

## Joint Summit Addresses Nuclear Plant Offsite Power Reliability

*A number of research projects are underway to explore how technology can help improve offsite power reliability for nuclear power plants.*

EPRI hosted and co-sponsored a summit on offsite power reliability in May in collaboration with the North American Transmission Forum (NATF) and the Institute of Nuclear Power Operations (INPO). More than 100 people attended, representing transmission providers, utilities, nuclear sites, and regulatory bodies. The purpose of the summit was to bring together the stakeholders associated with supplying and maintaining a reliable supply of power to nuclear generating facilities, and discuss strategies to improve offsite power reliability. Presentations encompassed operating experience, switchyard assessments, research projects, and the integrated grid.



Research and technology has a large role to play in securing high offsite power reliability. Key research projects being conducted by the participants include:

- **Switchyard Sensors:** Overhead, substation, and underground applications using state-of-the-art sensors for condition monitoring and diagnostics. This new “suite” of sensors will measure what has not been measured before so issues/failures are prevented before they happen.
- **Super Coatings:** A number of loss of offsite power events have been caused by buildup of contaminants on switchyard components; this project is evaluating the use of coatings to prevent ice, salt spray, animal excrement, and other contaminants from building up and impacting insulators and bus works.
- **Non-intrusive Transformer Diagnostics:** This project is using lasers to perform gas and vibration analysis on transformers in the switchyard.
- **Risk-Informing Offsite Power:** This project is creating risk-based software tools to help nuclear plant operators and grid planners know and understand the real-time risk of a loss of offsite power event.
- **Flexible Power Operation:** This project is identifying and determining mitigation options for cycling nuclear power plants to support load following; the project involves both fuel and equipment operational impacts.

NATF, INPO, and EPRI plan to continue this collaboration and facilitate more opportunities for technology-based responses to vulnerabilities associated with offsite power.

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