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DynAMo® Alarm Management Software Allows Dynegy to Eliminate Nuisance Alarms at Baldwin Energy

Case Study

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- Sam Krueger, Managing Director, Baldwin Energy Complex

Challenge

Nuisance alarms were overwhelming the Energy Complex's traditional printer-and-CRT control-room monitoring, as well as their operators. With hundreds or thousands of alarms during an upset, it became difficult for operators and management to clearly and quickly identify real problems through the noise.

Solution

Honeywell's DynAMo® Alarm Management software helps identify bad actors, enabling rationalization of alarms and accurate alarm prioritization. The software ensures all changes to configured alarms are correct, consistent and properly recorded to maintain the benefits of the facility alarm management strategy.

Advantages

- Increase safety of plants through alarm prioritization
- Decrease the severity of incidents and unscheduled downtime by acting on valid alarms
- Decrease nuisance alarms by more than 50%
- Decrease waste from traditional alarm printers and resulting paper trail
- Eliminate the need for additional personnel to handle alarm volume.

Honeywell's DynAMo® software is vendor neutral, which means it works with any control system.

Alarm Flood Causes Information Overload

The Baldwin Energy Complex is the flagship of Dynegy Inc's Midwest generation fleet. With three coal-fired units and a total capacity of 1,800 MW, Baldwin supplies the energy needs of nearly one million end users.

As a flagship plant, Baldwin boasts state-of-the-art automation. On Emerson Ovation control systems, the DCS interfaces with multiple PLCs and an OSI PI System plant historian. With a control system this complex and information-intensive – the Ovation DCS monitors 30,000 alarm points – alarm management became a critical issue.

"In the old days when you only had 600 windows for all three units, you could walk up and see a problem," says Sam Krueger, Managing Director of Baldwin Energy Complex. "With a DCS system containing 30,000 alarms, critical data can be less visible and subject to supervisory oversight."

In the absence of an alarm management program, the alarm intensive plants become less safe, with incidents becoming worse rather than better and potential for unscheduled downtime and associated losses increase.

During a two-month benchmarking period, operators had to respond to an average of 19 alarms per hour, with a peak alarm flood of 685 alarms per hour recorded during this time period. The implications of these have an impact on both the bottom line and safety, far exceeding the EEMUA guidelines for operator workload. Dynegy Inc had two options, neither of which made business sense:

- Increase the number of control room staff to meet standards
- Ignore or neglect the majority of alarms

It was clear Baldwin Energy Complex needed an intelligent, integrated alarm management solution that would:

- Cut through the chatter
- Identify bad actors
- Reduce total alarm count
- Allow Dynegy Inc. to properly monitor critical assets

Working with Honeywell, says Krueger, has been "Very good. They came in and got the system up and running in a timely fashion."

Honeywell Provides a Solution

Dynegy contracted Honeywell for the installation and configuration of its alarm management software which provides Baldwin Energy Complex with real-time alarm and event visualization and comprehensive alarm and event analysis. As the cornerstone of the alarm management initiative, Honeywell's alarm management software collects, archives, and assists in analysis of DCS alarms in real-time to identify and eliminate nuisance alarms. It also:

- Replaces alarm printers and the massive paper trail
- Provides an enterprise Alarm & Event historian
- Monitors operations and operator workload.

"We have identified bad actor points and chattering alarm issues," says Krueger. "Honeywell's alarm management software brought attention to some issues with some controllers, limit switches, calibration and alarm limits." Before the integration of state-of-the-art alarm management, he says, something like a single bad transmitter "probably wouldn't have been [identified and remedied] until […] it failed completely."

The software also allows Krueger to take a broader, tactical approach to operations at Baldwin: "It allows me to see what's going on in the control room, alarm-wise, without having to be in the control room," he says. "It gives us a way to look at the information in a different way than the operator. This allows you to see problems that would otherwise have been hidden. For Krueger, the benefits of the alarm management software's data-gathering and analytical power extend from the plant floor to the operations level.

"It helps you easily find the data to assist in identifying equipment needing repairs or possible replacement, without having to go through and count instances in reams of paper from the alarm printer," he says. "That's a cumbersome process to do manually."

Eliminating the waste of having engineers or technicians spend hours pouring over printouts translates directly to the bottom line. After being presented with the impressive results from Phase I, Dynegy's Director of Midwest Fleet Operations, Joe Naberhaus, has taken up the initiative to implement alarm management best practices in other fossil plants in the Midwest fleet and is managing the efforts for fleet-wide deployment.

For More Information

Learn more about how Honeywell's DynAMo® solution can improve operations and plant performance by visiting www.hwll.co/DynAMo

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