

MIDWEST UTILITY SYNCHRONOUS CONDENSER CONVERSION

The Conversion of (3) 125 MVA Generators to Synchronous Condensers at a major Midwest utility was completed in the Summer of 2016.

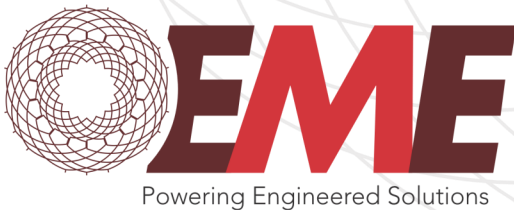
The project began in early 2014 and experienced several delays based on the need for the plant to continue operating as a traditional power production facility. Design and manufacture of new equipment and stator coils for the three units was completed in 2014 and placed in storage until installation.

This is the second major Synchronous Condenser Conversion project completed by EME; the first one performed in 2014 on the West Coast involved 2 Cross-Compound Generators.



EME was the lead mechanical subcontractor for this project. As a key part of this project, EME provided the following:

1. Designed, procured, assembled, and manufactured the turbine deck equipment. This included 1750 HP motors, thrust bearings and pedestals, motor high pressure lift systems, and air housing mounted onto the collector ends of the generators.
2. Sized the starting package based upon the necessary start up time requirements and losses of the system.
3. Decoupled the turbine and generator rotors.
4. Modified the existing turning gear systems.
5. Modified the lube oil systems with new pumps, pressure regulators, piping, and heaters.
6. Removed/installed Fields to facilitate rewinds.
7. Rewound stators with Alliance Partner.
8. Performed Rotor-Dynamics Analysis.
9. Produce Operation and Maintenance Manuals, Drawings and Process Specifications.
10. Conducted Training for operators on new system.



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PROJECT DETAILS:

PROJECT CATEGORY: Synchronous Condenser Conversion

PLANT: Withheld due to contract terms

LOCATION: Midwest USA

DATES: January 2014—Present

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PLANT REFERENCE CONTACT: Available upon request

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MIDWEST UTILITY SYNCHRONOUS CONDENSER CONVERSION

Custom design, manufacturing, assembly, and testing at Pittsburgh based facility.



Full Service Field Modifications and Installation of equipment with dedicated Field Tool Trailers



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