



THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

Newark Airport

FSG Upgrades Lighting and Chillers at Newark Airport

Owner

The Port Authority of NY and NJ

Contract Type

Energy Efficiency Upgrade

Contract Amount

\$13,938,118

General Contractor

Honeywell

Electrical Contractor

PSE&G

Engineering Firm

D&B Engineering

Energy Firm

PSE&G

Energy Savings

\$1,986,378 a year

Number of Fixtures Replaced

26,262

Annual kWh Reduction

12,443,631 a year

CHALLENGE

Newark Liberty remains a major international and domestic hub, handling more than 35 million passengers and over 880,000 metric tons of cargo. FSG designed and installed retrofits and replacements of lighting in portions of all three terminals, all parking garages and parking lots, roadways, monorail stations, administrative buildings, fuel farms, and maintenance areas. FSG also replaced over 8,300 tons of chillers serving all three terminals. Work was done in four phases for both PSE&G and Honeywell.

SOLUTION

Fluorescent and HID lighting throughout all the areas was updated to the latest LED technologies. FSG designed the lighting retrofit solutions using AGI32 computer modeling and then installed demos to ensure that light levels were met. All engineering was reviewed by an Engineer of Record. (415) 1000W HPS high mast fixtures were replaced with new LED high mast fixtures. In terminals A and B smart lighting systems were installed that included advanced lighting controls. Video cameras linked to the lighting system provide traffic analytics, vehicle dwell time and other information.

RESULT

Replacing 8300 tons of inefficient chillers will reduce CO2 emissions by 3600 tons per year. Close to 10,000 pounds of CFC refrigerants were reclaimed while saving more than \$750,000 in energy, and \$100,000 of maintenance costs each year for the Port Authority. The change from HPS to LED on the overall terminal was profound. CRI increased dramatically from 22CRI to 80CRI, as the existing yellow light was updated to crisp white light. Likewise, lamp life increased by 400%, greatly reducing future maintenance.

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