



PANYNJ: HOLLAND TUNNEL

New York, New York

ESCO CASE STUDY

FSG Upgrades Lighting At Holland Tunnel

**Owner**

The Port Authority of NY and NJ

Contract Type

ESCO

Contract Amount

\$785,435.00

General Contractor

Constellation Energy

Electrical Contractor

Facility Solutions Group

Energy Firm

PSE&G

Cost Savings

\$118,117 a year

Number of Fixtures

Replaced

1,811

Annual kWh Reduction

684,119 kWh a year

CHALLENGE

The first Hudson River vehicular crossing, the Holland Tunnel connects Canal Street in Manhattan with 12th and 14th streets in Jersey City, NJ, and is considered an outstanding engineering achievement. The Holland Tunnel was the first mechanically ventilated underwater vehicular tunnel in the world. It contains a system of vents that run transverse, or perpendicular, to the tubes. FSG performed two upgrades at the Holland Tunnel. The first phase for PSE&G under the Direct Install program covered upgrades to the vent building on the NJ side, the administration building, the NJ pump buildings, and the toll canopies. The second phase for Constellation Energy included roadways on the NJ side leading to the tunnel, the NY side exiting the tunnel, toll plaza interchange lighting and the vent building on the NY side.

SOLUTION

Various outdoor HID fixtures including flood, shoebox, cobra head, wall pack, and canopy we upgraded from both metal halide and HPS to new LED fixtures. HID explosion proof fixtures in the vent buildings were updated to new explosion proof LED fixtures as well. Various fluorescent fixtures throughout office and shop areas were upgraded to new LED fixtures, while screw in CFL lamps were changed to LED screw ins.

RESULT

The new lighting systems greatly improved color rendering while slashing energy costs. Yellow HPS lighting was replaced with new LED fixtures featuring crisp white light, with energy savings of 50-75%. Lamp life increased from 20-24,000 hours to 100,000 hours, and a 10-year fixture warranty provided peace of mind in the future.

