

Item No.: 4d_Supp
Date: April 14, 2015

Terminal 91 Lighting Upgrades & Controls

Port 
of Seattle®

Project Scope

- Replace 333 exterior lighting fixtures at Piers 90, 91 and cruise parking areas.
- Include lighting controls which will enable the Port to manage lighting effectively and further reduce energy use.

Project Objectives

- Reduce electrical consumption by over 721,000 kw/hrs per year.
- Reduce electricity costs by \$40,000 or more annually.
- Defer 433 tons/yr GHG emissions
- Reduce maintenance cost by nearly \$500,000 over 10 years
- Reduce light pollution and glare to neighborhoods.

T91 applications



Old Technology



- 381- 1000 watt High pressure sodium Fixtures; 333 identified for removal.
- Uses 4,380 kWh of electricity annually per fixture. Old HPS fixtures would cost the Port \$90k annually (2015 energy rates)
- Requires re-lamping or ballast replacement every 3-5 years.

New Technology



- Will have replaced 333 old HPS fixtures with 308 LED and Plasma fixtures.
- New fixtures require 50% less energy to power them.
- With application of new controls we anticipate a net reduction of 73% in energy use which equates to a reduction of as much as 600,000 kWh in energy consumption.
- The anticipated annual energy costs are expected to be reduced from \$90k to \$24k based on current energy rates.

LED & LEP Luminaires

Improved Visibility



Pier 90 Improved Lighting



Pier 91 Improved Lighting



12% Increase in Project Costs

- Increased Cost at Bid
- Increased Lead Time
- Selection of a control System with a more involved installation.
- Design Modifications to Benefit Neighbors
- Repair to Infrastructure

Cost

- 2013 Approved Costs: \$1,035,000

Additional Requested Costs

- Materials (additional fixtures & hardware)- \$50,000
- Installation (labor) - \$20,000
- Commissioning (consultant/craft costs, ICT)- \$13,000
- Project management -\$7,500
- Taxes - \$11,000
- Contingency - \$10,500
- Other (rental eq., disposal, demob, etc.) – \$13,000
- **Total: \$125,000**