An aerial photograph of a rugged coastline. In the foreground, there are steep, green cliffs meeting the sea. The water is a deep blue with white foam from breaking waves. In the background, a forested hillside slopes down towards the water. The sky is overcast with soft, grey clouds.

Connecting and powering operations at the world's largest natural gas field

Unique challenges on a massive scale

Our customer's operation on Sakhalin Island represents both Russia's first offshore oil platform and the world's largest LNG processing plant. With three offshore and three onshore plants, separated by 850 km of pipeline, the project presents complex challenges to the team overseeing it.

In addition to the vast footprint, the Sakhalin Island project requires the team to contend with an extreme environment while managing a global workforce and ensuring regulatory compliance.

As the project's second phase began, the customer's team needed a partner to help deliver a complete electrical distribution system, and a telecommunications system that could link all six plants while integrating seamlessly with other components.

The partner would also need to be intimately familiar with the health, safety and environmental challenges of remote operations. And have a history of success with complex, globe-spanning projects.

Close collaboration and tight alignment tame complexity

The customer selected ABB to help realize success for the Sakhalin Island project's electrical distribution and telecommunications needs. The team based in Oslo, Norway was the project's primary ABB point of contact.

Faced with massive scale and complex problems, both organizations knew they would need to work closely and with great transparency to meet schedule and budget requirements.

To start, ABB applied its experience with previous projects for the customer to help craft an ideal timeline. The ABB team consulted with various automation, safety and electrical engineers to identify the project's electrical and telecommunications challenges.

The goal was to ensure that all project functions aligned from the beginning—including management, engineering, planning and controlling.

Kick-off visits were scheduled to each plant in the Sakhalin Island operation. These were opportunities to set expectations and align visions. Interface point and procedures were reviewed. Detailed schedules were created for all stages, and weekly meetings were established to ensure continuity. Factory acceptance test scope was clearly defined by all parties.

Deep-dive design workshops and pre-manufacturing meetings were also scheduled at each factory for technical review and finalization of key documents.

As the second phase progressed, steering committee meetings were convened as needed to discuss ongoing issues and concerns.

A solution built for demanding needs

To ensure the Sakhalin Island project's needs were met, ABB teams in Oslo and various factories worked together to ensure alignment and proactively prevent problems.

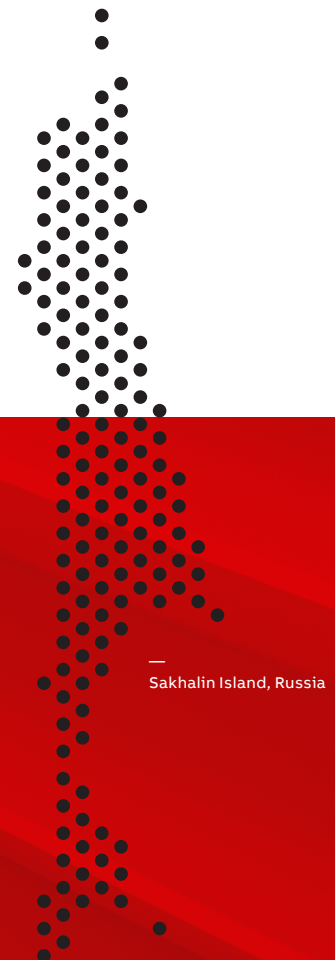
Dedicated teams at each factory followed up on deliverables as they were distributed. ABB's multiscope supply was based on equipment and products from factories in Australia, the Czech Republic, Finland, Norway, Sweden, Germany and Malaysia, among others—all coordinated on-site by the local team.

Field equipment involved in the Sakhalin Island project's electrical distribution and telecommunications systems is built to withstand temperatures of minus 40 degrees Celsius. ABB worked to source equipment in Russia, employed Russian personnel and ensured the transfer of knowledge between all stakeholders to enable smoother deployment.

ABB also leveraged its worldwide expertise in compliance and legal issues. The team's thorough understanding of Russia-specific laws and regulations helped overcome problems and ensure on-time, on-budget delivery.

Sakhalin Island project solutions

Electrical	Telecommunications
<ul style="list-style-type: none">• 80 transformers• 200 medium-voltage switchgears• 300 low-voltage switchgears• Complete electrical control system• Low-voltage motors• Variable speed drives	<ul style="list-style-type: none">• Public address and alarming systems• Mandatory and general radio equipment• Intercom• Hotline telephone• Backup routing to VSAT• Structured wiring• Cabling system• Alarm panel• Meteorological observation equipment

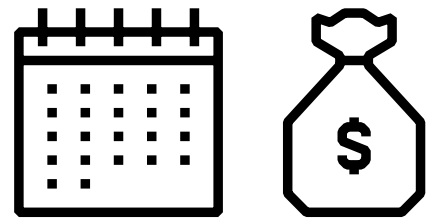


“ABB has always remained focused and dealt with the challenges.”

CUSTOMER PROJECT MANAGER

Overcoming unexpected obstacles to preserve schedule and budget

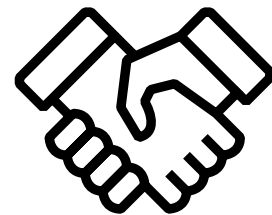
During the course of the project, an unanticipated compliance issue arose that the customer and ABB worked together to solve without a significant impact on project costs or timeline. As new technical regulations and requirements were introduced, ABB and the project EPC collaborated to ensure that the Russian certificates were in place before equipment was delivered.



Succeeding together

By working together closely, ABB and the customer have been able to identify real problems and quickly deploy the right solutions throughout the course of the challenging Sakhalin Island project.

Ultimately, the electrical distribution and telecommunications systems for Sakhalin Island's second phase were implemented on time and on budget. ABB's guidance and expertise helped the customer's team overcome challenges and streamline their project.



The customer is positioned for success with an electrical distribution and telecommunications system that adds value now and in the future.

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