establish and maintain a library of all documentation designated as standard by the Port Authority. These include archived system files and system backups. Vendors will be provided our "Guide to Systems Administration" during the implementation phase of a project. The "Guide to Systems Administration" covers the provisioning and setup of computing & networking resources to successfully implement a project within the Port Authority.

3.0 Virus Scanning & Management

3.1 Overview

This section describes the standards and guidelines for the prevention, detection and removal of computer viruses, (malware). Its purpose is to minimize the risk and negative impact of computer virus infections in the work environment by establishing clearly defined roles, responsibilities and procedures for the effective management of computer viruses.

3.2 Standards

Standard virus protection software must be installed on all network servers and personal computers, and updated on a regular basis. To that end, the Technology Services Department (TSD) has designated McAfee VirusScan Enterprise + AntiSpyware Enterprise 8.5.0i (at the time of this writing) as the standard for virus management on both Windows desktops and servers.

3.3 Acquisition and Installation

The Technology Services Department (TSD) maintains current versions of standard virus protection software and virus detection files, (DATs), including configuration-specific instructions for downloading and installing the software on network servers and desktops.

4.0 Electronic Mail

4.1 E-Mail Overview

The Port Authority's Electronic Mail System (E-Mail) is designed to facilitate business communication among employees, job shoppers, contractors, consultants, and outside business associates. This E-Mail system is comprised of Microsoft Outlook desktop software accessing e-mail stored on Microsoft Exchange servers. This solution also includes group calendaring and workgroup collaboration.

4.2 E-Mail System Architecture

The Port Authority's E-Mail system is hosted by AT&T Corp. who acquired USInternetworking, a managed application service provider, and consists of Microsoft Exchange servers connected to the Port Authority's enterprise network. Authorized Port Authority staff access their corporate e-mail through Microsoft Outlook desktop software on the network. The system has multiple Exchange servers containing mailboxes and Public Folders. Additional servers host Outlook Web Access, Blackberry services, and perform Internet-based e-mail services including anti-spam and anti-virus e-mail checking.

The hosted Exchange site is on a Windows resource domain with a one-way trust to the Port Authority's corporate user account Windows domain located on the Port Authority network. This Port Authority Windows domain is used for Windows authentication services when the Outlook client is opened. In addition, the Port Authority hosts DNS servers to satisfy requests from the Outlook client as needed.

High-speed, secure, and redundant network connections connect the AT&T's data center and network to the Port Authority network.

4.3 E-Mail Environment: Design Considerations and Infrastructure

The E-mail environment is further described below:

- The E-Mail system is comprised of Microsoft Outlook 2007 desktop software accessing e-mail (via MAPI mail protocol) stored on several Microsoft Exchange 2007 servers
- The servers are currently configured for the following messaging protocols:
  - MAPI (Microsoft's Messaging Mail protocol)
  - Internally for X400 mail protocol (which Exchange servers use)
- IMAP4 and POP3 mail protocols, NNTP news protocol, and LDAP directory protocol are disabled.
- RIM's Blackberry Enterprise Server software for Exchange provides wireless e-mail and calendar access to Blackberry wireless handheld device users.
- The two supported forms of SMTP addresses are:

- Primary form: Flastname@panynj.gov
  FLastname where F is the first initial of the user's first name and Lastname is the last name, and FLastname conforms to the corporate standards for a unique Novell user's username (also known as Novell ID). Flastname is also used as the Alias for a user in the Global Address List. Note that an earlier format with truncating the above to a maximum of eight characters is still in use for accounts created prior to Sept. 2001 (example: Flastnam@panynj.gov).
- Secondary form: Firstname.Lastname@panynj.gov

- Exceptions are governed by Novell directory structure and user account requirements.

4.4 Integrating Applications Server with Port Authority Email System

4.4.1 Requesting SMTP Services

The vendor will request SMTP services from and coordinate its work with the Technology Services Department

If the server is Windows-based and has an antivirus program installed, its settings will need to be changed if port 25 is blocked.

4.4.2 Email Restrictions

The following restrictions are in place to protect the SMTP system and the "credibility" of Agency mail servers on the Net:

- Forged email headers are **STRONGLY discouraged**, but applications for circumvention will be entertained, and valid business justifications must be included. The "From" and "Reply-to" fields should be valid users on the system sending email.
- Settings: The maximum number of recipients per email is currently 30. This includes "To", "cc", and "bcc"; maximum size with attachments is 5MB. Emails that do not conform to these restrictions will be rejected by the SMTP servers.
- Mail will be relayed only if your server has an entry in the SMTP access database.

Note: SMTP logs are checked periodically for policy violations. Repeated violations and failure to correct them will result in SMTP services being disabled for the offending system.

6.0 Workstation and Workstation Operating System

6.1 Overview

The Port Authority makes extensive use of workstations networked into an Enterprise Wide Area Network to accomplish its business objectives. In order to ensure compatibility with the agency's Enterprise network and to make optimal use of its resources, this section defines the standards governing workstations and their configuration and use.

6.2 Workstation Operating System Standard

The Port Authority's standard operating systems for workstations is Microsoft's Windows XP Professional (32-bit), Service Pack 2.
In limited circumstances, where business objectives warrant, alternative operating systems may be deployed with the approval of the department director and concurrence with the Chief Technology Officer.

6.3 Workstation Configuration

6.3.1 Workstation Naming Conventions

All departmental workstations must contain a unique computer name which is the machine's serial number.

Example: Workstation name: 23AAH86

System Administrators are responsible for naming workstations and maintaining an up-to-date inventory of equipment and names used.

6.3.2 Workstation User Accounts

Windows workstations must have user accounts that correspond to the user's network user identification.

6.3.3 Remote Workstation Management

The Port Authority also distributes software applications and upgrades via Novell's ZENworks. Each workstation should have Novell's Workstation Management module installed as part of the NetWare workstation client. This will enable remote distribution and updates of software, hardware inventory and workstation troubleshooting.

6.3.4 Drive Mappings

Drive mappings for workstations should be accomplished only through a Novell login script and should conform to the standard outlined.

6.3.5 Standard Workstation Hardware Configurations

There are standard configurations established for workstations and laptops. The current configurations are managed via a 'lifecycle' process within the Technology Services Department (TSD).

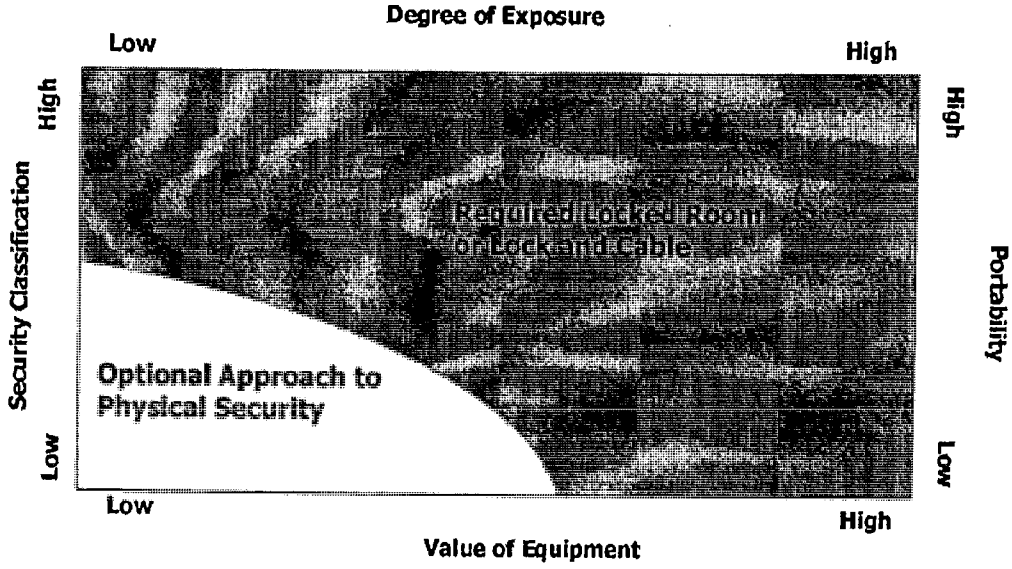
The standard for Workstations include the following Lenovo models (Computer models are subject to change):

