



Project Description

The W.H. Sammis Power Plant is a coal-fired power plant that has undergone environmental control retrofitting designed and managed by Bechtel Power. The Sammis Project represented \$1.1 billion of the total funds approved by the Ohio Air Quality Development Authority (OAQDA). The major goals of this project were to remove sulfur dioxide emissions from the flue gas stream and to create solid waste that could be stored in a new disposal facility adjacent to the plant.

Kline's primary objective was to design the method for attaching a new multistory steel structure to an existing concrete frame that straddles Ohio S.R. 7.

The connection of the new steel to existing concrete had to resist high tension and shear forces at the base of the new columns. Ultimately, the solution implemented consisted of vertical post-tensioning bars surrounding the select columns at four corners. A steel frame assembly was attached to the steel columns above and to the concrete beams below. By bearing against the newly attached frames, we were able to convert the tension in the P.T. bars into a clamping force on the existing structure. This unique solution allowed us to use the P.T. bars to resist uplift and to engage friction to resist shear forces.



Stratton, OH

CAPABILITIES

- **Post-tensioning**

Developer/Owner:

FirstEnergy

Repair Contractor

Structural

Project completion:

2010

Industry:

Industrial

Project type:

RETROFIT DESIGN