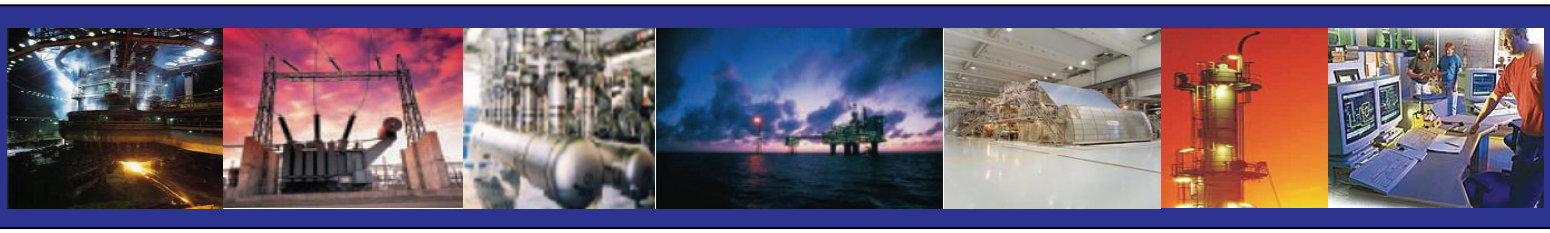
Case Study

Pulp & Paper
ABB Services



CHH Kinleith and ABB working together through a Full Service Maintenance Performance Contract

Maintenance Outsourcing gave mill a sustainable future

Carter Holt Harvey (CHH) Pulp and Paper is a leading supplier of kraft linerboard to the Asia-Pacific region and a preferred supplier of radiata and hardwood pulp to the growing Asia-Pacific Market. CHH has a total of 4 pulp and paper mills in New Zealand, with Kinleith being the single biggest one. The Kinleith mill was established in 1952. The product range includes Containerboard, bleached Pulp and Chemicals.

Choosing ABB

When the Kinleith Mill management team selected ABB to take over its maintenance operations in 2003, it had to undergo a cultural change to achieve results that exceeded initial targets. An organizational transformation had to take place to achieve annual savings of US $ 18 million. The Kinleith mill handed over the complete responsibility for maintenance to ABB. Under a long-term, performance-based contract, ABB not only reduced the annual maintenance expenditures, but also improved the overall plant performance and reduced the maintenance related inventory level.

Under the agreement, ABB would be responsible for maintenance engineering, planning and execution of the operational and infrastructure assets of the site. The company would also manage all the maintenance-related spare parts and inventory. A brand new maintenance organization with app. 200 people was established developed and best practice business processes and tools would be implemented.

Working Together

Although organizationally ABB and CHH Kinleith are separate and distinct business entities, they actively maintain an open line of communication. ABB staff members attend Kinleith staff meetings, and the ABB business unit manager attends Kinleith site management meetings.

In its first years of the five-year contract, which is renewed for two years every two years, ABB exceeded its cost savings, equipment efficiency, and cultural change objectives, and was ahead of schedule in delivering the anticipated original five-year results.

A Successful Partnership

Financial performance in Kinleith mill has improved greatly and the mill is now thriving thanks to the Full Service contract with ABB. It is able to react quickly to changing market demands, and safety records have improved over prior years. As a result of the new alliance, coupled with Kinleith's Total Productivity Improvement initiative, the mill earned internal awards from Carter Holt Harvey and two New Zealand national awards.

"An attitude of teamwork has replaced hierarchical and isolated practices. Cross communication now occurs between maintenance, stores, purchasing, and contracts personnel, as well as contract labor used on site."
-Dave King, Mill Manager during the start-up, Carter Holt Harvey, Kinleith Mill New Zealand

ABB Services

Plant Performance Highlights

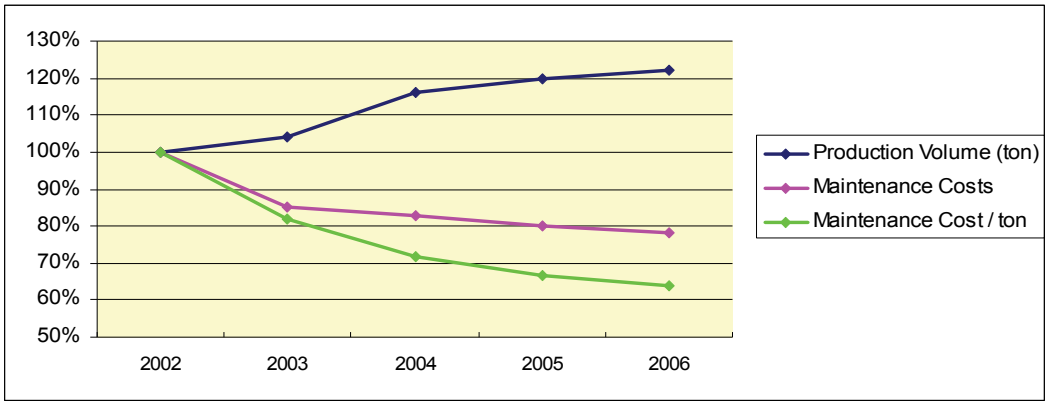
- Exceeded 14 production records out of a total of 15 measurements since 2003
- Production volume increased from 520k tones to 607k tones in 3 years
- Productivity (tons per employee) increased by 35% over 3 years
- Total maintenance cost reduced by 20% over 3 years
- Total employee costs reduced by 22% over 2 years
- Exceeded CHH's organizational goal of USD18M/year savings

More Achievements in Figures:

- **ABB Kinleith implemented ISO14001 and ISO18001**
- **Availability increased from 89.2% to 94.5%**
- **Customer satisfaction level from 62% to 82%**
- **Employee satisfaction level from 66% to 78%**
- **Sick leave from 11 days to 4 days**
- **Maintenance hours reduced from 700,000 to 440,000**
- **Shut duration was reduced from 12 days to 8.5 days**
- **OEE (Overall Equipment Effectiveness) for one pulp line increased by more than 15%**
- **ABB Kinleith was named "Organization of the year 2006" by New Zealand's government based on productivity improvements and culture change**

MAINTENANCE COST VERSUS PRODUCTION

Relative development of the maintenance cost versus production during the last years



OEE

(The world-class benchmark is based on a integrated pulp and paper mill and includes the shuts)