

# The next big thing in maintenance planning

Maintenance managers are always refining their processes and practices. Whether it's due to changing technology, fluctuations in the economy or emerging best practices, maintenance management is constantly changing and improving, and new trends are emerging.

One of the current trends Randy Schrieber, head of ABB marketing and sales for power equipment service in North America, sees is that maintenance managers are simply reducing the number of required service activities by retrofitting older equipment with more reliable, lower-maintenance components.

Many of the installed, electrical power equipment devices have already celebrated their 40th service anniversary. Schrieber says that's no reason to replace them, however. There are various life-extension options that will add 10 to 20 years of reliable life to these assets. He cites circuit breakers as a primary example.

"Look at the circuit breaker in a medium-voltage switchgear lineup," Schrieber explained. "The original equipment breakers were state-of-art at the time, but are mechanical nightmares compared to modern breakers. The installed breakers have over 300 moving parts and need to be refurbished approximately every seven years. The current generation of vacuum breakers has only seven moving parts, are more reliable, require far less maintenance and, as a bonus, provide a higher duty cycle."

These newer breakers are reverse-engineered with the appropriate breaker frame to mount in the switchgear, and they have properly configured bus contacts and control wiring connections to mate with the switchgear contacts.



"In a few minutes, you can rack out the old breaker and rack in the new one," Schrieber said. "Compare that to the other options of replacing the switchgear or continuing to do regular breaker refurbishment, and you can see why retrofitting switchgear is a growing trend with maintenance managers. It's a strategy that applies in industrial and utility settings."

For HV breakers, similar opportunities exist to replace the interrupters with current designs and materials that not only extend life but also, in many cases, offer a higher capacity or interrupting rating. Changes like these which extend the equipment capacity can often be capitalized, saving precious O&M spending.

From his position as ABB's VP of lifecycle services, the big trend Rick Dolezal sees is an increase in the gathering and application of data to improve maintenance planning. As an example, he talks about the now-debunked practice of changing a vehicle's oil every three months or 3,000 miles.

"Clearly, for someone who drives their car a few hundred miles each month, that frequency isn't called for," Dolezal says. "But that's the way a lot of maintenance is still done in manufacturing facilities and process industries. Crews perform service at intervals based on arbitrary and possibly outdated requirements. Equipment today typically requires less maintenance than in the past, but we still follow the old preventive maintenance schedules."

Dolezal says that it's become increasingly easy and affordable to use sensor equipment, measuring and recording pressure, temperature, vibration or other parameters. Gathering that data is a good first step. With it, crews can begin to develop needs-based rather than interval-based service schedules.

"The big gain comes with relying on software designed to analyze that data and develop an optimized preventive maintenance plan," Dolezal explains. "With that in place, you can begin to save a tremendous amount of money by doing only service that's really needed, when it's needed."

Retrofitting equipment with lower-maintenance replacement parts and refining preventive maintenance schedules by using operational data are two of the big trends in maintenance planning as managers look for ways to keep their uptime high and their costs low.

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