Case Study

Cameco, North America

BACKGROUND

Cameco has controlling ownership of the world's largest high-grade uranium reserves, with ore grades up to 100 times the world average, and low-cost operations in northern Saskatchewan, Canada. Cameco is also the largest US producer with in situ recovery operations in Wyoming and Nebraska, with major projects in advanced development in northern Saskatchewan, and within Block 3 at the Inkai joint venture in Kazakhstan.

The Cameco Rabbit Lake, Canada operation, opened in 1975, is the longest operating uranium production facility in North America, and the second largest uranium mill in the world:

- Rabbit Lake employs 320 Cameco staff and an equal number of long-term contractor employees
- deposits include original Rabbit Lake open pit, Collins Bay A–, B– and D–zones as well as Eagle Point underground mine
- Eagle Point has reserves of approximately 24.0 million pounds U_3O_8
- total production for 2012 was 3.8 million pounds U_3O_8

CHALLENGES

The mine was experiencing problems with the PLC data that was on the older system. The older system was experiencing frequent communication failures and data retries making the application unreliable. The out-dated technology would not allow the mine to install other services on the radio backbone, such as data, tracking, and monitoring systems.

SOLUTIONS

Since upgrading to the PBE Minecom GEN-3 Leaky Feeder System the PLC application has been running on a 100% successful communications rate. Shortly after installing the PBE Minecom GEN-3 Leaky Feeder System the site requested a zone personnel tracking system. The PBE Group successfully installed a RFID tracking solution that included 96 tag readers and 380 tags, all displayed over the MineTracker software. The tracking system monitors ramp traffic and other key areas of the mine such as refuge stations and travel ways in the mine.

The current leaky feeder and tracking system has been installed for two years and used in day to day operations in the mine. The PBE Group have regular interactions with Cameco where PBE acts both as the communications and tracking consultant and as solutions provider. The most recent additions to the communications and tracking solution are the PBE data applications that include fire detection, radiation monitoring and air flow.

Managing the Development Plan and Resources

The next phase of the project will be to automate the end of shift report for radiation exposure. This was part of the deciding factor to look at reliable communications and tracking and one of the key reasons behind Cameco's decision to choose The PBE Group solution. Once in place, the system will produce a shift report identifying critical sections of the mine and the movements and patterns of the miners in these areas. This will allow the mine-management to monitor exposure time for each person underground. The automated report will save the mine time spent manually calculating time and generating a manual report. It will also assist with the ongoing development of effective site and personnel time management.

PBE

HISTORY

The PBE Group mission have always been to design and build reliable, high tech equipment for mine safety and productivity. Four decades later that tradition continues as we provide mine-wide monitoring and communications equipment all over the world.

The PBE Group (formerly Pyott-Boone Electronics), founded over 40 years ago, are the industry leader for mine safety and productivity systems. The company provides safety, communications, monitoring and control systems to mines and tunnels around the world. With offices in 7 countries and strong partners in over 30 other countries, PBE are not only the only true single source integrated solution for mine safety and productivity systems, but is the only company able to provide timely service and engineering support globally. PBE's products and systems are sophisticated and reliable, with a demonstrated track record of ensuring safer and more productive mines.

OUR SOLUTIONS

PBE was founded to supply eastern U.S. coal mines with quality electronic equipment and we continue to do so, but over the years we have expanded our sales to include many other industries all over the world.

For more information visit our website or contact your local distributor or a PBE sales representative.

Solutions we provide:

- Underground Radio Communications
- Mine Wide Monitoring and Control
- Personnel and Equipment Tracking
- Gas and Atmospheric Monitoring
- Conveyor and Motion Monitors
- Transient Voltage Suppression
- Fire and Dust Suppression

Industries we serve:

- Surface and Underground Coal Mines
- Metal and Non-Metal Mines
- Natural Gas Producers
- Processing Plants
- Utility and Transit Tunnel Projects
- Construction Industries
- Water Treatment Plants

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