- Lenovo ThinkCentre M57 or M58 for a desktop personal computer
- Lenovo Thinkstation D10 for CAD workstations
- Lenovo ThinkPad T400, ThinkPad X200 for laptop computers

6.4 Physical Security

The method of control should be based on the value of the equipment, the sensitivity of the data, its portability and the degree of exposure to theft. The department's Business Manager should make the appropriate determination of physical security required based on their best business judgment.

The graph below provides general guidance to Business Managers in determining the level of physical security required.



In all cases, laptops must be secured with a Lock/Cable product (e.g., Kensington).

6.5 Logical Security

The Technology Services Department (TSD) is responsible for providing for the security of computer resources and devices:

- Workstations are protected with Novell and Microsoft directory security mechanisms..
- Screen saver passwords are implemented with a maximum of a fifteen (15) minute time-out.
- All critical data are backed up nightly onto either external media or a network drive.

6.6 Printers

The Port Authority's Standard for printers is Hewlett Packard, and the following models are currently available. Contact the Procurement Department for acquisition.

7.0 Distributed Systems Environment

7.1 Overview

A number of department and enterprise servers provide critical application and system services. This section provides information on the standards and guidelines for supported systems within the Port Authority. Solutions requiring different operating system environments must have approval from the Chief Technology Officer.

7.2 Microsoft Windows Servers

The standard for general purpose application servers and File and Print Computing is IBM servers. Microsoft Windows 2003 & 2008 Server (Standard and Enterprise) are supported Operating Systems for application servers.

7.2.1 Virtual Environment

The standard for Virtualization Computing is both IBM and NEC FT host servers. The Port Authority will provide a VMware ESX-based Guest Virtual Machine (VM) to operate all Contractor-provided applications software on one of the above host computing platforms depending on the critical nature of the application.

All applications software shall be capable of operating in a virtual environment under VMware ESX server and shall operate in a VMware ESX-based Guest Virtual Machine (VM) on a 'shared' host computing platform for Contractor application, unless performance requirements mandate a dedicated server as described in Section 7.2 above.

7.2.2 Windows Data Encryption

For those applications that require additional data security measures, TSD offers additional tools that provide encryption services to protect "data at rest" (e.g. file

system storage and database). Prior to implementation, the Business System Manager should consult with the Technology Services Department to implement the Encrypting File System feature on Windows XP, 2003 and 2008 Servers (See http://technet.microsoft.com/en-us/library/cc700811.aspx).

7.3 Unix

Sun's Solaris is a supported UNIX operating system for infrastructure (e.g., SMTP services) and corporate servers (e.g., SAP, Peoplesoft).

7.3.1 Unix Security

Unix servers must be physically and logically secured from unauthorized access. Operating system logical security is defined by the Technology Services Department (TSD.

7.3.2 Backup

Critical system backup must be performed regularly (daily and/or weekly) utilizing our centralized backup strategy and associated tools as defined by the Technology Services Department. (see prior section on backup software standards)

7.4 Databases

Oracle 10.2.0.4 or higher and MS/SQL 2005 Server or higher are the supported database platforms for Port Authority systems. Auditing trail shall be enabled for all database accounts with administrator privileges.

7.5 Application Security

Depending on the application, security may be administered at the application, database, module, screen, data field, and/or transaction level in addition to network authentication. Prior to implementation, the Business System Manager should review the capabilities of the application and consult with Technology Services Department (TSD) staff to ensure implementation of the appropriate security levels. When in production, the administrator responsible for day-to-day administration of the application (Application Administrator) is responsible for maintaining the selected security profiles. At a minimum, all applications must require authentication to Microsoft Active Directory by way of a network login.

7.6 Server Physical Security

All servers and communication equipment must be located in the Port Authority's centralized data centers. On occasion, and with Chief Technology Officer approval, local (e.g., in facility) computing resources may be required. For those occasions, servers must be located in an environmentally controlled and locked rooms or secured with a cable and lock with the keyboard secured to prevent tampering and unauthorized usage. Technology Services Department (TSD) staff must be consulted during the implementation phase of a project.

7.7 Load Balancing – Failover Architecture

Depending on the requirements of the application, load balancing and failover architectures are supported. Appendix 13 contains a typical diagram of the load balancing/ failover architecture.

8.0 Vendor Provided Dedicated Systems

Overview

Vendor provided dedicated systems refers to the Information Technology software, hardware and infrastructure furnished and installed through a contract with an external provider. Generally, this refers to systems that are designed to support a large Capital Project, multi-year engagements, requiring specialized technical and management staff, as well as, Systems Integration support. These projects normally have significant construction components and require the coordination, design and support from many diverse Engineering and Technology disciplines

A representative from the Technology Services Department (TSD) provides a single point of contact for technology oversight, accountability, adhering to Standards and systems integration, which is required under the Roles and Responsibilities of the Chief Technology Officer (CTO) and is expected by our client departments.

To ensure a successful project, and honor our responsibility to our customers and the Port Authority, one of the steps undertaken by TSD, is to provide guidance with, and focus attention on, adherence to and compliance with our Technology Standards and Guidelines (as described in this document). Deployment, integration and testing will be monitored by TSD to ensure that equipment or infrastructure is not duplicated, that the integration and migration plan will not adversely impact existing systems, and to integrate new systems under existing maintenance contracts where applicable.

In cases where a specific vendor or system is so specialized that it normally does not adhere to the hardware, software, infrastructure and operations guidelines of this document, the vendor will be directed to work with TSD in exploring all options, and if an exception is deemed required, the vendor will work with TSD to prepare the necessary Business Case to receive written concurrence from the Chief Technology Officer for this deviation from the Port Authority Technology standards.

Appendices

Appendix 1 -- Business Resumption Plan Document Format

I. PURPOSE

Goals and objectives of plan

Benefits obtained if plan properly implemented

II. SCOPE OF PLAN

Planning assumptions

Facilities and resources included in plan

III. NOMENCLATURE

Recovery terms

Definitions and acronyms

IV. DISASTER SEVERITY DEFINITION

Define level of potential disaster based on impact to critical functions. Explain what degree of operational disruption would constitute each level of disaster:

catastrophic

serious

major

limited

V. OPERATIONS RECOVERY PROCEDURES

(Procedures for recovering services)

1. Indicate time frames in which essential operational/business functions must be resumed.
2. Specify sequence of operations recovery events and individuals responsible for activity. Note any specific activities required for particular levels of disaster severity. For example:

Notifications

Preliminary evaluation

Activate operations recovery personnel

Coordinate with emergency personnel

Evaluate recovery options and issue directive which details:

Assigned tasks

Project schedule/time frame

Coordination required

Identify relocation activities, if required

External/internal status updates

3. Identify items required for backup of critical functions. For example:

alternate work site

hardware/software

Personal computers

Necessary software packages

Documentation

Peripherals (printers, modems, etc.)

