



JX Nippon Oil & Energy Kiire Terminal

The Objectives

- To procure a secure and professional logging and shift handover system which is easy to use for operators
- To implement a comprehensive, integrated suite of software applications
- To encourage new technology which appeals to a younger generation
- To implement a system that manages Near Misses and Incidents
- To interface to external sources of data – such as the OSIsoft PI System® - using an Event / Limit Management application

The Benefits

- Increased visibility of information
- Workflows for human processes
- Reduced risk of safety incidents
- Efficient, reliable Shift Handover
- Central knowledge repository
- Easy to search past data / events
- Unified data and workflows



Case Study

Introduction to JX Nippon Oil & Energy Kiire Terminal Corporation

JX Nippon Oil & Energy Kiire Terminal Corporation (Kiire Terminal) – established in 1967 - is an affiliate of JX Nippon Oil & Energy Corporation, the largest Crude Oil Storage Terminal in Japan. Kiire Terminal activities include oil storage, oil transfer and oil blending.

The Kiire Terminal unit allows JX to prepare for unforeseen political and social situation changes, by storing oil reserves.

At the Kiire Terminal, oil producing countries (mainly based in the Middle East), transport around 300,000 tons (DWT) of crude oil using large tankers, which then unload the crude oil into the terminal tanks. An additional 100,000 tons (in deadweight tons) is relayed by secondary transport to the refineries of the JX group.

The Kiire Terminal has accepted about 26 types of crude oil from 13 countries (FY 2015), depending on the needs of each JX refinery. The Kiire Terminal can also blend of several types of crude oil. This allows JX refineries to respond to changes in the crude oil market.

The Issues

The management of Kiire Terminal were concerned about their operations management technology, after the retirement of veteran operators and recruitment of younger staff in a wide range of operations and irregular batch works departments:

- Kiire Terminal required to validate the Plan-Do-Check-Act (PDCA) cycle of instruction, record and report
- Kiire Terminal needed to utilize an effective method of conducting inspection rounds and extracting data from the operators
- Kiire Terminal desired to establish modern operations management technology to encourage young operators
- Kiire Terminal wanted to facilitate good and smooth communications between the operations department and other units

How j5 International Provided the Solution

Since 2014, j5 International has implemented the following applications at Kiire Terminal:

- j5 Operations Logbook
- j5 Shift Handover
- j5 Work Instructions
- j5 Standing Orders
- j5 Inspection Rounds (Mobile)
- j5 Incident and Near Miss Management
- j5 Event / Limit Management

j5 produces **Shift Handover** reports for operators, board men and supervisors with relevant data, events and instructions for each unit and area of the refinery. It ensures a consistent, visible and accountable process.

j5 **Work Instructions** enables Planners to schedule ad hoc and recurring tasks for the operations team members. Tasks are marked off as complete and summarised in the **Shift Handover** reports.

j5 **Inspection Rounds** facilitates the recording of plant data from the field. Inspection Rounds are designed in j5 at the console, uploaded to a smartphone device, completed by the field operators and then synchronised with j5 so that round information is readily available for analysis and reports. Anomalies are automatically highlighted.

j5 **Standing Orders** allows for the controlled dissemination of important communications within the plant.

j5 **Incident and Near Miss Management** provides a platform on which all near misses and incidents occurring on the plant are recorded, investigated, analyzed and reported.

j5 **Event / Limit Management** enables the management of external data sources – such as the OSIsoft PI System® - with automatic event data monitoring.

Benefits of j5

j5 makes important shift, inspection round, personnel, safety, maintenance and process information visible to users across the whole terminal. This fosters greater understanding, coordination, knowledge transfer and communication between teams, and improves decisions.

j5 role-based workflows (e.g. with Shift Handover, Incident and Near Miss Management, and Work Instructions) improve efficiency, safety and follow-through.

j5 provides a consistent, intuitive user-interface with multiple applications.

j5 is easy to adapt, when the needs of the refinery change over time and it is simple to add new j5 applications, custom or packaged.

The simplicity, comprehensiveness and unity of the j5 architecture makes it reliable and cost effective to maintain.

j5 supports Kiire Terminal in meeting its regulatory and compliance reporting requirements.



“We selected j5 as our standard Kiire Terminal tool for solving our past operations management issues and we are now achieving increased competitiveness.

We rely on j5 for our logbook, shift handover, work instructions, standing orders, incident management, mobile inspection rounds and event management.

We plan to extend our use of j5, with work orders and work scheduling our next step.”

Yukichi Tanaka
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