



## Introduction

The Brunner Island Coal Power Plant is a coal-fired electrical generation facility for the Pennsylvania Power & Light Company in York Haven, PA. The plant has three coal-fired generators with environmental control technologies. During winter conditions the three units generate capacities of 334, 390 and 759 Megawatts.

In 2018, the tube bundles in two of the three generators required replacement due to inefficient performance. These tube bundles were originally produced for the second power generator, which was brought on-line in 1965, and had not been replaced since.

The management team at Brunner Island Coal Power Plant contacted Patterson-Kelley to develop the new tube bundles, but had limited information about request. Fortunately, P-K retains a long history of records on all specialty products produced, dating back to the early 1900s.



## Challenges

The design files from the 1964 tube bundles were obsolete. The applications team searched the P-K Archives for information to determine the feasibility to produce the replacement tube bundles, without the ability to look at the original bundles that were in the tanks. All design files and Bills of Material had to be recreated to provide a quote that ensured all components could be made to current P-K standards.



# COPPER FINNED TUBE BUNDLE DESIGN

## P-K Solution

Patterson-Kelley designed, built, and delivered two tube bundles with custom designed tubing that included 12,158 feet of copper each bundle. The bundles required verification that all items were in alignment with the drawings and diligence to perform the installation. Special welding was required on the baffles to include 9 passes on top, 10 passes on the bottom and 1 horizontal baffle. The applications team diligently tracked the project and provided engineering support to manufacturing every step of the way.



*“The new tube bundles increased operational efficiency, without any of the tubes being plugged.” Said Thomas Kraemer, Application Engineering Specialist at Patterson-Kelley.*

The tube bundles were delivered in April 2018, meeting the requested time-line of 20-weeks for completion. Once the units were delivered to the facility, a P-K associate arrived on site to document and assist the construction team during the installation of the packages.

For more information, please visit [pattersonkelley.com](http://pattersonkelley.com).

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