Databases

Emergency equipment

Communications

Transportation

Supplies

Security

Operations and procedures manuals

VI. OFFICE/FACILITY BUSINESS SITE RESTORATION PROCEDURES
(Procedures for restoring physical facilities)

identify restoration responsibilities

assess damage

develop restoration plan/time frames

VII. BRP UPDATE PROCEDURES

responsibility for updating and communicating BRP changes

frequency of review/update

Appendix 2 -- Communication Rooms/ Closets Standards

SPACE

All data communication rooms must be designed with required and estimated space to meet immediate requirements, as well as, future growth..

ENVIRONMENTAL

The following conditions must be met:

a) Doorways/ Entrances must be designed to support at least the minimum space requirements of 90" Hx72" Wx60" D.
b) The room's cooling capabilities must be sufficient to support the heat dissipation requirements for the equipment. This requirement will be measured in minimum and maximum BTUs powered by AC-powered systems. Equipment specs will be supplied by TSD upon request.
c) Backup UPS systems are necessary to avoid equipment damage in case of site power failure. Vendors must consult with the Technology Services Department (TSD) for the approved UPS systems.
d) Telco demarcs must be located in a central location with sufficient space to house Telco termination equipment.
e) The room should be designed with the appropriate fire safety regulations such as a FM200.
f) Cables trays must also be installed in the communications room ceiling where appropriate, to support the routing of data communications and Telco cables.
g) Basic 19" W/ 72" H cabinets or racks must be installed to house communications equipment such as: routers, switches, hubs, DSUs/ CSUs and monitors.
h) To create more wall space the use of wall mount racks can be installed. Appropriate sized plywood must be installed prior to mounting racks.
i) Category 5e cable must be terminated in wall/ rack mounted patch panel.
j) Fiber patch panel must be installed in fiber IDF panel with SC female interface.
k) The fiber must be neatly tie wrapped and enclosed in flexible inner-duct.
l) Telephone access must be installed in the appropriate location to provide for basic trouble-shooting and vendor support.
m) All communications equipment and cabinets must have ample room for easy access and proper ventilation.

Appendix 3 -- Cabling

a) Teflon-coated cables will be installed per fire code regulations.
b) Overhead cable trays and drop post must be installed for cable routing.
c) Cabling scheme must be used to label and identify all cables. All cables must be neatly tie-wrapped.

Appendix 4 -- Port Authority Unified Wiring Plan

Original: 01/90
8th Revision: 03/02

To satisfy existing and future voice and data communications requirements, while minimizing the need for wiring changes and additions, the Port Authority has adopted the following lateral wiring specifications for all workstations being constructed. This plan is applicable to all PA locations, except when specifically noted.

LATERAL CABLE:

Voice and data telecommunications requirements for each workstation will be provided by a combination of three individual cables, installed between the workstation and the serving telephone closet / intermediate distribution frame (IDF), in a "home run" configuration. All cabling installed will be of plenum type, fire retardant (FEP) rated.
Cable specifications:

(3) Cables capable of supporting Category 5e capabilities as outlined in the TIA/EIA-568-B.2 standard. Specifically:

Gauge: 24 AWG

Pair Size: 4

Insulation: Plenum, fire code rating (FEP)

Cable allocations will be as following:

Cable #1: Voice**

Cable #2: Data

Cable #3: Data

- *100.0MHz is the speed the PA wants to deliver to the desktop.
- **Cable #1 is to be split in the workstation to support 2 telephones.

Technical specs for the Cat 5e cable is as follows.

TECHNICAL DATA--ELECTRICAL				
	Horizontal		Patch	
Frequency MHz	Attenuation dB/100 m max.	Next dB min.	Attenuation dB/100 m max.	Next dB min.

1	2	62.3	2.4	62.3
4	4.1	53.2	4.9	53.2
10	6.5	47.3	7.8	47.3
16	8.2	44.2	9.8	44.2
20	9.3	42.7	11.1	42.7
31.25	11.7	39.8	14.1	39.8
62.5	17	34.3	20.4	34.3
100	22	32.3	26.4	32.3

TECHNICAL DATA--PHYSICAL			
	CMR	CMP	CM (Patch)*
Conductor diameter-in. (mm)	.020 (0.52)	020 (0.52)	024 (0.61)
Cable diameter-in. (mm)	.195 (5.0)	165 (4.2)	215 (5.5)
Nominal cable weight-lb./kft. (kg/km)	21 (31)	21 (31)	23 (34.2)
Max. installation tension-lb. (N)	25 (110)	25 (110)	25 (110)
Min. bend radius-in. (mm)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)
* Patch cables utilize stranded tinned copper conductors			

PARAMETRIC MEASUREMENTS		
	Horizontal	Patch
Mutual Capacitance	4.6 nF/100 m nom.	5.6 nF/100 m nom.
DC resistance	9.38 Ohms/100 m Max.	9.09 Ohms/100 m max.
Skew	45 ns/100 m max.	45 ns/100 m max.
Velocity of	72% nom. Non Plenum	72% nom.
Propagation	72% nom. Plenum	
Input Impedance	100 + 15% 0.7772-100 MHz	100 + 15% 0.772-100MHz
	ISO/IEC 11801	

COLOR CODE			TEMPERATURE RATING	
Pair 1	White/Blue	Blue	Installation	0 degrees C to +50 degrees C
Pair 2	White/Orange	Orange	Operation	-10 degrees C to +60 degrees C
Pair 3	White/Green	Green		
Pair 4	White/Brown	Brown		

Appendix 5 -- Telephone Closet / IDF Termination Blocks

Lateral Data cabling serving each workstation will be terminated on a CAT5e patch panel (RJ45 face, 110 punch rear) in the telephone closet. For phone service, termination is to be on 110 blocks in telephone closet, allowing access to the telephone riser. For data, a patch cord is installed between patch panel and IT device. The patch panel can be mounted on the wall with a wall mount kit or in a rack if one is needed and should be appropriately numbered with the workstation number. The patch panel must be capable of supporting Category 5e the TIA/EIA-568-B.2 standard. The patch panel shall have a swing away faceplate or rack mountable.

NOTE: The Category 5e patch panel should be equivalent to the AMP SL series 110Connect Category 5e patch panel. The number of ports may vary.

Each workstation will be assigned a unique station identification number.

Appendix 6 -- Workstation Jacks

Workstations will be equipped with various components of the AMP Communications Outlet system (AMP equivalent can be used with TSD approval). Each workstation will be installed with (1) double-gang jack housing box and matching face plate, capable of securely mounting three Category 5e cables and four modular data connectors, maintaining the integrity of category 5e capabilities as outlined in the the TIA/EIA-568-B.2 standard. All workstation jacks will be wired in accordance with the the TIA/EIA-568-B.2 standard. All modular jacks are to be appropriately labeled.

