

CONTRACT CHEMICALS INCREASES PRODUCTIVITY USING CIA'S GUIDING PRINCIPLES FOR SUSTAINABLE DEVELOPMENT



Business Situation

Established in 1977, Contract Chemicals Limited (CCL) of Knowsley, Merseyside, is a top tier COMAH (Control of Major Accident Hazards) site, employing about 100 people. The company manufactures a wide range of speciality intermediates and fine chemicals and has worldwide annual sales of over £20 million.

In 2004 CCL decided to use the CIA's (Chemical Industries Association's) guiding principles for sustainable development to focus its business improvement programme. The CIA's ten guiding principles, which are published on its website, encompass tangible economic, social and environmental goals for companies.

Mike Holding, MD of CCL, explains the reason for adopting this approach, "Typically our improvement initiatives were driven by senior management and tended to concentrate on immediate issues. We wanted to establish a more inclusive, sustainable strategy using focused teams to target four key business areas initially: productivity and resource efficiency

(downtime, throughput, waste and utility usage); safe products and operations; compliance, and openness."

Skills Development

A downtime review team looked at the reasons for downtime and allocated resources to address the underlying problems. Reactive maintenance was replaced by preventative maintenance, and CCL created a regulatory compliance department with three roles:

- to co-ordinate all work required to comply with engineering-related legislation
- to carry out regular servicing of equipment and all preventative maintenance work
- to actively identify, implement and monitor reliability improvement techniques

The company also invested in external expertise to monitor equipment, including vibrational analysis, thermographic imaging and ultrasonic leak testing.



Analysing throughput, CCL found that the batch time for producing one key product ranged from 160 hours to 240 hours, due to individual operators approaching the same tasks in a slightly different way. To address this issue, production personnel initiated a continuous improvement plan, which included optimising manufacturing processes; revamping documentation; re-training operators, and improving ways of performing operational tasks.

A utility management team was established to reduce usage of nitrogen, steam, energy and process water. A waste forum was created to reduce the amount and hazardous nature of waste and CCL decided to outsource waste management to a specialist company.

Mike says, "We also re-looked at ways to continue to improve safety, including the overall accident frequency rate, housekeeping, the near miss reporting system, permit to work, plant operating procedures, and plant change procedures."

Benefits and Outcomes

Substantial gains were made in productivity and resource efficiency between 2003 and 2006. Downtime decreased from 6.0% of available hours to 4.2%, while downtime hours per tonne of product decreased from 2.23 hours to 1.34 hours. The average batch time for the key product was reduced by 32% and, with additional improvements, throughput increased by 67%.

"Clear targets were published on posters, which were displayed around the site."

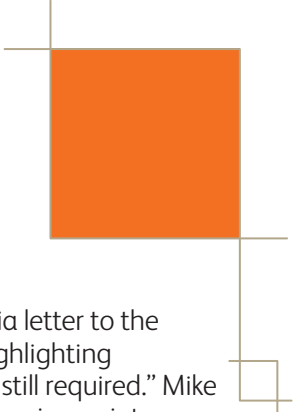
Mike Holding, MD



Investment of £2,500 reduced nitrogen usage by almost 30%, saving over £1,000 per month. Process water use fell by almost 40% per tonne of product and the amount of effluent generated was cut by more than 50%. Investment of £900 decreased boiler make-up water use by 15%, saving about £1,000 per month. Energy use per tonne of product was reduced by about 20% and waste generated per tonne of product fell by 17%.

CCL achieved significant safety improvements. Housekeeping actions decreased by two thirds from May 2005 to January 2006 and the accident frequency rate reduced from 20.2 in 2003 to 10.6 in 2006, while occupational hygiene-related incidents fell from 37 in 2003 to 5 in 2006.

Mike comments, "In line with the principle of greater openness, we revamped our communications and developed a new monthly manufacturing newsletter and annual sustainability review. Progress was

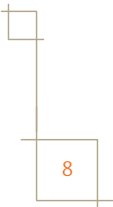


reported annually via letter to the whole workforce, highlighting successes and work still required." Mike continues, "Some learning points we found are that the change from reactive to proactive maintenance takes faith, as costs will, initially, increase. Also, outsourcing waste management is a good solution for a small company due to the complexity involved in determining the optimum treatment regime and final outlet. In retrospect, we would have made earlier use of the many excellent external sources of advice, such as the Carbon Trust." Mike concludes, "The productivity improvements would not have been possible without the full backing of our operational personnel. The bonus was winning the CIA Sustainable Development Award 2006 which was a tribute to the outstanding commitment of our workforce."

Learn more

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The Chemical Industries Association's website: www.cia.org.uk



"The key to delivering results was a pragmatic and inclusive approach, which could be clearly communicated and made sense to everyone."

Mike Holding, MD