

CUSTOMER SUCCESS STORY

AN EXAMPLE OF HOW GE HELPS CUSTOMERS IN THE POWER INDUSTRY

Ameren Missouri Chooses GE to Modernize Plant Operations

Operated by Ameren Missouri, the Taum Sauk Plant is a 440-megawatt pumped storage hydroelectric plant that stores and produces energy for the eastern half of Missouri. Located in the St. Francois mountain region of the Missouri Ozarks, this plant uses 1.5 billion gallons of water stored in an upper reservoir to generate clean, renewable electricity and is a critical asset for the power company.

PROBLEM

The Taum Sauk Plant provides power during peak demands within their system, but operations declined with aging infrastructure. More than 20 years old and facing obsolescence, the plant's infrastructure frequently required service and experienced multiple failures. Moreover, equipment failure could lead to extended downtime for days at a time due to its remote location.

SOLUTION

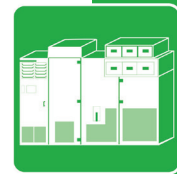
The plant operates two units running at 250 MVA each. To reduce service calls and improve operations, the Ameren team considered replacing the units with full static exciters. After considering all their options, the Ameren team selected GE's **EX2100e** 120A Voltage Regulators with redundant configurations to replace the aging infrastructure. The EX2100e is an advanced system that incorporates technology found in the **Mark* Vle control platform**, making it a highly reliable and flexible solution.

PAYBACK

Upgrading to the GE solution has allowed the Taum Sauk Plant to operate with a custom product tailored to site-specific requirements. What makes this installation unique is that the shaft-driven exciters are able to reverse rotation depending on whether the system is in pump or generator mode. The EX2100e implementation has increased the reliability of the plant, solving the hardware obsolescence and service issues. Additionally, the redundant configuration enhances the reliability of the exciter, which is critical for its remote location.

BENEFITS

Following the installation of the EX2100e and resulting conversion from a simplex to redundant regulator, the Taum Sauk Plant increased uptime and significantly reduced concerns over unit failure and lost generation. Additionally, the new system's enhanced alarm sensors eliminated the frequent nuisance alarms that accompanied the older system.



EX2100e



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