Appendix 7 -- Standard Switches Inside the Department

Any switches in the following Cisco series are acceptable (Vendors will consult with the Technology Services Department (TSD) to determine the appropriate switch configuration at the time of proposal submission):

Cisco 5500

Cisco 3500 series – low capacity

Cisco 4000 series – medium capacity

Cisco 6000 series – high capacity

Cisco 4507 series – high capacity – New

Appendix 8 -- Desktop and Lateral Cable Identification Management

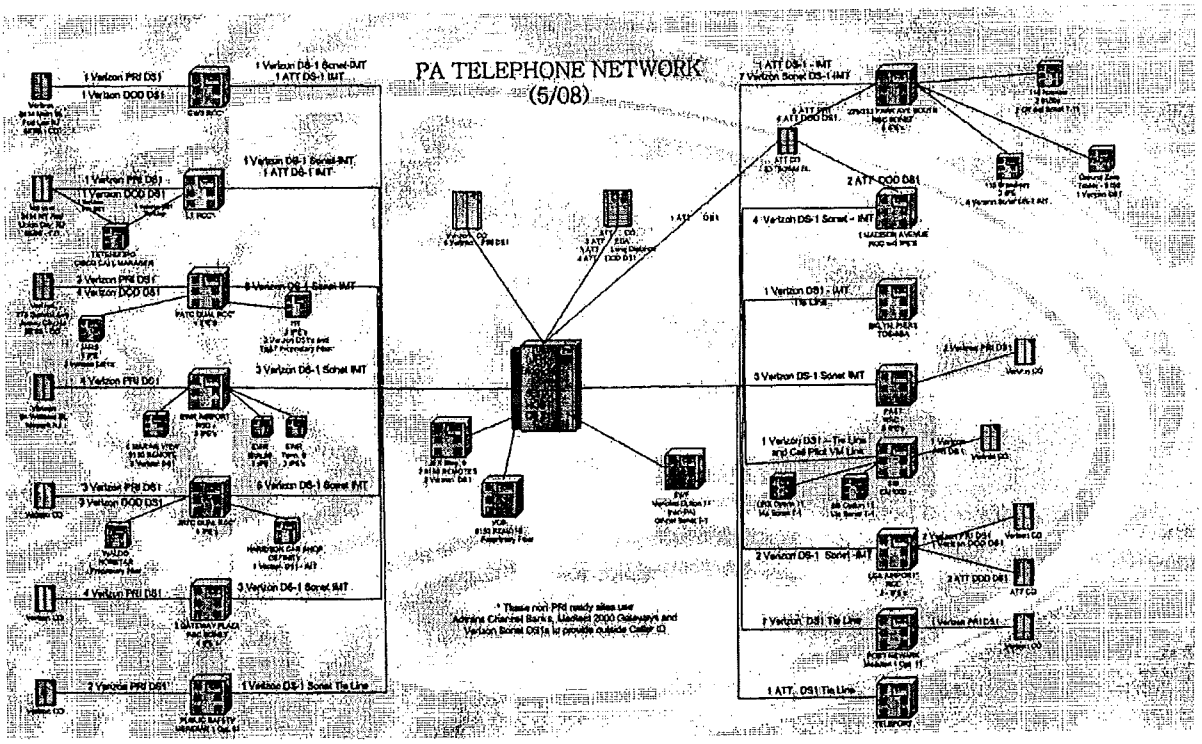
WORKSTATION AND LATERAL CABLE IDENTIFICATION/MANAGEMENT (Facility)

All lateral cabling installed to workstations at the Port Authority Facilities must be designated in accordance with the Port Authority's workstation and lateral cable identification code: This code consists of two elements, as follows:

1 - Room number or department name (acronyms are acceptable).

2 - Workstations (3 numeric digits)
The cable identification code for Workstation 10 in room 3801 at LGA CTB is 3801-010.
The cable identification code for Workstation 15 in PA Automotive shop is Auto-015

Appendix 9 – PA Telephone Network 5/ 08



Appendix 10 – Fiber Optic Specification for Network Services - PAWANET

General Scope of Work

1. Conduct a walk thru based on the specific Scope of Work for the job in question.
2. Note that all diagrams and or sketches that may be provided are approximates and not to scale.
3. All fiber optic cable is to be installed in rigid conduit or, where applicable, in plenum rated flexible inner duct.
4. Contractor shall furnish and install fiber optic cable as designated in the specific Scope of Work.
5. Fiber optic cable type will be loose tube, gel filled, with aramid yarn water block:
   a. Multimode Fiber – **50/ 125*** micron diameter. Manufacturer of cable TBD
6. Fiber optic cable attenuation from the factory, before installation, shall not exceed:
   a. For multimode – 3.5 db per km @ 850nm / 1.0 db per km @ 1300nm
7. All fiber optic cable is to be labeled on each end and at any junction or patch panel with, 28 gauge, 2" wide embossed with ¼" high letters. The labels are to be fastened to the fiber optic cable using sealed wrap around labels or pliable Velcro ties.
8. Fiber optic cable shall be installed in accordance with the manufacturer's specifications. Any portion of the cable damaged during installation will be repaired or replace by the contractor without any additional cost to the Port Authority of New York New Jersey.

Fiber Optic Terminations

1. Fiber optic terminations will use **SC** *** connectors unless otherwise specified in the Scope of Work.
2. Fiber optic terminations shall not yield more than 1db per mated (at the bulkhead) connector.

Fiber Optic Testing

1. Fiber optic testing shall be performed by the contractor and certified fiber optic technicians.

Fiber optic technicians will be prepared to complete test procedures with the following equipment:

- Source and power meter testing to provide optical loss measurements.

- Reference test cables and mating adapters that match the cables to be tested.
- Cleaning materials – lint free cleaning wipes and pure alcohol.
- OTDR test set with the proper launch cables and adapter types.

2. Fiber optic technicians will perform OTDR test on all terminated fibers unless otherwise noted in the Scope of Work.
3. Fiber optic test results shall be recorded, and reports provided to the PA in hardcopy and via a readable txt file (PDF or RTF is acceptable).

*50/125 micron fiber has been chosen over 62.5/125 micron fiber by Network Services:

1. Greater speeds achieved. 62.5/125 fiber will deliver 1 gigabit per second (Gbps). 50/125 fiber will deliver up 10 Gbps. This allows for equipment upgradeability.
2. Greater distances. 62.5/125 fiber will go up to 275 meters from source. 50/125 will achieve up to 550 meters from source. We can cover greater distances in an installation without having to go to the more expensive single mode fiber installation.

** **SC** connectors have been chosen over **ST** connectors by Network Services due to the fact that we utilize Cisco equipment, which come furnished with **SC** connectors on their fiber interface blades. It is more cost effective to use the standard **SC-SC** patch cable with Cisco equipment than to add the additional cost of having hybrid **SC-ST** cables made. **SC** connectors are also easier to work with and use less space in an installation.

Appendix 11 -- Public Telephone Ordering Guidelines

Technology Services (TSD) staff is responsible for the management of the permit for public telephone service are available to answer any questions and provide direction for any matter relating to public telephones. The names and contact numbers are listed below

General Guidelines

All public telephone requests – that is both coin and non coin in any Port Authority space or any area of the tenant space – both "public" and "club" locations will be coordinated by the Port Authority to cover both New York and New Jersey.

