# North American oil producer improves efficiency in operations and engineering through consistency, insights, and reliability in alarm management

## RESULTS

- Initiation, approval, and execution of alarm-change requests in hours rather than days
- KPI report automatically generated and emailed to team for efficient review
- Significant reduction in alarms per hour and standing alarms

## APPLICATION
Oil production from one of the largest and highest quality oil sands deposits in North America.

## CUSTOMER
Company operates in the oil sands of North America targeting gross production of more than 200K barrels per day.

## CHALLENGE
To meet production goals, the oil producer operates two oil sands plants that include four DeltaV control system zones, a safety instrumented system (SIS), and 43K hardwired I/O. Having no database for alarm management and to follow company standards, process alarm limits were defined in the P&ID documents.

Difficulties arose because each alarm change required a P&ID redline, an engineering stamp, and all tasks related to the management of change (MOC) database and documentation. The team could not audit the P&ID alarm settings against the live system or review all alarm settings in one place. On-site operations and engineering managed over 200K DeltaV alarms critical to safety and production. As a result, the engineering team spent considerable time confirming alarm information accuracy, which made alarm management labor intensive and inefficient.

The company recognized that they needed a method to manage alarms that would reduce the workload and help them identify nuisance alarms.

> *"Using DeltaV AgileOps, we've streamlined our alarm management, have more ownership from operations, and enabled engineers to focus on other areas."*
>
> Lead Plant Automation Engineering

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## SOLUTION

Working with Emerson and Emerson's impact partner Spartan Controls, the oil company decided to move alarm management away from the P&ID and toward a master alarm database. Discussions laid groundwork to implement DeltaV AgileOps Database across all four control system zones via an OPC connection.

The alarm management database, part of AgileOps, enabled the team to transfer all alarms and the alarm-change approvals to operations, with critical priority alarms still needing engineer approval. With the new alarm process, operations can initiate and approve alarm-change requests, reducing execution time to a few hours rather than a couple of days.

With more ownership and participation from operations in alarm management, the engineering team can resolve issues more quickly. For example, if a tank level is set to alarm at 70%, engineers might consider moving it to 75%. If they determine the move is safe, they do not need to revise the P&ID and follow time-consuming and unnecessary processes to make the change. Instead, they can revise the setpoint easily and quickly from a DeltaV system interface. These changes have enabled the engineering team to focus on other key areas and be more productive.

AgileOps also provides Performance Analytics, a key performance indicator (KPI) tool, that helps build reports, for example, to track nuisance alarms. Stewardship of the alarm process has been enhanced through KPI reports and actionable information sent by AgileOps Performance Analytics daily to stakeholders via email. A dedicated team can address the top nuisance alarms each week.

> *"Our team can easily audit AgileOps Database alarm settings against the control system to ensure compliance to approved values."*
>
> Lead Plant Automation Engineering

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