

# *Energy Conservation Improvements*

Committee on Operations

June 25, 2014

## *Energy Conservation Improvements – Phase III -- JFK*

- JFK, multiple locations
- Multi-Facility Guaranteed Energy Savings Program
- Guaranteed maximum cost of \$7.5 million
- Guaranteed energy consumption reductions of:
  - approximately \$700,000 per year
  - aggregate of \$10.5 million over the projects 15-year term
- Nearly 3,000 lighting fixtures will be upgraded, yielding a 65 percent reduction in energy costs for affected lighting systems
- Will provide substantial maintenance benefits



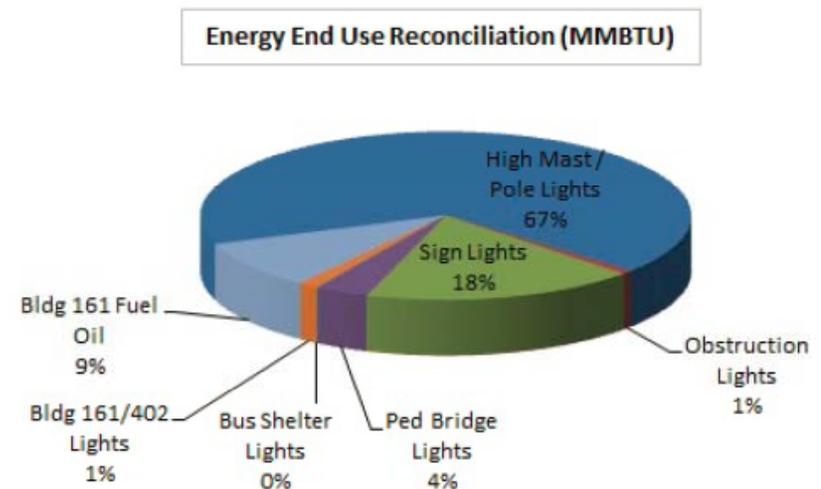
## *Projects Underway*

- February 2012 - Phase I:
  - Port Authority Bus Terminal/Lincoln Tunnel (Constellation, 85% complete)
  - Journal Square Transportation Center/Harrison Car Maintenance Facility (JCI, 50% complete)
- September 2012 - Phase II:
  - Newark Liberty International Airport (Honeywell, 60% complete)
  - Stewart International Airport (Honeywell, 50% complete)
- Savings during construction:
  - 2013 - approximately \$330,000
  - 2014 - approximately \$2.2M



## Program Structure

- Energy Service Companies (ESCOs)
  - perform services related to the audit of improvements at PA/PATH facilities
  - identify energy conservation improvements
  - design, manage construction and commission improvements
  - guarantee energy consumption reductions
  - assume technical and performance risk of project
- The four ESCOs in this call-in Program performed preliminary assessments of four facilities in Phases I and II of the program, and an additional 12 facilities under Phases III and IV
- Strongest proposal for each facility selected and work orders executed for Investment Grade Audits
- PA selects projects and measures to be Implemented
- Consumption reductions measured through industry-standard protocols

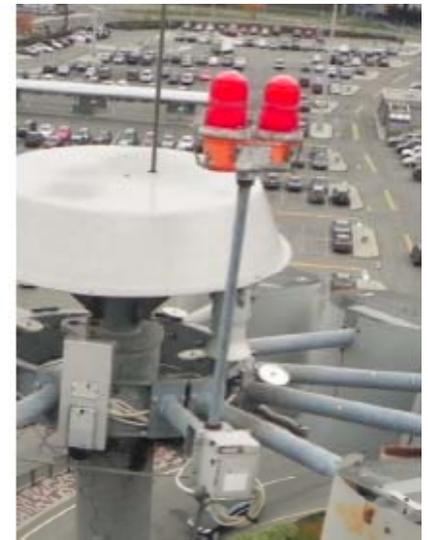


## ***Project Scope – Phase III – JFK***

- Extensive lighting upgrades of difficult-to-access locations:
  - gantry-mounted sign lighting on roadways
  - obstruction lights
  - high-mast parking lot lighting
  - lighting in the maintenance pits at the Operations and Maintenance Service Facility Building (Building 402)
- Exterior lighting improvements
  - fuel farm
  - pedestrian bridges
  - bus shelters
  - Buildings 402 and 161
- Building 161 (Fire Pump House):
  - interior lighting improvements
  - steam system upgrades
  - boiler replacement and conversion from oil to natural gas.



CTA High Mast Fixtures & Obstruction Light



CTA High Mast Pole, LD Ring & Obstruction Light

## *Project Funding Plan*

- As with Phases I and II, PA will fund project implementation
- Annual utility and operating and maintenance (material and subcontractor) savings attributed to reduced energy consumption will offset the cost of the projects, and yield ongoing savings for the PA.
- ESCOs are responsible for identifying and pursuing grants/incentives available to reduce the total cost of improvements.



## *Environmental & Economic Benefits, Phases III*

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- Annual Greenhouse Gas (GHG) emissions reductions of approximately 2,000 tons of carbon dioxide equivalent – comparable to 225,000 gallons of gasoline saved annually.
- \$240,000 in avoided GHG offset purchases over the 15-year period
- Aligns PA with the objectives of Executive Order 88 in New York State, which requires State Entities to reduce electricity consumption by 20 percent by 2020 to further the “mutually compatible goals of environmental protection, energy security, and economic growth,” as well as public health
- Utilizes the energy performance contracting approach outlined for State agencies in the New Jersey Energy Master Plan
- Staff analysis indicates that this project will result in:
  - 20 direct job years
  - \$1.7 million in direct payroll wages
  - \$10.6 million in economic activity