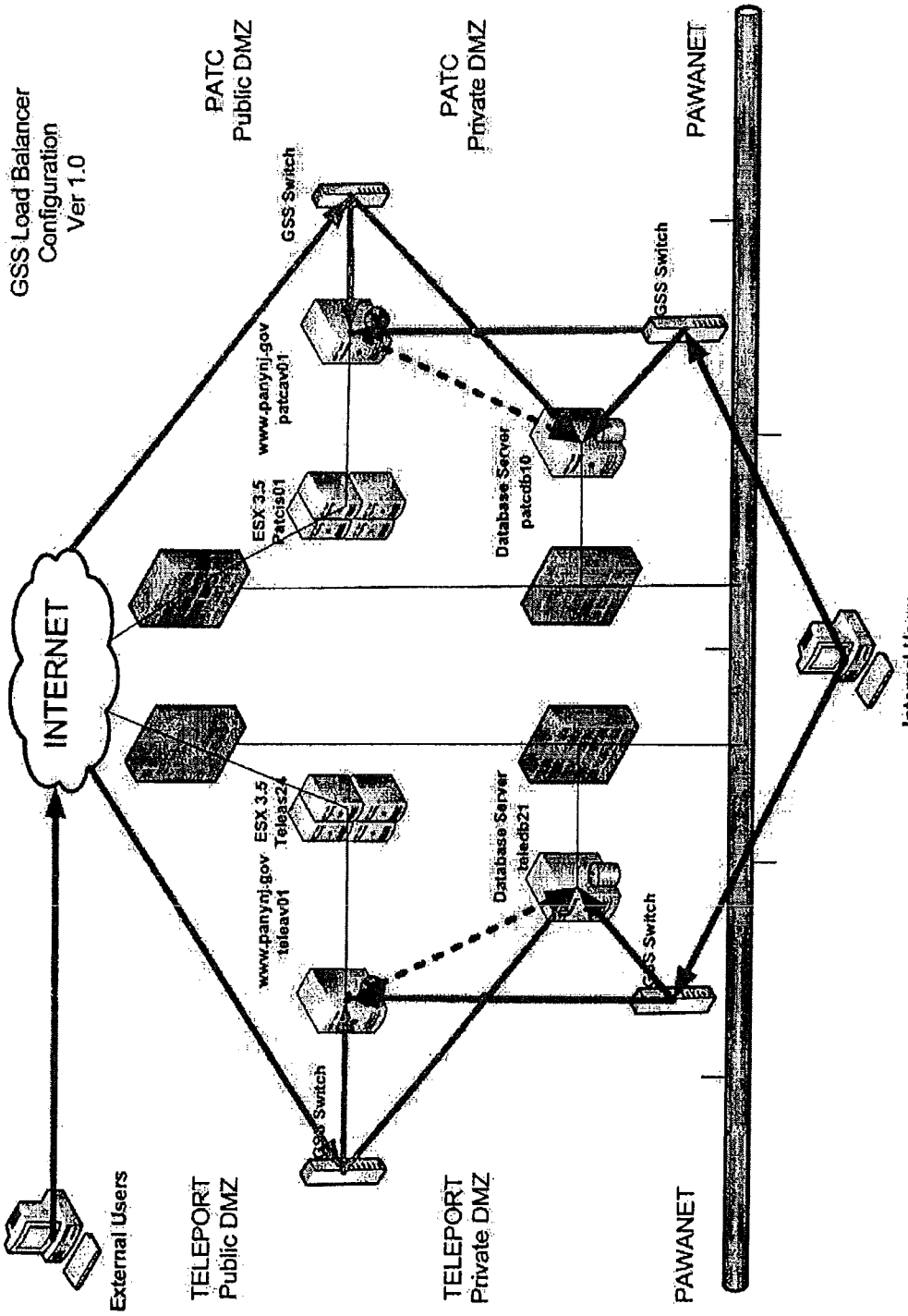
Process

When the Facility, Property Manager, tenant or their representative (e.g. designer, architect, general contractor) has a public telephone requirement, they will contact the Technology Services Department (TSD) whom will review the request and provide coordination with the appropriate service provider.

Appendix 12 – Standard Printers

HP LaserJet P1006 Stand Alone Laser Printer	17 ppm Black resolution 1200 dpi/Memory 8Mb	CB411A#ABA
HP LaserJet 5200dtn - Network Printer	35 ppm Black resolution - 1200 x 1200 dpi Memory - 128Mb Duplex	Q7546A
HP Color LaserJet 4700dn Network Printer	31ppm black, 31ppm color Black/Color Resolution 600X600 dpi Memory 288 Mb Auto Duplex	Q7493A
HP LaserJet P4014n - Org Unit Network Printer	45 ppm Black resolution - 1200 x 1200 dpi/Memory - 128 Mb	CB507A#ABA
HP Automatic two-sided printing module	Optional for LaserJet 4014n printer	CB519A
HP LaserJet 5550dtn Color Printer	27 ppm black/color Processor speed 533 Mhz Media 11x17	Q3716A
HP OfficeJet Pro K5400 Stand Alone Color Printer	36 ppm black, 35 ppm color Color resolution 4800 x 1200 dpi Memory 32 Mb	C8184A
HP Automatic two-sided printing accessory	Optional for HP OfficeJet Pro K5400	C9278A

Appendix 13 – Load Balancing/ Failover Diagram



There are a total of four load balancers, two are used for internal users and the other two are used for external users. Cisco GSS devices support load balancing or failover configuration

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Exhibit 5

DISASTER RECOVERY PLAN CHECKLIST

Disaster recovery is a plan which could be executed in the event of a total disaster in order to bring the computer systems back to a functioning whole. Typically, the disaster in question is one, which destroys a complete site that requires restoration of support, particularly Information Technology support. Most commonly considered causes of disasters are fire, explosion, flooding, hurricanes and tornados. Disaster recovery planning normally involves alternate locations for major systems as well as the planning and testing of switch over measures, emergency transportation and so on.

The Disaster Recovery plan should include at a minimum the following areas.

1. Disaster Recovery
   - Manager Responsibilities
   - Plan Administration
     - Distribution of the Disaster Recovery Plan – All team members, LAN and an offsite location should have a copy of the current plan and its attachments.
     - Maintenance of the Business Impact Analysis
     - Training of the Disaster Recovery Team
     - Testing of the Disaster Recovery Plan
     - Evaluation/Review of the Disaster Recovery Plan and Tests – the DR Plan should be reviewed and the DR Test should be performed at a minimum twice a year. Update the plan to reflect changes in activities, procedures, performance, staff, and etc. Set a regular time for the review.
     - Maintenance of the Disaster Recovery Test Results – Maintain copies of the test results and what scenarios and areas of the plan were tested.

2. Business Impact Analysis - Minimize the impact on the business with respect to dollar losses and operational interference
   - Critical Time Frame - Recover the system and/or component of the system within the critical time frames established and accepted by the user community. This should include the time estimate of how long it would take to recover the whole system or any sub components.
   - Application System Impact Statements - This area is where a business owner decision of what areas of the system has a priority in how it is brought back into normal operation. How long could these operations be performed without computer support?
     - Essential – Are systems or components of the system that are very critical and need to be back in operation immediately because the business cannot function.
     - Delayed – Are systems that are needed but could be delayed and could not adversely effect the business process.
     - Suspended – Are system or components that are not critical and can wait until the full system is back to normal operation.
   - Recovery Strategy & Approach

3. Disaster Definition – All possible interruptions should be defined, and then the steps to minimize their impact need to be documented. This includes disk array failure, power loss, loss of network, loss of wireless network, loss remote access, equipment, computer processor failures, etc.

DISASTER RECOVERY PLAN CHECKLIST

- Detailed Recovery Steps for each Disaster Definition - This should be the technical steps to recover the different areas of the system like the Operating system, database, application, routers, firewall, and etc.
- Escalation Plans and Decision Points

4. Data Center Systems – Dependencies should be notated.
   - System Components- A copy of all essential office equipment and records should be stored off-site. Specify any special computer hardware, software, databases, networks or other technology.

