

Case Study

Breaking Down Barriers

Replacing an Aging GE System with a DECS-2100 Excitation System

In October 2015, a large Midwestern utility decided to replace an aging GE excitation system at one of their generating stations. They specified a Basler DECS-2100 system and selected E² Power Systems (E²PS) to carry out the very challenging installation.

Scope

- To replace an aging GE excitation system with a DECS-2100 excitation system
- The large system had to be removed via a large hole cut into the side of the utility and the new one installed in its place.

Schedule

The excitation system was placed into operation in December 2016 and all system reports and documentation were delivered to the utility in February 2017.

Design and Solution

Because of the equipment's size and location on an upper level of the powerhouse, demolition was performed to create a 10-foot by 12-foot hole in the powerhouse wall. The existing excitation system was disassembled and cranes were brought in to remove the equipment through the wall opening. E² Power Systems (E²PS) coordinated delivery of the new DECS-2100 system to be shipped in pieces from Basler's factory in Highland, Illinois to the installation site.

Upon arrival, the pieces were numbered and moved into the powerhouse using the same hole created for equipment extraction. E²PS also specified an air-conditioned control house to protect the DECS-2100 system from the harsh powerhouse environment.

Like the DECS-2100, control house sections were moved into the powerhouse through the same wall opening and assembled around the DECS-2100 enclosure.

Testing

With equipment in place, the powerhouse wall was rebuilt and system testing began.

Wrap Up

After overcoming the challenges with the challenging installation, the client has a completely functional system.



Figure 2 - Loading the new DECS-2100 into the facility