audubon

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PROJECT PROFILE

Alarm Management for LNG Export Facility

CLIENT: Confidential LNG Operator

LOCATION: Lake Charles, Louisiana

A large-scale liquefied natural gas (LNG) export facility in Louisiana experienced a high volume of nuisance alarms in the main control room following commissioning and startup of its Yokogawa distributed control system (DCS). More than 120,00 alarms per day—equating to more than 5,000 per hour—overwhelmed console operators and compromised safety at the site. The operations team contacted Audubon to resolve the nuisance alarms and optimize its DCS alarm system to meet regulatory standards, enhance efficiency, and reduce downtime at the site.

With comprehensive expertise in automation and control engineering, Audubon implemented a multiphase approach to tackle the nuisance alarms at the LNG facility, setting three targeted reduction milestones over 15 weeks. We began with a benchmark assessment against industry standards and best practices and then identified the root causes of the numerous nuisance alarms. Working alongside the operator's DCS personnel, Audubon conducted rationalization workshops on alarm classification and prioritization. The team then designed and implemented a new configuration with custom priorities, types, purposes, causes, consequences, response times, and guidance for all alarms.

Project overview

- Large-scale LNG plant
- DCS: Yokogawa, GE Vernova Mark VIe
- Removal of 120,000+ nuisance alarms per day—ahead of schedule, under budget
- Nine operator consoles
- ANSI/ISA 18.2 compliance

Scope of work

- Engineering + design
- Automation + controls
- Project management
- Operations + maintenance
- Training

9
operator consoles

120,000+
nuisance alarms/d

5
Audubon engineers

3
targeted milestones

15
weeks

99%
alarm reduction

5,000+
alarms/hr

<65
alarms/hr

Chattering issues were handled with delay timers, deadband duplicates were eliminated through rerationalization, and suppression groups were developed for both planned and unplanned events to prevent alarm flooding during critical operations.

Audubon's targeted approach reduced alarms to just over 1,500 per day across 9 consoles—equating to just 6 per hour per console—a dramatic reduction of 99% from the LNG facility's original 120,000 per day. Our full-scale alarm management improved system reliability, efficiency, safety, and compliance. The plant's personnel are now able to concentrate on mission-critical tasks without being overwhelmed by unnecessary alerts. Given the success in the control room, as well as the project's execution ahead of time and under budget, the operator enlisted Audubon to conduct alarm management across the entire site to fully optimize efficiency and safety for the LNG export facility.

> *"Audubon's expertise in alarm management transformed our operations. The reduction in nuisance alarms has greatly improved our ability to respond to critical situations. We are extremely satisfied with the results and professionalism of the Audubon team."*
>
> Control System Manager
> Confidential LNG Operator

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January 2025