

CUSTOMER CASE STUDY

LNG Plant Operations and Surveillance

BKOAI delivered a full suite of LNG operations surveillance screens in PI Vision for a large LNG facility, supported by a complete, standardized PI AF hierarchy designed to improve remote visibility, accelerate anomaly detection, and enable scalable deployment across LNG trains.

Solution: PI AF Templates & PI Vision Screens

Industry: LNG

Use Case Focus: Operations Surveillance & Analytics

GOALS

- Deploy operations surveillance screens for a large LNG facility before first LNG introduction.
- Create a reusable, standardized data template hierarchy to streamline future train expansions.
- Provide a consistent PI AF data foundation for both PI Vision operations screens and Seeq analytics.
- Improve operational visibility across distributed facility areas, including the control room, administrative offices, and berths.

SOLUTIONS

- Developed PI AF templates based on P&IDs for gas inlets, turbines, and utilities.
- Implemented a three-tier PI Vision screen hierarchy, including calculations for commingled composition and tank volumes.
- Configured element hierarchies to stream unified asset context to Seeq analytics.
- Added startup-event templates for propane unloading, gas turbine operations, and LNG tank loading and unloading activities.

CHALLENGES

- Inherited an incomplete PI AF database with missing PI tags and inadequate documentation.
- Faced a compressed 5-6 month timeline after previous contractors failed to deliver.
- Needed to support multiple operational areas and stakeholders while maintaining a unified asset hierarchy.
- Had to incorporate missing PI tags incrementally as they became available in the production PI server.

RESULTS

- Enabled remote operational visibility across control rooms, administrative offices, and berths.
- Reduced future engineering effort through reusable, scalable PI AF asset templates.
- Accelerated anomaly detection using rate-of-change calculations for abnormal conditions.
- Established a standardized PI Vision architecture that can be copied and adapted efficiently for future LNG trains.

EXECUTIVE SUMMARY

BKOAI delivered a full suite of LNG operations surveillance screens in PI Vision for a large LNG facility, supported by a complete, standardized PI AF hierarchy. The solution addressed an incomplete PI AF database and a compressed 5-6 month timeline while supporting multiple operational areas and incremental PI-tag availability. A three-tier PI Vision hierarchy, calculations for commingled composition and tank volumes, Seeq-ready asset context, and startup-event templates improved remote visibility, anomaly detection, and scalability across future LNG trains.

Rebuilding an Incomplete PI AF Foundation

The project inherited an incomplete PI AF database with missing PI tags and inadequate documentation, with only a 5-6 month window before first LNG introduction. BKOAI rebuilt the asset structure around reusable PI AF templates for gas inlets, turbines, and utilities, incorporating missing PI tags as they became available.

Standardizing Surveillance and Analytics

A three-tier PI Vision screen hierarchy was implemented to support operations surveillance across control rooms, administrative offices, and berths. Calculations for commingled composition and tank volumes were included, and element hierarchies were configured to provide consistent asset context to Seeq analytics.

Scaling Operations Across Future LNG Trains

Startup-event templates were created for propane unloading, gas turbine operations, and LNG tank loading and unloading. Reusable PI AF templates reduced future engineering effort, while rate-of-change calculations accelerated anomaly detection and the standardized PI Vision architecture can be copied and adapted for future trains.