

## Sargent &amp; Lundy Services:

- Owners Engineer
- Substation Engineering
- Protection and Control Engineering

Exelon/ComEd  
Elmhurst, IL

Exelon/ComEd selected Sargent & Lundy to provide owners engineer services for the Elmhurst Static Var Compensator (SVC) Project. The objective of the project was to provide voltage support in the northeast area of ComEd's service territory by installing two 300 MVAR SVCs at the Elmhurst substation. Additional voltage support was needed due to additional load growth and a decline in nearby generation. Each SVC is rated for 300 MVAR in approximately 75 MVAR increments.

Along with the two SVCs, the project included the following:

- Site preparation and construction of a storm water detention pond
- Installation of two 138 kV transmission line connections from Elmhurst buses to the SVCs
- Installation of two 12 kV feeders to supply SVC auxiliary power
- Installation of foundations, electrical equipment, auxiliary systems, controls and buildings.



The project was initiated in January 2008. Engineering for this project was initiated in August 2008 and completed in April 2009. Commissioning began in March 2010, completed in early April 2010 and the equipment was placed into operation on April 22, 2010.

A significant challenge was that subsequent to project initiation, completion was accelerated by two years.

This project was ComEd's first use of this technology. Upon completion, the objectives and benefits were achieved and the Elmhurst SVCs have operated automatically to provide response to transmission system transients when needed.

Sargent & Lundy provided detailed engineering of the following connections to the SVC:

- 138 kV circuit breaker installation to connect the SVC to the Elmhurst Bus
- All associated relaying, foundations and physical work including design of 138 kV overhead transmission taps
- 12 kV aux power feeds to the SVC

Sargent & Lundy's scope of work as owners engineer included:

- Development of SVC technical specification
- Development of bid specification
- Bid evaluations
- Technical review of SVC design documents and vendor submittals for compliance with ComEd Standards and Specification



Sargent & Lundy is a ComEd Engineer of Choice (EOC) and has completed many successful projects for the utility. Projects range from circuit breaker replacements to complete greenfield substations.