     - Backup Strategy
       - Storage Rotation
       - Back-up Files
       - Off Site Storage of Back-up Files
       - Back-up Files Retrieval Process, Vendor information and Forms for Off Site Storage

     - Hardware -
       - Hardware inventory for system in operation
       - Desktop Workstations (In Office)
       - Desktop Workstation location
       - Desktop Workstations (Offsite including at home users)
       - Laptops

     - Software -
       - Software inventory of the system in operation
       - Systems, Applications and Network Software
       - Communications
       - Operations

     - Off-Site Inventory

     - Supplemental Hardware/Software Inventory

5. Escalation Plans and Decision Points

6. Disaster Recovery Emergency Procedures
   - Plan Procedure Checklist - should have a checklist of the plan procedures and area for documenting exceptions where the plan was not adhere to and what was done in its place. Disaster Recovery Procedures in a check list with approval format.

   - Disaster Recovery Organization – should have the full disaster recovery team listed by position or individual and what are their responsibilities. This section of the plan should include Port Authority and PATH personnel, PA/PATH management, and all vendors that work or have responsibilities during a disaster. This area should be reviewed semi-annually for updates and changes.
     - Recovery Organization Chart

DISASTER RECOVERY PLAN CHECKLIST

- Disaster Recovery Team & Recovery Team Responsibilities
- Recovery Management & Senior Manager Responsibilities
- Damage Assessment and Salvage Team & Team Responsibilities

Problems and Changes - Need to be documented and what was done to rectify them.

Essential Position – Require back-up personnel to be assigned.

7. Pre-Disaster - What steps need to be in place prior to a disaster for this plan to work? If there are any assumptions, they should be notated here.
   - Recovery Management
   - Damage Assessment and Salvage
   - Hardware Installation

8. Contacts information - This area should be reviewed semi-annually for updates and changes.
   - Disaster Recovery Team - This should include primary and secondary phone numbers, home address, emergency contact information, and their backups information.
   - Vendor Phone/Address List – Include account information and account representative information.
   - Command Center – Primary and Alternative site locations, hot spots, phone numbers, time scheduling

9. Post-Disaster – Detail what steps need to be taken to move from disaster mode back to normal operations.

Exhibit 6

EXHIBIT 3
SYSTEM ADMINISTRATION REQUIREMENTS

I. Standard System Administration:

The Contractor shall perform all system administration tasks and functions in accordance with the Contract and best industry Information Technology IT Standards, Guidelines and practices. The Contractor shall be responsible for routine operation of the system, management of the hardware configuration, files and data, diagnosing and effecting correction of all problems that impact system operations, including, but not limited to, the tasks listed below in this Exhibit. The Contractor shall perform all tasks necessary to assure functioning of the system at the required standards of performance and availability defined herein and in Attachment C, Scope of Work, Section X Maintenance of the System paragraph A.3. Operational Availability.

In addition to the support it shall provide for the hardware, operating system software, database, utilities, and communications facilities, the Contractor shall be thoroughly familiar with, and provide comprehensive support for the applications software. The Contractor shall also provide direct support to end users in the use of the applications furnished as part of this Contract.

Support for the systems shall include providing end-user access to such applications, routine monitoring and system maintenance, system backup, data replication, file retention and archiving services, security, performing operating system upgrades and maintenance of databases, which conform to the Contract and best industry IT Standards, Guidelines and practices.

A. System Monitoring

The Contractor shall monitor the operating system, database, application, and error logs, and check the hardware and software components of the system to ensure that all components are present and operating within specified parameters. Based on these reviews the Contractor shall perform needed system activities (e.g., de-fragmenting disk files, purging obsolete files from directories, etc.) to ensure uninterrupted operation of the system. The Contractor shall check system monitoring devices and programs, run-time system utilization parameters, and other diagnostic tools (e.g., disk usage, file size and allocations, processor loading, page faults, response times, etc.) to ensure that all aspects of the system are operating properly and the system is meeting all specified performance criteria. **

The Contractor shall monitor the state of the system's operating environment(s) including, but not limited to: temperature, humidity control, power conditioning/supply (e.g., uninterruptible power supplies), lighting, etc., to ensure appropriate and continuous environmental support for the system.

The Contractor shall service and test the fire and smoke-detection, fire-extinguishing equipment, emergency lighting, backup power supply, and surge protection equipment on a regular basis, consistent with the manufacturer's recommendations.

The Contractor shall review system databases (tables, indexes, views/queries. etc.) to ensure that all databases are properly updated, and appropriate integrity and synchronization of all system databases is maintained. The Contractor shall maintain logs or other appropriate records of all monitoring and system upkeep activities and logs of all anomalies found during any monitoring

activities and measures taken to correct those anomalies. The Contractor shall provide, semiannual reports of system performance.

The Contractor shall report all deficiencies and anomalies to the Contract Manager within 24 hours of observation through normal system monitoring.

B. Operational Requests

1. Critical Requests

The Contractor shall respond to critical requests (e.g., resetting a user password, unlocking intruder detection lockouts, etc.) in a timely fashion as specified in the SLA.

2. Routine operational requests

The Contractor shall perform work to satisfy all routine operational requests (e.g., adding a new user; configuring a workstation for a new user, creating a network directory; granting a user access to an existing application, modifying approved access permission changes, etc.) as specified in the SLA.

3. System and Application/Database Back-ups and Archiving

The Contractor shall perform scheduled data, application, and system backups to ensure that back-up media are properly stored and rotated on schedule, and replaced appropriately.

a. Maintaining off-site back-ups

The Contractor shall perform scheduled back-ups for off-site storage or rotate back-up media to and from the off-site storage location as appropriate. The Contractor shall ensure that viable and complete back-ups are delivered to the off-site storage location when scheduled and that media to be rotated is returned from off-site storage location and returned to usage on the system as appropriate.

b. Maintaining records of back-up

The Contractor shall maintain logs of all back-up activity, rotation of back-ups, and usage/rotation of back-up media and records of all off-site data storage.

c. Testing backup/restore procedures

The Contractor shall perform tests to verify that the backup tapes can be used for restoring data/files. These tests shall be conducted at least twice annually. The backup solution should work at a speed which ensures that backups or restores do not impact the bandwidth during the workday.

4. Archiving data

The Contractor shall follow system archiving procedures to capture data to be archived to permanent storage media as required to maintain proper system functioning or as scheduled in the system operating procedures (whichever occurs first). The Contractor shall ensure that archive media is properly stored, logged and maintained and that archived data is viable and accessible throughout the required archive retention period for the data.

The Contractor shall also be responsible for ensuring that an adequate inventory of media for primary and backup purposes is available and for providing additional media when needed in a timely manner.

a. Accessing archived data

The Contractor shall be responsible for loading archived historic data onto the system as needed to generate reports, doing required searches and clearing loaded historic data from system when it is no longer needed for immediate access.

b. Monitoring inventory of media

The Contractor shall be responsible to ensure that an adequate inventory of media for primary and backup purposes is available.

5. Database Administration

The Contractor shall be responsible for monitoring and maintaining the database(s) that are used to support the application.

