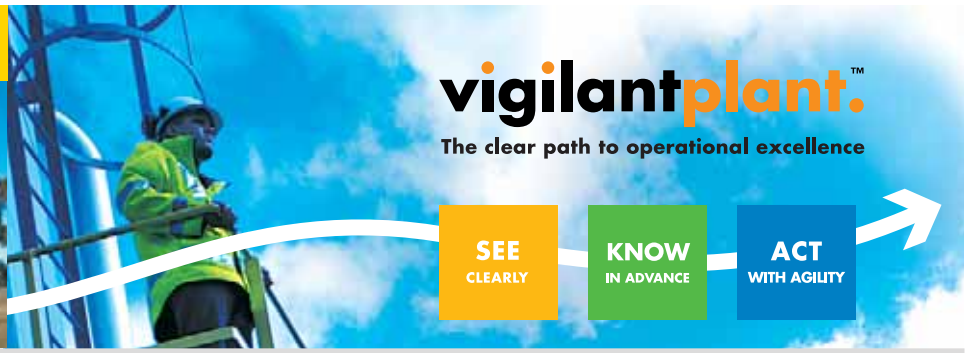
SUCCESS STORY




# *Integration of DCS with Exaquantum/Exaplog Optimizes Data Management for Blue Circle Southern Cement, Australia*

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| Location: | Maldon and Berrima, New South Wales, Australia |
| Order Date: | 2000 (Berrima Plant) / 2001 and 2004 (Maldon Plant) |
| Completion: | 2000 (Berrima Plant) / 2001 and 2004 (Maldon Plant) |
| Industry: | Cement |

## About Blue Circle Southern Cement

Blue Circle Southern Cement (BCSC) is a leading Australian cement producer with manufacturing operations in the most populated eastern states. It operates a 1 million ton dry process kiln and a 500,000 ton wet process kiln at Berrima, a 550,000 ton dry process kiln on extensive raw material reserves at Waurn Ponds near Geelong in Victoria, and a 300,000 ton off-white cement kiln at Maldon. The Maldon Plant is situated about 70 km southwest of Sydney and the cement works began making clinker in 1951. A total of 16 products such as slag and clinker are produced. The Berrima Plant is located 150 km to the south of Sydney and supplies much of the over one million tons of cement used in Sydney each year. With a plant capacity of 1.56 million tons of clinker per annum, it is the largest operating site for Blue Circle in New South Wales.

## Reasons for Selecting Yokogawa's Exaquantum and Exaplog

At the Maldon Plant, Yokogawa's CENTUM XL distributed control system (DCS) had been introduced in 1990 and migrated to CENTUM CS 3000 in 2001. BCSC was satisfied with the performance of these systems, which have greatly exceeded their expectations by running problem free and experiencing zero lost production time for over fourteen years. In addition, at the Berrima Plant, BCSC had introduced CENTUM XL in 1889 and migrated it to CENTUM CS 3000. The customer was thus well familiar with Yokogawa's products and services, which became a factor in their subsequent decision to select Yokogawa's Exaquantum and Exaplog solution-based package software at these plants. The key features of these two packages are as follows:

### Exaquantum Plant Information Management System

- For current and historical data viewing and storage
- Easy to use long-term data management

### Exaplog Event Analysis Package

- For quantitative analysis of problems in the DCS event log
- Analysis of DCS historical logs using "3W" (When, Where, What) filters

## The Customer's Challenges

The challenge at each plant was to build an integrated information management system that combined the DCS with Exaquantum (Maldon Plant and Berrima Plant) and Exaplog (Berrima Plant).


### Maldon Plant and Berrima Plant

Prior to the installation of Exaquantum, the creation of daily, weekly, and monthly production and run-time production reports was extremely time consuming. It took one hour each day to collect the required information and one four-hour session each week to correlate the data and produce the reports. As the operators varied in skill level, it was important for the data analysis system to be simple and easy to use, with no special skills required.

### Berrima Plant

At the Berrima Plant, BCSC had recognized for some time that they were generating far too many alarms for its operators to easily cope with. In order to reduce redundant alarms and enhance process efficiency by improving the operation sequences, they also had to manually analyze problems in the CS 3000 alarm logs, a process that was both time consuming and prone to misdiagnoses.

## The Results

### Integration of Exaquantum with the CS 3000 brought the following advantages:

- A data historian capable of providing long-term data storage
- Graphic interfaces for plant personnel at all skill levels
- Simple plant reporting

The operators can monitor both current and historical process data in an Exaquantum window. This makes it easier for each operator to carry out long-term business analysis based on daily, weekly, and monthly production and run-time reports. With the Exaquantum system, it only takes ten minutes to analyze data and produce the reports. The system also provides comprehensive displays which can be monitored from each section of the plant, allowing users to easily view stock levels, see which areas of a plant are running at any particular time, and check environmental emissions dating back to when the system was first installed. Users can also log on to any PC on the corporate network to access plant information, and the plant manager can dial into the system when off-site to view the plant performance data.

### Integration of Exaplog with the CS 3000 realized the following benefits:

- Easy measurement of alarm load
- In-depth alarm analysis for establishing an alarm management system

At the time of installation, BCSC was experiencing an average of over 50 alarms a minute during busy periods. Exaplog immediately identified a suit of tags that were contributing to much of the alarm load. These were adjusted to a more sensible level after consultation with the operators. The next day saw half the number of alarms generated. Over the next few weeks, Exaplog continued to find tags that were set at poor limits for the plant. The operators were able to see rapid improvement, and now only two to three alarms per minute occur on average, a 90% reduction. Exaplog helps the operators locate excessive alarms and achieve a workable alarm management system.

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| System: | CENTUM CS 3000<br>Exaquantum / Exaplog |

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