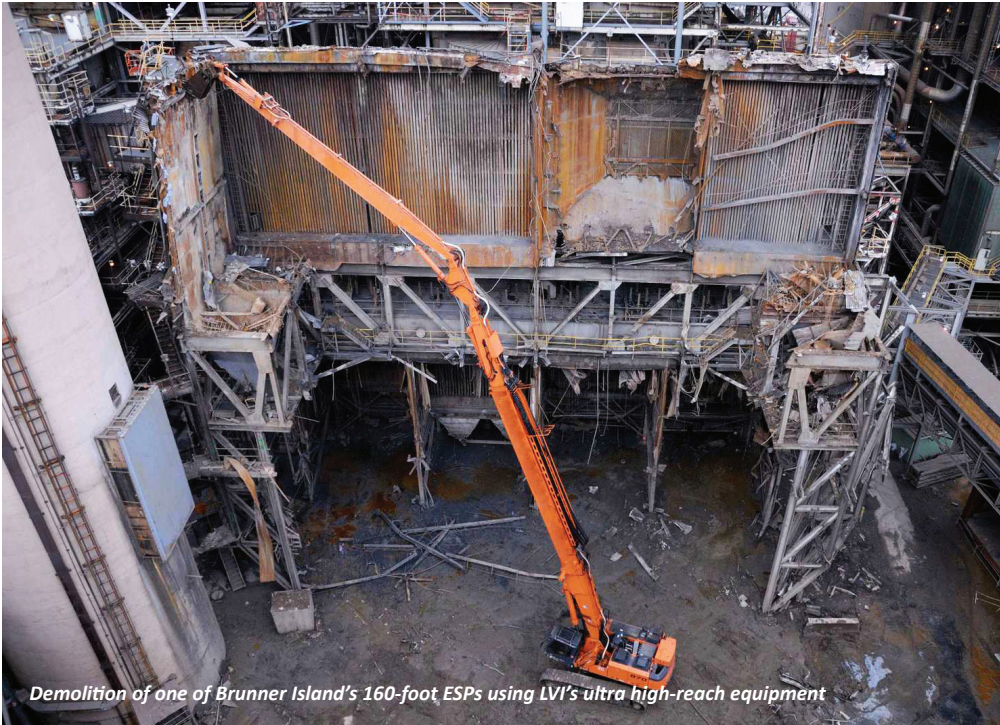


# BRUNNER ISLAND STEAM ELECTRIC STATION, UNITS 1, 2 & 3 | YORK HAVEN, PA



Demolition of one of Brunner Island's 160-foot ESPs using LVI's ultra high-reach equipment

## PROJECT HIGHLIGHTS

- » Demolition of three Electrostatic Precipitators (ESP) within an operating facility
- » Laborers worked two 12-hour shifts, finishing several days ahead of schedule
- » Use of ultra high-reach equipment and proprietary attachments protected worker safety in tight working conditions and accelerated demolition work
- » Zero OSHA Recordable Injuries



3 Electrostatic Precipitators at Operational Power Plant



ESP Unit 3: Sept 2006  
 ESP Unit 2: Sept - Oct 2009  
 ESP Unit 1: Aug - Sept 2012



ESP Unit 3: \$1,000,000  
 ESP Unit 2: \$2,500,000  
 ESP Unit 1: \$900,000



Pennsylvania Power & Light



High-Reach Structural Demolition



Hazardous Material Abatement



Zero OSHA Recordables

As part of a proactive effort to comply with EPA Clean Air standards and remove 100,000 tons of sulfur pollution annually, Pennsylvania Power & Light replaced its three aging Electrostatic Precipitators with LVI's help.

LVI first demolished Unit 2, which came online in 1965 and produced 390 MW, in 2006 followed by the demolition of Unit 3, which came online in 1969 and produced 769 MW, in 2009. The 334 MW Unit 1, built in 1961, was demolished in 2012.

### ZERO DISRUPTION OF OPERATIONAL UNITS

For all three phases, the work was orchestrated under a planned plant shutdown for only the affected units while the remainder of the plant continued to produce electricity. As such, the execution plans were strategically coordinated with other contractors and facility management to ensure no disruptions occurred.

### PROTECTION OF EXISTING FOOTPRINT

Replacement ESPs were installed on the same footprint, so LVI demolished the original structures in such a way as to save the existing steel support structure, cable trays, transformers and switchgear as well as protect the new anchor bolts and foundations for the new units.



**ZERO OSHA RECORDABLES**



*Debris clean-up and material segregation following demolition with LVI's ultra high-reach equipment*

LVI was able to maintain the existing foundations by engineering a protective agent used during the demolition and staging equipment around the perimeter of the congested work area. LVI's ability to retain these support structures resulted in substantial savings to the schedule and cost of the project.

### **FAST-TRACK SCHEDULES**

To complete the demolition of all three ESP units during scheduled plant outages, LVI worked around the clock with two 12-hour shifts each day to remove and demobilize the old units from the work area, allowing other trades to begin installation of the previously-constructed new units. For Unit 2, LVI finished two days ahead schedule. Unit 3 was finished in just nine days and Unit 1 in just 10 days, four full days ahead of schedule.

### **BEST SPECIALIZED EQUIPMENT**

LVI brought in its 200-foot Ultra High Reach (UHR) Sennebogen and its 125' UHR, working from two sides at a time, for the dismantlement of the upper elevations of the 160-foot ESPs. Use of this specialized equipment mitigated the need for manual high-elevation burning and rigging activities, removing the technicians from potentially adverse safety situations.

Removing ESP Unit 2 was especially challenging as it was completely surrounded by the construction of additional generating units. As a result, LVI designed proprietary attachments for the equipment to conduct this demolition without negatively influencing the adjacent generating equipment.

### **TIME-SAVING ABATEMENT APPROACH**

In addition to the demolition work itself, LVI also removed and properly disposed of over 3,600 gallons of PCB-contaminated transformer oil from the units. Utilizing specially trained staff, LVI was able to leave the lead-based paint on the areas to be torch cut, saving our client significant time and money.

### **FOCUS ON SAFETY**

Safety was paramount to LVI, especially with the challenge of operating a 24-hour-a-day schedule in logistically restrictive work areas. A Site Specific Health and Safety Plan (SSHASP), Job Hazard Analysis (JHA) and Job Safety Analysis (JSA) were created for each ESP and then implemented and communicated to the field staff. LVI completed all three phases with no recordable injuries or regulatory compliance issues.

As the top-rated environmental and demolition contractor in the U.S., LVI eliminates costly job shutdowns caused by unforeseen constraints as its specially-trained staff can handle almost any environmental hazard during demolition and dismantling work.

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**Project Managed By** LVI Environmental Services Inc., a subsidiary of LVI Services Inc. | **Client Contact** Jamie Lynch, PPL, (484) 357-8969, [jjl@dhuy.com](mailto:jjl@dhuy.com)