

Case Study

Sakhalin Energy Modernizes Molikpaq Offshore Platform with Experion® PKS



Background

Sakhalin Energy was founded in 1994 to develop the Piltun-Astokhskoye and Lunskoye oil and gas fields in the Sea of Okhotsk on the Sakhalin Island shelf.

Sakhalin Energy shareholders include OAO Gazprom, Royal Dutch Shell plc, Mitsui, and Mitsubishi.



Sakhalin Energy's Molikpaq offshore platform. In July 2014, the Molikpaq platform celebrated its 15th anniversary from the first oil production.

As part of the development of the two fields, the company constructed a large-scale infrastructure for the extraction, transportation, processing, and marketing of oil and natural gas. This infrastructure includes three fixed offshore platforms, offshore and onshore pipeline systems, an onshore processing facility, two booster stations, an oil export terminal with tanker loading unit, a plant for the production of liquefied natural gas (LNG), and gas transfer terminals. This project is one of the most technically complex carried out over the last few decades in the global oil and gas industry.

Sakhalin Energy is the first and, so far, the only producer of liquefied natural gas in the Russian Federation. As a result, the Russian Federation has become one of the key players in the promising market of the Asia-Pacific Region. Sakhalin Energy's LNG Plant currently provides over 4% of the global LNG supply.

Challenge

One of the crucial tasks for Sakhalin Energy is to sustain equipment and production asset reliability and performance quality. In order to improve technical integrity, Sakhalin Energy develops lists of reasonable corrective and preventive actions as well as takes measures on their implementation. They are aimed at improving the efficiency of the equipment and processes in order to prevent unwanted incidents or situations that could lead to losses and unscheduled idle periods. In general, the reliability of oil, gas, and water injection systems in the company is comparable to the global oil and gas industry.

In support of these objectives, the Molikpaq offshore platform required control system modernization. This modernization project was challenging from two perspectives: geographical and technical.

Geographically, the location, in addition to being offshore, is subject to very difficult ambient environmental conditions.

From a technical perspective, primary challenges included:

- The upgrade to the latest Experion PKS release (R430) was scheduled just a few months after its initial release was issued and would be the first installation in Russia.
- The project involved a complex integration of Allen Bradley PLCs via RSLinx communications interface.
- The Fire and Gas safety system is very complex, based on Honeywell FSC.

Additionally, the Alarm Management software was to be migrated with the new DynAMo™ Alarm Suite module extension.

Solution

Honeywell, working with the Molikpaq platform modernization team, provided:

- Experion® Process Knowledge System (PKS) R430
- Experion Backup & Restore R430
- FSC R710.6

- FDM R430
- DynAMo Alarm Suite R110 & DynAMo Metrics & Reporting R110

These installations were upgrades from Experion PKS R310, FSC R702.1, FDM R400, and ACM R320.1. Sakhalin Energy uses the Solution Enhancement Support Program (SESP) to ensure process control assets do not become obsolete over time. The program provides full support for Honeywell-installed assets and access to the latest software releases, in addition to making software updates available based on current product releases.

Benefits

With offices in Russia and Russian Far East, problems are resolved very quickly. “Honeywell staff is highly-qualified and has extensive work experience” stated Sakhalin Energy’s Vadim Legenkin.

SESP minimizes the amount of time for update installation and technical support.

“Honeywell solutions allow us to control both the production process and the emergency stop system.”

For More Information

To learn more about Honeywell’s products and services, visit our website www.honeywellprocess.com or contact your Honeywell account manager.

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