

# SPEEDING UP YOUR RECOVERY TIME

By Ed Sullivan

When an electric power system outage results in an emergency shutdown, there is often consequential damage to other machinery and process equipment. Making a quick recovery often requires getting the right expertise to repair or rebuild equipment, plus taking steps to avoid future emergency shutdowns.

Unplanned shutdowns of plant or equipment are notorious productivity killers. When emergency shutdowns are caused by electric power system outages, the outcome can be both harrowing and expensive. Power system problems can cause downstream equipment to fail or jam. The result can be severe damage, lost capacity, strained production and delayed shipments.

“The consequential damage from process interruptions during a power outage could be widespread,” says Dan Schreiner of North Central Machine Works (Prince George, BC). “But the big problem is getting damaged equipment back on line, which can require repair, rebuilding or replacement. However, it is important to get that equipment and the electric power system repaired correctly to avoid recurring and possibly worsening events. Combining effect repair processes with long-term preventative maintenance strategies can save companies millions of dollars per year.”

North Central provides a wide range of field and machine shop services to commercial and industrial companies throughout British Columbia and Alberta. Today North Central offers a broad scope of capabilities including those which can be vital to a company getting back up and running quickly after a power outage: equipment maintenance, repair, overhaul, installation, engineering, machining and troubleshooting.

“Downstream failures can also be problematic simply because equipment didn’t shut down properly during a forced outage,” says Greg McCallum, Field Service Supervisor for General Electric in Northern British Columbia. “You might need contractors to come in because you’ve got equipment jams and



Industry experts such as North Central Machine Works ensure that outages are kept to a minimum and that planned maintenance cycles do not go beyond the expected timeline.

product stuck in pipes. It can get pretty messy.”

Not only does North Central get involved in servicing consequential equipment damage, but the firm also provides tradesmen that work under GE supervision when needed by McCallum’s teams to service potentially labor-intensive power system equipment such as transformers and generators. His office handles power generation and transmission problems as well as motors for a large portion of the commercial and industrial installations in Northern BC, including mines, pulp and paper mills, refineries and other businesses.

“One thing that many of these installations have in common is they are running 30-year-old equipment including electromechanical power protection,” McCallum explains. “In those instances, they have no system data acquisition capabilities, and possibly no monitoring equipment. So it can be difficult to determine what caused a forced outage”

## DEALING WITH FORCED POWER SYSTEM FAILURES

With forced shutdown, there may be a tendency for managers to want a quick fix to get back into production as soon as possible. While the cost of such a shutdown is usually tied to the cost of lost production, quick fixes may be only a temporary solution that will come back to bite with added outages and/or equipment failures.

“With a forced shutdown due to a power system outage, as soon as service advisors or technical advisors become involved, the customer may be looking at a \$50,000 investment,” explains McCallum. “If a problem warrants dispatching our service team to the customer’s site and start performing even minor repairs, we’ve usually tied up at least \$10,000. So, it’s important to get a complete solution, and even though that may appear to be expensive, compared to lost production, it’s the more economical approach.”

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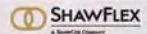
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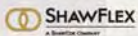
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## Recovery Time

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In the overall, McCallum says, commercial and industrial companies should establish a trusting relationship with vendors and contractors, particularly those who play a role in forced shutdowns. Due to manpower shortages in the northern territories, it is not likely that cheap labor will be qualified. Organizations like GE are uniquely capable of providing high

quality technical support and people on short notice.

"We also advise customers with older equipment to upgrade to the newer technology, such as microprocessor-controlled power monitoring and communications equipment," McCallum says. "Their upgrades should include data acquisition capabilities so that we'll be able to see the history of events that preceded an outage. They also need to allow for proper training on the equipment."

Some upgrades are very comprehensive, and even include emergency standby power generation systems that make industrial and commercial users more independent and enable to survive external events without the losses of a forced shutdown.

### DEALING WITH DOWNSTREAM EQUIPMENT

It may also pay to consider upgrading downstream equipment and machinery that has been damaged and is old or requires an overhaul.

"Newer manufacturing and process equipment designs often have fewer moving parts, which can mean less maintenance is required," says Schreiner. "Direct drive motors, for example, are simpler and also more energy efficient."

Schreiner adds that customers often need engineering or other consulting services in upgrading and integrating their machinery and power systems. A lot of new equipment should be tied back to DCS (digital control systems).

North Central not only provides emergency maintenance and repair services but also scheduled maintenance and shutdown services at plants throughout Western Canada.

In addition to those programs, the firm services and provides new pumps, air systems, material handling equipment, on-site installation and provides a variety of industries with custom built machinery.

"With a skilled labor force on the decline, industries in BC and especially Alberta are in need of human resource management," Schreiner says. "We are continually assessing and analyzing the market so that we can provide efficient and effective skilled labor when and where it is needed, including tradesmen and supervision as well as engineering and other technical expertise."

Schreiner adds that getting the right people with the right skills to an emergency shutdown quickly is vital to avoiding unnecessary production losses, and can also lead to a more lasting recovery.

Established in 1965 as the North Central Machine Works, the company has been redesigned to form the North Central Group. The North Central Group provides fully integrated emergency and scheduled maintenance services to numerous power plants throughout British Columbia and Alberta.

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