

## Use Start-Up Services

**T**raditional maintenance outsourcing drives cost-cutting and transfers less-important activities to a third party while plant management continues to manage maintenance itself. The problem with this approach is that after limited financial benefits have quickly been realized, there's no room for additional improvement. Suppliers focusing on protecting thin margins are reluctant to enter a necessary partnership with the company to further improve the customer's processes. ABB Full Service, conversely, is a performance-based maintenance partnership that drives operational excellence through sustainable productivity improvement and reliability excellence.

The contractor shares risk by contractually committing to key performance indicators (KPIs), such as increased overall equipment effectiveness (OEE) and reduced total maintenance costs, and assuming full responsibility for customer maintenance. One advantage is that it enables plants to focus on what they do best, while the contractor concentrates on leveraging maintenance to improve customer profitability.

The approach in a greenfield site includes additional steps that help accelerate business improvement and minimize risk. At the conclusion of each phase, ABB and the customer discuss goals, accomplishments and next steps:

1. Front-end engineering
2. Detail engineering
3. Equipment selection and procurement
4. Construction
5. Commissioning
6. Start-up
7. Operation

For example, Vale Inco is a \$1 billion greenfield nickel mine and concentrator. Remotely located with little local infrastructure, the mine opened in 2005 and employs more than 350 people with an expected annual production of about 50,000 tons of nickel for a minimum of 14 years.

The entire maintenance function is handled by a partnership between ABB and Iskuetetu, a local company specializing in construction and operations support. ABB began by providing reliability consulting for the equipment selection, construction and maintenance planning phases. It provided training for commissioning, startup and ongoing operations, and through the Iskuetetu partnership, now maintains the equipment, site facilities, port and mine.

In the commissioning phase, ABB and Vale Inco worked together to ensure pertinent equipment, tools and procedures were prepared, and key contractors were recruited. This involved developing the Maintenance Management



A remote location and lack of local infrastructure contributed to Vale Inco's decision to rely on outsourced services for start-up of a \$1 billion greenfield nickel mine and concentrator.

Master Plan, a proven methodology that improves maintenance by instituting best practices.

Another key initiative was employee training and competency management. This included refining training materials, conducting equipment-specific training and doing company team-building exercises.

Startup included implementing maintenance programs and plans with condition-based, time-based and breakdown maintenance. Iskuetetu and ABB introduced new techniques, including ultrasonic testing, and developed an effective inspection strategy for each group of equipment.

The methodology helped Vale Inco achieve 90% of rated capacity for the mine concentrator in just three months after start-up.

For more, see [www.PlantServices.com/BestPractices](http://www.PlantServices.com/BestPractices).

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## CONTENDERS

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### ELIMINATE OILY SMOKE

Mist collectors solved maintenance and air-quality problems with electrostatic precipitators.

**Donaldson Torit ([www.donaldsontorit.com](http://www.donaldsontorit.com))**

### CREATE A CLEAN ASSEMBLY AREA

Contamination problems were controlled using curtain walls.

**Goff's Enterprises ([www.goffscurtainwalls.com](http://www.goffscurtainwalls.com))**

### REDUCE RISK OF FALLS

A roof railing system was installed without penetrations to improve safety.

**Kee Safety ([www.keesafety.com](http://www.keesafety.com))**

### DISPENSE WIRE QUICKLY AND CLEANLY

Wire and cable storage and dispensing system saves time, labor and floor space.

**Remstar ([www.remstar.com](http://www.remstar.com))**