



RAPID RESULTS  
LASTING VALUE

## 2005 PROCESS ACHIEVEMENT AWARD GRAND WINNER:

### ONTARIO POWER'S NANTICOKE GENERATING STATION

It's a normal morning at the Nanticoke Generating Station—there are plenty of “character building” opportunities at this giant, coal-fired power plant. At the 11:00 AM daily meeting, Production Manager Ken Jobba has heard enough about fluctuations in the Dearator Level Controls. Symptoms have become increasingly worse over the past three months. Because of these inconsistencies, storage water to a boiler feedpump can't be managed with confidence, thus the availability of power from the unit is threatened. Over 300,000 homes could go dark, along with the revenues to the company, if the unit shuts down.

Ken tells Jack Saweczko to get to the bottom of the issue. As a collateral duty along with his Process Engineer responsibilities, Jack is the single point of contact for the plant's 10 KT Process Consultants. He assigns Thermal Engineer Brad Snelgrove to assemble a team, and apply the PSDM processes to find answers.

Within two hours, the team has identified a Most Probable Cause of air leakage by a check valve. The cause is confirmed, and a maintenance package is developed to perform necessary repairs. All in another's days work for Jack and his team of process experts.

Ontario Power's eight-unit Nanticoke Generating Station, at 3,920 MW, is the largest coal-burning plant in North America. The station employs 600 people, and its annual production can run nearly 2.5 million households for a full year. However, that's when everything is working right.

In 2004, Nanticoke had a very high Equivalent Forced Outage Rate (EFOR), threats from the Ontario Ministry of the Environment over air and water quality concerns, and mounting pressure from the corporate side to close the plant. Rework to address repeat failures was more common than success. It's hard to get ahead when you're always working on what's already broken.

In exploring options, the plant considered the critical thinking processes of Kepner-Tregoe. Following the delivery of a management team session, commitment was gained to go forward. Subsequently, the plant has prepared four personnel as Program Leaders and ten as Process Consultants in PSDM. These experts have in turn trained almost half of the plant staff in the use of the concepts. More importantly, they have facilitated the resolution of over 100 serious issues by using the processes with groups and teams.

Since the project's beginning, the plant has documented commercial performance improvements well into the millions of dollars. Resolutions of long-standing derating issues involving pulverizers, turbines, boilers, ash lake toxicity, and instrumentation have been implemented, along with organizational applications such as departmental reorganizations, labor assignments, and capital budget project selections and approvals. Local union relations also have improved significantly based on their participation in KT process applications.

Today, within 18 months of project initiation, the plant is enjoying its lowest EFOR numbers, environmental pressures have been reduced, and capital monies are again being invested. Maintenance is being performed on equipment that hasn't risen to the top of the priority list in many years. And, with rational process thinking becoming embedded into plant programs, the effective turnover of the plant to younger workers is being ensured.

Nanticoke GS has proven it is possible to work smarter. By adopting a framework for problem solving and decision making, the plant staff has learned how to harness their knowledge and experience to better manage the range of equipment and programmatic issues effectively.