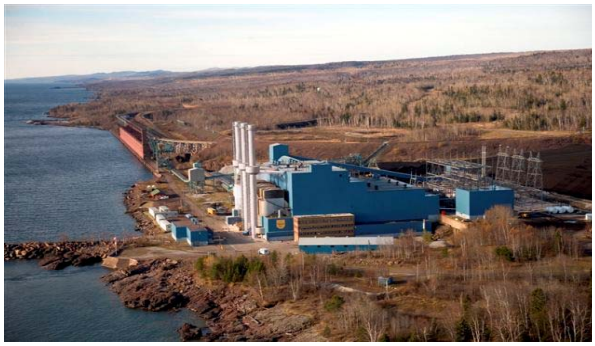
HOT-TO-COLD SIDE ESP CONVERSION AND DUAL FGC INSTALLATION

FOR A MAJOR MINNESOTA UTILITY
PECO-FGC CASE HISTORY



Plant Data:

Location: Major Minnesota Utility
Thermal Output: 3 Units – 75MW Each
Unit: Units 1 & 2

Problem:

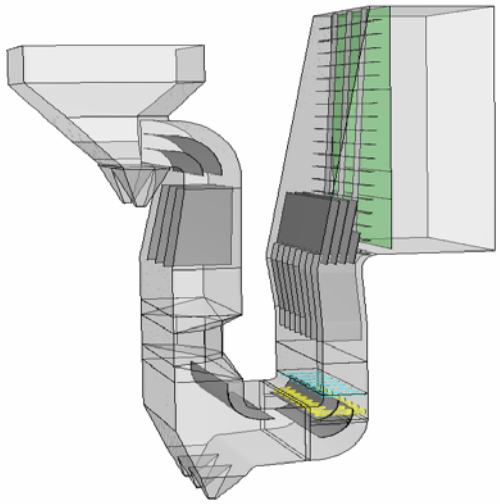
A Hot-Side ESP with an increased particulate load due to the introduction of a Lime Based Sorbent and other agents used to lower SOx and NOx emissions. The Precipitator in its current state did not have the Specific Collection Area (SCA) to handle the speed of gas flow to effectively collect the excess and highly resistive flyash. The station also found it necessary to decrease opacity emissions to fall in-line with required Governmental Regulations.

Innovative Approach:

PECO-FGC improved the facility's marginal SCA through the engineering, design, and implementation of a Hot-to-Cold Side ESP Conversion Retrofit. Additional upgrades include adding a Rigid Discharge Electrode (RDE) high voltage system, PECO assembled panel collecting plates at 12" wide spacing, and High Frequency TR Sets to optimize electrical sectionalization and unit efficiency. PECO-FGC also introduced a dual flue gas conditioning system consisting of both SO_3 and NH_3 applications in order to effectively optimize the resistivity of the flyash for maximum particulate collection. State-of-the-art CFD Modeling (pictured above right) was also utilized in the redesigning of ductwork and the perforated plate to illustrate maximum gas flow efficiency.

Project:

PECO-FGC provided outlet emission guarantees, engineering design services, precipitator internals equipment, and flue gas conditioning systems. During a major 6-week outage in Spring of 2007, PECO-FGC completed the Hot-to-Cold ESP Conversion and Dual Flue Gas Conditioning System Installation on Unit #2. PECO-FGC's Field Service Engineers were on-site during the entire duration of the project to supervise and provide on-site expertise for the construction and startup of all equipment.



Results:

Due to the innovative engineering and design work by PECO-FGC, the plant was able to exceed PECO's performance guarantee of .03lbs/mmbtu outlet emissions. With the exceptional results that far exceeded expectations, PECO-FGC was awarded and completed an identical project on Unit #1 in Spring of 2008.

For more information about the Products and Services for Electrostatic Precipitators and Flue Gas Conditioning Systems employed by PECO-FGC contact us directly at the number below.

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