Keep the Power Flowing: Fall Maintenance

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As utility needs evolve, so do the solutions for solving today's Power Challenges. **Keep the Power Flowing** is a series of articles focused on maintaining or improving equipment availability and reliability.

ABB HV Service has three solutions to maximize equipment uptime during fall maintenance

It's a common conundrum. How do you maximize equipment longevity with the appropriate maintenance while simultaneously maximizing high voltage equipment uptime at the peak rate? Oh, and management said to trim the budget as well. Some utilities have OEM service organizations or contractors assist their crews during an outage to make the process more efficient. This saves a day or two in the process. However this also adds more cost to the outage.

ABB High Voltage Service has developed three solutions to help utilities with fall maintenance while cost-effectively maximizing equipment availability.

Radiography is an X-ray of SF_6 circuit breakers, GIS, and hybrid switchgear. This diagnostic maintenance option is an examination and evaluation of critical, internal components.

- Outages are reduced from days to hours
- Cost savings are typically 50% of a traditional, internal inspection
- Enables more efficient scheduling of utility resources for maintenance cycles
- No risk of SF_6 emissions, or human/environmental error during maintenance
- Safer option as no crane or large crew is needed

Ready-To-Go components are replacement parts built, factory tested, and delivered ready to install. Examples include complete mechanisms, spare poles, or boxed interrupters. Instead of rebuilding components on site during an outage, pre-order ready-to-go components and expedite replacement time. These components also help eliminate unexpected delays, environmental contaminants affecting the rebuild success (and need for rework), and necessity to be an expert mechanic on every type and configuration of high voltage circuit breaker.

Targeted maintenance not only maximizes availability and reliability by prioritizing risks before they become problems, it focuses maintenance dollars where they are needed most. Several options are available for determining how and where to target maintenance. Highly in-depth reviews provide specific actions for each circuit breaker serial number based on maintenance history, time in service, number of operations, number of faults, et cetera. At the other end of the spectrum is a report generated from a new tool developed by High Voltage Service to quickly access a fleet's health based on primary data. Results for maintenance priority are grouped into four easy-to-understand categories:

- **Red – Very urgent:** Immediate action necessary, e.g. asset over fifteen years old which has never been serviced.
- **Orange – Urgent:** Maintenance is highly recommended, e.g. no service on asset between ten and fifteen years old.
- **Yellow – Attention Required:** Schedule next maintenance interview to keep asset reliable, e.g., one service event on an asset between five and ten years old.
- **Green – Good Condition:** Asset is on track for long term reliability, e.g., a service event is scheduled to manage asset reliability or asset is less than five years old.

A service representative reviews the health assessment results with customers. Focusing on risks allows as many reliable "green" assets to stay online generating revenue while red and orange assets are targeted for maintenance to keep the power flowing. Click here if you would like to learn more about targeted maintenance or ABB's new health assessment tool.

Maintenance options have evolved as utility needs are changing. ABB High Voltage Service has three effective solutions to keep the power flowing during fall maintenance: use radiography to inspect internal components, pre-order ready-to-go components to expedite repairs, and prioritize maintenance resources to the assets that have the greatest need.

Scan the above QR code with a cell phone or other mobile device to access this article online along with additional resources on ABB's Power Services blog.

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