



# PANYNJ: GEORGE WASHINGTON BRIDGE

New York, New York

## ESCO CASE STUDY

### FSG Upgrades Lighting at The George Washington Bridge



#### CHALLENGE

The George Washington Bridge when built was twice as long as any previous suspension bridge, it was the marvel of its time and, to some, it will always be the noblest of all bridges. FSG performed two upgrades at the GWB. The first phase for PSE&G under the Direct Install program upgraded both interior and exterior lighting in the administration building and shop areas. The second phase for Constellation Energy covered upper and lower level roadways, the Trans-Manhattan Expressway (TME) and the bus station on the New Jersey side.

#### SOLUTION

The retrofit of the exterior fixtures on both the bridge and the TME required extensive design to both meet the light level requirements and provide lighting that could withstand the vibration and intense environment. FSG designed lighting solutions that were vetted by the Engineer of Record, modeled with computer modeling software and then validated with demo installs. Work on the bridge and particularly the TME required extensive coordination in terms of scheduling and lane closures during off-peak hours. A variety of exterior fixtures including HPS roadway, canopy, flood, area and wall pack were all replaced with new LED equivalent fixtures. Offices, garages and mechanical spaces were upgraded to the latest technologies, including occupancy sensors.

#### RESULT

New lighting systems were installed on time and on schedule, with minimal disruption. Fixture wattages were reduced 50-75%, and replacing yellow HPS light with crisp white LED lighting improved color rendition from 22CRI to 80CRI. Lamp life increased from 20-24,000 hours to 100,000 hours, greatly reducing maintenance expense on this busy roadway.

#### Owner

The Port Authority of NY and NJ

#### Contract Type

ESCO

#### Contract Amount

\$4,035,865.00

#### General Contractor

Constellation Energy

#### Electrical Contractor

Facility Solutions Group, Inc

#### Energy Firm

PSE&G

#### Cost Savings

\$417,348 per year

#### Number of Fixtures

Replaced

3,613

#### Annual kWh Reduction

2,695,245 kWh per year

