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University of Notre Dame Turbomachinery

Siemens delivers for a leading research and testing facility.

The University of Notre Dame has a long history of actively working with Industry on advanced research and development projects. Recently the university's turbomachinery lab took on the ambitious goal to become the nation's foremost advanced technology research and test facility for massive gas turbine engines used by commercial and military aircraft, power plants and the oil and gas industry. The \$36 million project included the development of a 30,000 square-foot building at Ignition Park in downtown South Bend, Indiana that included multiple rotating rigs in the 5-10MW range.

The Siemens Large Drive Applications business designed and delivered a solution that included a 5 megawatt motor from Norwood, a 10 megawatt variable frequency drive, an isolation transformer, and associated medium voltage switchgear for running a new turbine and compressor. The VFD was based upon the SM120, active front

end converter including a state-of-the-art modular multi-level converter (M2C) topology which supported all the requirements of the test laboratory.

Our team at the Siemens Norwood, Ohio electric motor manufacturing plant had the opportunity to assist the Notre Dame Turbomachinery Lab (NDTL) during its electromechanical system selection process. Visiting the Norwood facility was suggested by

Karl Heideck, Siemens business developer. He knew they would be able to see the very same motor being proposed in operation on the Norwood test floor. It was visibly evident to NDTL that Siemens not only knew exactly what they wanted to do in their lab, but how to do it efficiently. With the help of the Norwood team, NDTL was able to design the most cost-effective, right-sized drive system for its test cell.

An example of this efficiency is how the integrated drive system enabled NDTL to move from a 5MW test cell to a 10MW test cell years before its scheduled goal. With direct access to our design engineers and the latest technological knowledge, NDTL was able to make faster and more accurate decisions during implementation. This helped ensure the project was designed optimally from the start, while keeping an eye towards future maintenance and expanded capabilities.



A 5 megawatt motor newly installed in the Notre Dame Turbomachinery Lab drive train compartment is waiting to couple to its first test equipment.

Comprehensive Service and Support

Siemens warranty, parts and service request call center is available 24/7, providing fast and efficient responses. Siemens service technicians take pride in finding the right solution, the first time, every time.

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