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A fully-redundant, vibration-based monitoring system is taking it to the max.

In the modernizing of PowerSouth Energy Cooperative's McIntosh Power Plant, near McIntosh, AL (America's only compressed air energy storage plant), safety and maximum availability were of the utmost importance. This called for a machinery protection system with a maximum degree of fail-safe reliability and reaction capabilities to help guarantee the safety of the machine and its surroundings—*without any loss of availability due to spurious trips.*

During the upgrade of the plant's existing I&C system to Siemens Power Plant Automation T3000 (SPPA-T3000), the McIntosh facility was also equipped with VIB3000 Machinery Protection from the SPPA-D3000 portfolio—*the most modern and reliable protection system on the market today.* An efficient combination of two essential machinery protection functions in VIB3000 (vibration and combustion chamber humming), replaced two obsolete instrumentation systems, while retaining the existing sensors, thus saving time and money. The system can be integrated fully into the I&C system and supports operations from the plants DCS. It combines I/O interfacing modules and machinery protection into one single system.

According to PowerSouth Energy Cooperative's project manager Robert Meyer, "The complete integration of the protection system into the I&C system was the winning argument for us. Schedule and budget targets were also consistently adhered to. This enables us to achieve the highest degree of reliability and availability while reducing costs at the same time. We are very satisfied with the results."

Protection systems must guarantee security for the machine and for the environment at reasonable costs and preferably without any loss of availability. To achieve this, the protection system itself must be reliable and manufactured to the highest standards. It also must offer flexibility in its use and application—*i.e., 2 out of 3 alarm voting, redundancy from the sensor level up to the communication level and user-friendly design and functions*. The VIB3000 does all that. This innovative solution is the first-ever fully redundant, vibration-based monitoring system to simultaneously guarantee maximum safety and maximum availability of power plant assets.

Benefits include…

- Enhanced power plant component availability due to maximum fail-safe availability
- Maximum safety and reliability attributed to rapid reaction time and ease of use
- Full operability from control room
- Low total cost of ownership (TCO)
- Modern design
- Flexibility of integration to I&C systems

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