



MOTOTRBO™ SOLUTION FOR SIBERIAN OILFIELDS

MOTOTRBO™ DISPATCH MONITORING SOLUTION DEPLOYED AT SIBERIAN OILFIELDS



Maintaining good communication with work teams and ensuring their personal safety is the key priority of oil industry executives, especially in regions where extreme weather conditions mean having to work in temperatures ranging from -45°C during the winter months to a scorching 35°C in summer.

For this reason, the Mokhtikovskoye and Eguryakhskoye oilfields in the Khanty-Mansiysk region of western Siberia have implemented Motorola's MOTOTRBO™ digital mobile radio with application partner Elcomplus' SmartPTT GPS-based dispatch system. The deployment replaces an analogue two-way radio system and will boost operational communications between management and operating crews while allowing for the monitoring of radio users across a coverage area of some 25km.

The oilfields are being developed by Aganeftegazgeologia, an open joint stock multiproduct company which is part of RussNeft, one of Russia's leading oil and gas organisations. With headquarters in the town of Nizhnevartovsk, some 2300 kilometres east of Moscow and a staff complement of over 1100, Aganeftegazgeologia has a licence to develop three subsoil areas including eight oilfields with total recoverable reserves of commercial crude oil estimated at more than 24 million tons.

CUSTOMER PROFILE

Company
OAO MPC Aganeftegazgeologia

Industry Name
Oil and Gas

Technology Partner
LLC Elcomplus

Product Name

- DR 3000 Repeaters
- DP 3401, DP 3601 and DM 3600 Radios
- SmartPTT Advanced Dispatch Software

Solution Features

- 2 sites controlled by SmartPTT Dispatcher over IP
- 2 channels
- GPS, voice logging & recording

Key Benefits

- Double Call Capacity
- Improved Fleet Management and Dispatch Control
- Increased Operational Efficiency
- Enhanced Personal Safety
- Cost effective

CASE STUDY

MOTOTRBO™ Solution for Siberian Oilfields

The dispatch system based on MOTOTRBO and SmartPTT has increased the overall efficiency of interaction between operating crews and management. Also, GPS monitoring together with the emergency call feature provides additional personnel safety.

Valeriy Zemlyachenko, Head of the telecommunications department,
Aganeftegazgeologia



THE CHALLENGE

An old analogue two-way radio system was being used at the Eguryakhskoye oilfield but lacked sufficient channel capacity to address the needs of the various work teams. In the event of urgent calls, the radio channel(s) would often be occupied which affected normal group communications. In addition, the system did not support subscriber location services or deliver acceptable voice quality for optimum operations throughout the oilfield.

At the Mokhtikovskoye oilfield, there was no permanent radio system so personnel resorted to using a number of amateur two-way radio sets which had a maximum output of around 10 mW and were unable to provide reliable communications across the vast area.

To improve communications and to help manage work teams, Aganeftegazgeologia sought a robust and reliable digital two-way radio solution that would not only boost channel capacity and audio quality, but one which had the ability to provide both individual and group calls. In addition, the system would have to support an application which would allow for the monitoring and management of personnel across the oilfields to enhance safety and security.

THE SOLUTION

The company chose MOTOTRBO systems which are installed at each oilfield with a DR 3000 repeater operating in single site, conventional mode. Users are equipped with DP 3401 and DP 3601 portable radios and DM 3600 mobile radios are used as gateways to allow the SmartPTT system to access the networks.

MOTOTRBO uses two-slot TDMA technology which doubles the number of users on licensed repeater channels. This allows two digital conversations to take place simultaneously within a single channel or alternatively, one slot can be used for data and the other for voice.

The SmartPTT Advanced dispatch software (comprising PC-based Dispatcher Console and Radio Server) is deployed at each site and is linked via an IP connection to the MOTOTRBO network for communicating with radio users. Dispatcher Console offers a wealth of functionality such as subscriber identification, remote voice monitoring, voice logging and telephone interconnect to allow calls between MOTOTRBO radio users and telephone subscribers.

Taking advantage of the embedded GPS receivers in MOTOTRBO radios, SmartPTT GPS Monitoring allows Aganeftegazgeologia's management to benefit from features such as real-time monitoring of radio users, user location logging and detailed reports of user movement.

THE BENEFIT

The MOTOTRBO with SmartPTT Dispatch solution has delivered on its promise in helping Aganeftegazgeologia's management monitor personnel while enhancing the quality of communications with extended call functionality throughout the oilfields.

The radios are designed to withstand extreme temperatures and hazardous working conditions and with MOTOTRBO's increased channel capacity and reliability, the system has increased operational efficiency - this will lower communication costs and allow for a significant return on investment.

Mokhtikovskoye's management has already realised the benefits of the new digital network and has subsequently upped the capacity with plans for further expansion in the near future. The company is also investigating the feasibility of deploying a similar system throughout a third oilfield, Chernogorskoe with plans to link all three oilfields as a single three-site system and institute a centrally managed voice interconnection solution. This will include a planned upgrade to SmartPTT Enterprise with a direct connection to the repeaters via an IP channel.

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MOTOTRBO SOLUTIONS/CASESTUDYUK(05/11)



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