6. Fault Detection, Diagnosis, Alarms and Correction Diagnosing system faults:

a. Diagnosing system faults

The Contractor shall be responsible for the following with respect to diagnosing system faults:

- Reacting to system faults detected through either monitoring and observation, or by reports from users;
- Log fault and capture pertinent data (e.g., record state of system components, take appropriate system dumps, record observations of users, etc.);
- Make necessary and appropriate notifications (e.g., Authority Contract Manager, affected users, etc.);
- Diagnose the nature/cause of problem(s); and
- Determine responsibility for correction of fault.

b. Alarms

The Contractor shall configure the system to issue alarms that notify the system administration staff of any condition which would adversely impact system operation, including but not limited to the following:

- Hardware faults,
- Applications software faults,
- CPU, Memory or utilization exceeding stated threshold value,
- Environmental conditions

c. Correction of system faults:

The Contractor shall correct faults or follow procedures to contact the appropriate service provider and initiate response from/resolution by that provider. The Contractor shall then monitor and log response of service provider to trouble call.

d. Following up on corrective action:

The Contractor shall verify that the fault has been appropriately and completely corrected and that there are no uncorrected collateral problems either from the original fault or from the measures taken to correct the fault.

e. Maintaining records of system faults:

The Contractor shall log return to proper operation and record all pertinent data regarding fault including:

- Fault description and symptoms,
- How fault was detected,
- Impact on system operation,
- How fault was diagnosed,
- Diagnosis and response times,
- How fault was corrected, and
- Elapsed time to restored system operation.

f. Production of operations reports

The Contractor shall provide system-generated and/or manual log reports as required; and collect, maintain, and provide regular reports on computer room and system administration activities, etc., which are necessary for auditable reports of Contractor performance on the Contract.

7. Monitor inventory of consumables

The Contractor shall monitor the inventory of consumables used by the Contractor, e.g. , backup tapes, and order additional consumables as needed.

8. Capacity Management and Performance Monitoring

The Contractor shall be responsible for and shall provide non-intrusive system and database monitoring to ensure that the System's performance and responsiveness meets the operational needs of the users. All measures shall be taken to ensure the continued effective operations of the System through the accepted industry capacity management and performance monitoring

procedures and techniques, including recommending corrective actions to correct capacity or performance inadequacies.

The scope of the capacity management and performance monitoring portion of the System Administration services furnished shall include, but not be limited to, the activities identified below in this section, and comply with the best industry IT Standards and Guidelines.

a. Maintaining records:

The Contractor shall maintain records on system performance and resource usage, message queuing, system and user response times, etc., adequate to project needed upgrades to hardware and software based on current performance and expected growth.

The Contractor shall maintain communication with the Contract Manager and users concerning plans for system expansion or modification that will affect system capacity or performance.

b. Performance Monitoring

The Contractor shall maintain the proper allocation of resources, alter file distribution on direct access storage devices and reconfigure the system as needed to maintain adequate system performance.

c. Troubleshooting:

The Contractor shall investigate and diagnose system problems resulting in unsatisfactory system performance and take all steps to remedy the problem.

d. Maintaining data structures:

The Contractor shall de-fragment files and purge, reorganize, and optimize databases on a scheduled and as needed basis.

9. Coordinate with Hardware/Software Service Providers

a. Hardware Maintenance

The Contractor shall schedule regular preventive maintenance service with the hardware vendor in accordance with service contracts and in coordination with the Contract Manager so as to limit disruption of operations, and maintain records of service visits to ensure that vendors' contractual obligations are met.

b. Software Upgrades

Contractor shall perform the installation of operating system upgrades and/or patches on host processors and servers, ensuring software is maintained at a release level supported by the vendor and as appropriate within two release levels of the most current release for both the operating system and third-party products.

c. Maintaining currency of application software

The Contractor shall perform the installation of application software, upgrades and/or patches on host processors and servers, including packaged software products, as well as new releases of custom software in order to maintain the application at a current release level. The Contractor shall support the installation of any software or configuration of the Internet browser on Users' personal computers when requested.

d. Software Patches

Upon notification of a critical security patch, the Contractor shall deploy it within 24 hours. This includes the preparation, testing, quality assurance of the patch, and reporting to and consultation with the Authority. Non-critical security and non-security related patches, fixes and service packs are to be scheduled with Port Authority staff, but in general shall be deployed within 10 business days of their release. Any patch or update shall also include an automated method for removing the patch or update in the event that the new software causes an adverse effect on the system to which it was deployed. Any patch or update shall include a test to ensure that it does not adversely impact the application and to determine if the patch or update is already on the desktop. Both the operating system and the applications software shall be appropriately maintained.

e. Software Maintenance/Support

The Contractor shall report required fixes to correct software deficiencies, maintain records and track the status of all reported problems and requests for enhancements, maintain contact with vendors and Agencies to keep current on the latest releases of and fixes to software and keep the Authority's Contract Manager aware of the status of all such releases, fixes and requests.

f. Change Management Administration

The Contractor will be responsible for ensuring that all changes to hardware and/or software occur in a controlled manner. The Contractor shall be responsible for determining that all hardware and software changes are properly authorized, tested and documented prior to implementation in the production environment, and shall describe the testing environment. Testing would be in reference to new versions of applications, operating systems, or other relevant changes.

The scope of the change management portion of the System Administration services furnished shall include but not be limited to the activities identified below in this section:

g. Hardware Configuration Changes

The Contractor shall make provisions for the orderly implementation of hardware changes and upgrades minimizing the disruption of system services to users. The Contractor shall oversee and control changes to the hardware configuration and supervise the area during installation.

h. Testing new hardware

The Contractor shall ensure that all hardware configuration changes "are tested prior to use" in the production environment. Where possible and appropriate, the Contractor shall arrange for factory testing prior to acceptance of new hardware.

i. Establish a segregated test environment

The Contractor shall maintain a segregated test environment insulated from the production environment for testing of all changes to software prior to introduction to the production environment. The Contractor shall provide a description of the planned testing environment to support testing of new versions of applications, operating systems, etc.

j. Controlling software migrations:

The Contractor shall establish and enforce procedures to ensure only approved changes are implemented by ensuring the following:

- modification request forms have been received for all changes to be made to software
- software version/revision level is identified
- new application and system software versions are tested prior to use on the production system
- new application and system software versions are documented

k. Maintaining prior versions of software

The Contractor shall exercise control over software versions, ensuring the proper version of software is migrated and that prior versions are available for roll back in the event of an emergency.

l. Testing new software

The Contractor shall maintain a set of test transactions and known results to verify the integrity of the system along with new software releases. The test transactions shall be updated to include test data for all new conditions arising out of maintenance or enhancement of the system.

10. Security Administration - User Accounts

The Contractor shall be responsible for creating and maintaining a secure system environment in a manner consistent with the terms of this Contract. The scope of the security administration portion of the System Administration services furnished shall include but not be limited to the activities identified below in this section.

a. Maintaining lists of authorized users

The Contractor shall establish a listing of users authorized by the Contract Manager to access the system and the system functions that user is authorized to exercise. The Contractor shall also provide a means for immediate communication with the Contract Manager, or other designated person, when changes in employment status occur, which may require updating of said list.

b. Limiting access to the system

The Contractor shall create logon privileges for only those persons authorized by the Contract Manager and periodically reconcile the list of users to the authorized list. The Contractor shall institute a policy of password assignment, expiration and change to limit the exposure to unauthorized access and limit access by individuals to the functions authorized through user profiles or other such means as are available through the application or operating system. The Contractor shall institute controls over super-passwords or other special passwords so that their

use is documented and approved by the Contract Manager. The Contractor shall research sign-on violations to determine if a pattern is evident and report any findings to the Contract Manager. The Contractor shall review and monitor the security configurations, user accounts, passwords, and user security permissions established for all components of the system the Contractor is responsible. These include the operating system, database, application, file system rights, Web services and applicable middleware software.

