

Success Story

Alarm Manager Helps Kestrel Coal Reduce Alarms by 97%



Challenge

An upgrade to the existing Human Machine Interface (HMI) was being considered at Kestrel Coal, as the number of alarms was well above the guidelines set out by the Engineering Equipment and Materials Users Association (EEMUA). Furthermore, the alarm management system had been essentially disabled – the audible alarm was disconnected and the alarm page unused by the operators.

Solution

To transition to a new HMI, Honeywell was contracted to help increase productivity and improve safety by integrating Alarm Manager. The installation of Alarm Manager at Kestrel resulted in a 97% reduction in the average daily alarm count and the suppression of frequent alarm storms.

Advantage

- Increased safety as high priority alarms are clearly defined
- Improved operator response times reducing plant downtime
- Improved maintenance focus as alarm determinants are identified

Alarm Manager is Powered by Matrikon, which represents vendor neutrality. This product works with third-party control systems and applications.

Kestrel Coal - Alarm Overload

Kestrel Coal, located in the Bowen Basin in Australia, is an underground mine using longwall technology to produce high-quality coking coal and thermal coal for export. An upgrade was being considered for the HMI, and personnel were faced with the problem of porting across a large number of alarms from one system to the next. EEMUA sets out guidelines for maximum number of alarms, and at Kestrel Coal, the number of alarms exceeded these guidelines. In addition, the existing alarm management system had been essentially disabled – the audible alarm had been disconnected, and the alarm page wasn't used by operators.

Reducing and Prioritizing Alarms

To transition to a new HMI, Honeywell was contracted to help increase productivity and improve safety by integrating Alarm Manager. Increased productivity goals included:

- Operators and supervisors responding quickly to plant upsets to ensure constant production.
- Continuous monitoring and equipment maintenance, reducing downtime and helping operators understand process upsets so as to prevent future occurrences.
- Improving site safety including operators responding immediately to high-priority alarms and bringing the plant back under control.

The Kestrel Coal project involved collecting alarm data at a centralized Windows® Server from two HMIs running under UNIX found at different physical locations.

A Line Printer Daemon was installed on the Windows Server Machine to receive the alarms across the network via TCP/IP from the MacroView HMIs (for both the underground and the prep plant). This data was subsequently rerouted to Alarm Manager before archiving in the centralized alarms and events archive.

Clients can connect from both the business and control LAN to see the alarms in real time and also perform offline alarm and event analysis on the historical data

- Improved safety
- Reduced production losses
- Reduced risk of equipment damage during upsets, shutdown and startup
- Minimized environmental upsets
- Reduced equipment wear and failure
- Fewer incidents

Significant Plant improvements

The installation of Alarm Manager at Kestrel resulted in a 97% reduction in the average daily alarm count and the suppression of frequent alarm storms.

With alarm count reduced to a manageable level, attention could be placed on correctly prioritizing alarms as low, high, emergency and critical, thus achieving the recommendations set out in the EEMUA 191 Alarm Management Standard.

The benefits of achieving such standards include:

- High priority alarms are clearly defined and can be responded to immediately, improving plant safety.
- Operator response times are improved through reduction of total number of alarms, reducing plant downtime.
- The root cause of alarms can be identified, providing the ability to focus maintenance and reducing plant downtime.

A more comprehensive understanding of the plant and process can be acquired from root cause analysis of the alarms and events just prior to downtime events. An understanding of causes of downtime enables engineers to prevent future occurrences. By installing Alarm Manager, Kestrel coal has given themselves the ability to increase plant profitability and safety. The business benefits Kestrel Coal has achieved include:

About Kestrel Coal

Kestrel Coal is owned in part by Rio Tinto Coal Australia, formerly Pacific Coal, and is one of Australia's leading mining organizations with a highly successful record in the development and management of world-class open cut and underground coal operations.

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'Powered by Matrikon' symbolizes that this product/solution is system and application independent.

For more information:

For more information about Alarm Manager, visit our website www.honeywell.com/ps or contact your Honeywell account manager.
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