



CASE STUDY

Contact Energy reduces operator alarm load by 60% for heterogenous control systems

Octave Tempo Control System Effectiveness increases operator effectiveness, reduces operator fatigue



Key facts:

Company: Contact Energy

Website:
www.contact.co.nz

Industry: Power generation

Country: New Zealand

Octave products used:
Tempo Control System Effectiveness (PAS)
PlantState Integrity

Contact Energy is the second-largest power producer in New Zealand, with 10 generation sites whose capacity exceeds 2 gigawatts. It includes a mix of gas turbine, geothermal, hydroelectric and the trial incorporation of end-user installed photovoltaic into the grid.

The challenge

Contact's power generation facilities are a hybrid of older and newer technologies. Operator alarms were identified as a challenge and an opportunity for business improvement. Contact identified more than 90,000 configured alarms with inconsistent approaches to their creation, definition and use. Excessively high alarm rates, nuisance alarms and alarm floods at several facilities hindered operators' ability to respond to alarms effectively.

The solution

Contact Energy sought to address its corporate-wide alarm management challenge by first developing an alarm philosophy to govern the design, implementation and maintenance of the alarm system. Octave facilitated the creation of a comprehensive alarm philosophy in alignment with the principles contained in the ISA 18.2 standard and Octave's *The Alarm Management Handbook* (formerly PAS's *The Alarm Management Handbook*).

Key benefits:

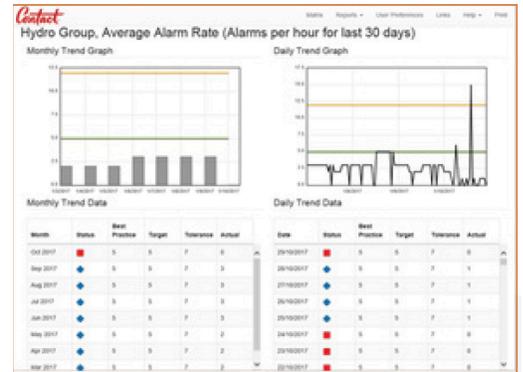
- Increased operator situation awareness
- Reduced operator load and operator fatigue
- Improved process uptime
- Centrally managed multi-site platform
- Site and enterprise performance reports and dashboards

Contact Energy set the goal to acquire a single software platform to manage the alarm systems for four different control systems installed across 10 sites. After evaluating multiple available solutions, Contact Energy chose Tempo Control System Effectiveness for its robust platform-independent connectivity and comprehensive capabilities.

Tempo Control System Effectiveness provided automated alarm performance reports for all sites, with KPI analyses for alarm rates, priority distribution, frequent alarms, flood analysis, chattering alarms, stale alarms and several others. Contact Energy also implemented the Master Alarm Database and Alarm Audit and Enforcement modules for proper management of change.

Realizing results

As each site received the regular performance reports, the detailed, quantitative analyses enabled immediate alarm improvement by first addressing nuisance alarms. In a four-month period, Contact Energy achieved 60% alarm rate improvements by adjusting alarm setpoints, deadbands, delay-times and improving control logic. Additionally, the company realized a 65% reduction in long-standing "stale" alarms, contributing to a noticeable improvement to the operators' alarm-related workload.



Contact Energy process safety dashboard

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property, and assets— for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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