The Contractor shall review and monitor the security associated with information transfers between the system managed by the Contractor, other systems and with outside entities such as file transfers (outgoing and incoming), monitoring actions, and traffic that is allowed to reach the servers the Contractor is managing. The Contractor shall document on how these configurations have been set and controls have been performed following the Contract and best business practices. The Contractor shall use the best monitoring, auditing and reporting tools available. The Authority reserves the right to request any additional security and system software be used to evaluate the level of security and vulnerabilities in all systems under this contract. The Contractor shall develop an acceptable procedure to notify users and correct unsatisfactory conditions, e.g., email notification of login lockouts, password expirations, etc.

11. User Assistance:

The Contractor shall:
• Provide assistance to Users on the use of the application
• Provide technical assistance to Users on the setup, if any, of the application on the Users' personal computer, to make the application operational for the User
• Research and take corrective action on hardware/software malfunctions
• Conduct User training.
• Provide a toll-free telephone number, in North America, for placing service calls, requesting assistance and responding to questions on how to use the application during regular business hours (9:00 AM to 5:00 PM EST).
• Add and delete Users from the System
• Setup/Change User Access Permissions
• Reset User Passwords

II. Management of the Work

The management work shall include the provision of a Contractor Administrator who will report and respond to an Authority-assigned Contract Manager.

The Work Approach shall adhere to the following format:

A. Organization

The Contractor shall be responsible for establishing and maintaining an organization appropriate to the scope of work to be performed under this Contract. This shall include, but not be limited to, the following:

- Assigning appropriate numbers of staff with skills appropriate to the tasks to be performed. All assigned staff shall be accessible either through a paging device or a cell phone. A list of

assigned staff and their contact information shall be provided to the Authority's Contract Manager, at the time of assignment.

- Ensuring that staffing requirements are satisfied by having a sufficient number of staff with the appropriate skills to operate the System.
- Providing qualified persons, acceptable to the Authority, for relief of the assigned staff, in the event of vacation, illness, personal business or any other absence of the assigned staff.
- Providing the assigned staff with a procedure for escalating technical issues, which cannot be solved on-site, and providing for the support of these individuals where such support is required.
- Providing a hotline during regular business hours to respond to the requests for services in a timely manner and to meet service requirements.
- Ensuring that the staff is proficient in the software applications and its usage.

B. Schedules

The Contractor shall manage the work according to schedules published by the Contractor and approved by the Authority's Contract Manager. The schedules shall include but not be limited to:

- Ongoing recurrent duties.
- Maintenance activities.

Changes to the work schedules shall be pre-approved by the Authority's Contract Manager.

C. Security Measures for Contractor's Staff

This section is intended for the creation of security controls relative to the Contractor's own staff. The Contractor shall be responsible for maintaining secure environment and supplying personnel who satisfy Authority and/or regulatory requirements.

1. Limiting access to the system

The Authority shall issue appropriate logon IDs for only those persons authorized by the Authority's Systems Manager to have access, and periodically reconcile the list of logon IDs to the authorized list. The Contractor shall institute controls over super-passwords or other special passwords so that their use is documented and approved by the Authority's Contract Manager. Any request by the Contractor to increase access shall be documented in writing, with full backup information to document the need for the increased access.

2. Data Security

All information concerning the business of the Authority which becomes accessible, or known, to the Contractor, their employees or subcontractors, including but not limited to financial information, customers, customer lists, business plans, operational plans, data and computer programs, documentation, engineering/technical data, drawings, design process, pricing, research and development, strategic plans, and operating data resident on magnetic media, or other media processed, stored, archived or maintained, shall be protected from loss, erroneous alteration, and shall be held in strict confidence and protected from unauthorized access. All confidential data shall be protected at all times. The Contractor shall provide the same care and processes to prevent unauthorized access, modification or loss of the Authority data via the same, or

enhanced, processes that it presently employs to protect its own information of a similar nature. In the event of any non-authorized access, modification, disclosure, loss or inability to account for any Authority data, the Contractor will provide immediate notification to the Authority's Contract Manager.

D. Quality Assurance/Auditing

The Contractor shall establish and maintain a quality assurance program, which the Contractor will utilize to assure that all work is performed in accordance with the terms of this agreement including compliance with and at a level consistent with acceptable industry's best practices. The Contractor shall employ procedures to assure the timely and effective execution of all tasks required by this Contract. The program is expected to include a measurement program that tracks the quality and productivity of services provided by the Contractor. The Contractor shall issue reports regarding this Quality Assurance activity when requested.
The Contractor shall be responsible for maintaining the appropriate knowledge, certifications skills and abilities of the staff assigned to administer the target system by providing a regular ongoing training program appropriate to the needs of each system administered and the staff assigned.

III. Service Level Agreement (SLA)

The above tasks and work approach shall be performed in accordance with the service level agreements stated below. The Contractor shall provide quarterly reports demonstrating its performance against all the SLA standards.

A. Server availability:

All servers and associated storage and applications shall be on-line and available for general use 99 % of the time per server as measured on a monthly basis.

B. Patch/version maintenance:

The Contractor shall apply all critical security/operating patches within 24 hours of their approval by the Authority. All other patches and service packs shall be deployed within 10 business days. Software version upgrades shall be deployed within 6 months of general release.

C. User/group account maintenance:

All routine operational requests shall be satisfied within 48 hours. Additional operational requests, not requiring dedicated Contractor staff and without a pre-established contractual deadline, shall be performed as a part of this contract by the deadline negotiated between the Contractor and the Contract Manager.

D. Operational Requests

• Resetting a user password within 2 hours.
• Routine operational request is satisfied within 2 working days (e.g. adding a new user, assisting the configuration of a User's personal computer; granting a user access to an existing application).
• Assisting Users in setting up simple database queries within 1 working day. Assisting Users in setting up more complex queries may take up to 3 working days.

E. Backups and Archiving

Minimum frequency and type of backup (incremental daily; once a week full backup)
Minimum frequency of archive (as required to maintain server capacity)

F. System Monitoring

System monitoring shall be performed once a day at a minimum.

G. Hours of Service

For purposes of staffing and service level agreements, the Contractor's hours of service shall be daily from 0900 to 1700 EST . In some instances, specific and ongoing schedule requirements may necessitate the permanent assignment of support staff outside these standard times, such as the field work involving maintenance and installation of NMTs. Such permanent assignments should not entail overtime charges where the standard workday duration is not exceeded. The Contractor's proposed minimum of qualified staff shall be maintained throughout the term of the Contract. Should the Contractor fail to provide and maintain the required amount of qualified staff at any time during the term of the Contract, the Authority (at the Authority Contract Manager's authorization) may reduce the Contractor's fee in an amount corresponding to the cost of providing such staff. Furthermore, the Authority Contract Manager shall pre-approve anticipated reductions in the Contractor's staff. It is understood that reductions in staff levels, may result in corresponding reductions of the Contractor's fee.

H. Conventional Systems Administration activities

Conventional Systems Administration activities, must take place outside of normal business hours and are to be considered part of the Contract and are not to be considered extra work.

I. Audit

Shall satisfy all of the terms, conditions, and requirements stated herein, specifically the above service-level tasks, and the tasks stated in section 2 (Application/Database Systems), above. Satisfaction of such terms, conditions, requirements, and tasks shall be determined by an annual audit by the Authority and by adherence to the Contract and best industry IT Standards, Guidelines and practices.