



POWERING SAFER WORKING WITH MOTOTRBO™

RUGELEY POWER STATION ADOPTS MOTOTRBO FOR ENHANCED WORKER COMMUNICATIONS AND SAFETY



RUGELY POWER

In the heart of Staffordshire, England, the immense coal fired power station at Rugeley dominates the countryside. Operated by GDF SUEZ, Rugeley Power Ltd. generates approximately 1,000 megawatts of safe, low cost electricity, which is fed into the U.K.'s National Grid system and is enough to meet the needs of approximately half a million homes.

CHALLENGE

Operating since 1970, the Rugeley B power station site covers a large, 2.5 km long area divided between the main site and the Flue Gas Desulphurisation area (FGD) where sulphur dioxide emissions generated by the coal-fired boiler are safely converted into useful Calcium Sulphite. The main site, with large steelworks and subterranean areas creates a challenging communications environment, but the proliferation of reinforced concrete and girder work in the FGD meant there had been little or no radio coverage on the analogue system in this particular area.

While reception in the main site was generally good, coverage in underground areas and on the periphery of the site could also be marginal. This not only had serious implications for perimeter security, it was a major cause for concern for the safety of the 200 workers operating on the main site and especially those workers passing through or operating in the FGD.

With radios being used for the running of day-to-day operations and emergency scenarios, the analogue radio dead spots around the site were seen as a major safety issue both to plant and to personnel. In particular, the complete lack of coverage in the FGD was not only potentially dangerous, it was hindering operations of the plant and was also impacting the bottom line.

Brian Allt, maintenance engineer technical support, Rugeley Power Ltd. explains that, "Several solutions were tried, including leaky feed and introducing cell enhancers, but these either did not work, or had very limited effect on the problem. After some investigation it was decided that a new digital radio system would be the best way forward."



CUSTOMER PROFILE

Organisation:
Rugeley Power Ltd. / GDF SUEZ

Location:
Rugeley Power Station,
Staffordshire, U.K.

Industry:
Utilities

Partner:
DCRS Ltd

The project:
Installation of a new MOTOTRBO Linked Capacity Plus radio system to address worker communications and safety for a major power station

Motorola Solutions Products:

- DM4600 mobile radios
- DP4601 portable radios
- DP4801 portable display radios
- DR3000 Repeaters in Linked Capacity Plus mode

Benefits:

- Delivers 100 percent coverage in dangerous working environment where there was none before
- Improved operations with all personnel equipped with radios and able to instantly communicate
- Improved worker safety with emergency alerts, and lone worker functionality

“The MOTOTRBO system ticks a lot of the boxes for worker safety within the plant. Personnel now have instant communication with anyone if they need help.”

Brian Allt, Maintenance Engineer Technical Support, Rugeley Power Ltd.



SOLUTION

In 2014, after a competitive tender process, Rugeley Power, appointed Motorola Solutions partner and two-way radio communication products and applications specialists DCRS.

“With underground facilities and complex surface structure this was not the easiest of installations, but a good challenge to have,” says Daniel Scotney, sales manager DCRS. “We also found the analogue radios to be old and in need of an overhaul. We had conversations about the project beforehand and knew what would be required, so the first phase was to install a multi-site IP solution which was completed within a rapid timeframe.”

DCRS proposed a MOTOTRBO Linked Capacity Plus radio system from Motorola Solutions. This is a cost effective, scalable, wide area digital trunking solution which expands the capacity of a MOTOTRBO communication system without having to add new frequencies. With advanced repeater software, Linked Capacity Plus enables workers to talk to each other in the field or back at the office, as well as using data applications such as text messaging. In addition to delivering five times the capacity of the old analogue system, **Linked Capacity Plus** offered Rugeley Power the option to deliver system-wide calling, enabling communication with all personnel across the site at the same time.

DCRS installed four **DR 3000** MOTOTRBO repeaters in Linked Capacity Plus mode with eight voice channels in the main site. Operating on a continuous basis, the DR 3000 delivers increased capacity and spectrum efficiency to enable enhanced voice and data communications in the most challenging communications environments. In the FGD, where radio use is not so heavy, a further two repeaters with four voice channels were installed. This now gave 100 percent coverage where before there had been none.

DCRS also supplied the MOTOTRBO radios for the new system. The control room was equipped with **DM4600** mobile radios and 153 **DP4601** portable display radios were distributed to the site’s personnel. A further 35 **DP4801** portable display radios with full keypad provided senior personnel with the option to easily send or reply to text messages. “We felt that everyone should have a radio.

This was a safety decision,” says Brian Allt. The DP4601 and DP4801 portable radios deliver unrivalled voice and data communications with Intelligent Audio that automatically adjusts call volume to counter the noisy working environments around the plant, and the option for managers or the control room to interrupt all transmissions in an emergency, making employee interaction smarter and safer.

All the radios have a special pre-programmed emergency channel which opens on every radio across the site. Radios are also equipped with a lone worker timer that automatically activates a pre-alarm every 30 minutes – if the worker does not react to the alarm then an alert is sent to the main control room and a channel is opened to the radio. In addition, the emergency button on the top of the handset is programmed to alert the control room and let them know who is in potential distress. The radios’ display provides incoming caller ID and indicates when the emergency channel has been opened so workers know immediately when a call is potentially serious.

BENEFIT

The long-term problems caused by old equipment were the driving factor behind Rugeley Power searching for a new solution. Poor coverage resulting in “grey and black” spots meant employees sometimes had to rely on phones, but these could be a hundred metres away from the worker.

The new MOTOTRBO solution selected provides a feature-rich radio system that offers one-to-one calling, emergency calling, transmit interrupt and lone worker protection. Coverage issues across the site are resolved and workers can now communicate with each other instantaneously resulting in improved operations, security and safety. The new system has been well received and the reaction from workers has been extremely positive.

Rugeley Power has completed the first stage in a process of communications enhancement, is and is already considering additional integrated features to further enhance operations and safety without needing to apply for extra channels on the site’s existing license. “The fact that we could expand the system was something that helped with the decision to go digital,” concludes Brian Allt.

To discover the advantages Motorola Solutions two-way radios can bring to your business, please visit www.motorolasolutions.com/mototrbo

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