

Improving security of Kazakhstan's natural uranium

By Andrew Green



At more than 20 000 tonnes per year, Kazakhstan is the world's leading uranium producing country.

(Photo: Kazatomprom)

Kazakhstan, producer of more than 20 000 tonnes of natural uranium per year, has welcomed recently developed IAEA security guidance.

“It is difficult to overstate the importance and timeliness of the guidance,” said Eldar Nikhanov, physical protection officer at a uranium mine in Kazakhstan under the State-run company Kazatomprom. “Since we adopted new security measures consistent with the guidance, there have been no incidents of unauthorized removal of natural uranium.”

Strengthening international security

In 2010, Kazakhstan established a comprehensive system for the control and physical protection of natural uranium. Its experience in implementing this system contributed to the development of a series of new IAEA security guidance documents compiled in a publication entitled Nuclear Security in the Uranium Extraction Industry, issued in February 2016.

“As a world leader in uranium ore concentrate production, Kazakhstan is



aware of its responsibility to contribute to natural uranium security measures within the international community,” Nikhanov said.

The IAEA publication includes specific measures to address insider and outsider threats and covers physical protection, inventory control and transport security. It also provides guidance on how to develop facility security plans and comprehensive transport security plans. Kazakhstan has a total of 23 production sites for extracting and processing uranium, and the security of each one of these has been strengthened significantly thanks to the recent IAEA guidance, Nikhanov said.

An international legal framework calling for prudent management practices is in place to ensure that natural uranium stays secure. The IAEA has built on this by informing State regulatory bodies and industry operators on prudent management practices to protect uranium ore concentrate from unauthorized removal during production, storage and transport. Kazakhstan, a major contributor to the guidance, has implemented these measures at the national level, Nikhanov said.

Meeting security challenges

At each of Kazakhstan’s 23 uranium mining sites, the implementation of the security measures has helped strengthen physical protection and information security by improving site access control, burglar alarms and video surveillance.

“We are aware of the black market for natural uranium and the need for strong, practical security measures,” Nikhanov said. “From industry experience, these measures will greatly reduce risks of theft.”

Training is another focus. “Properly training workers is the main challenge in ensuring mines stay secure,” he said. Kazatomprom’s experience in quality control shows that mining workers need clear and simple guidelines to follow. According to Nikhanov, those provided by the IAEA this year have been an invaluable resource.

“Security regimes need to be embedded into the uranium extraction process from the start,” said Assel Khamzayeva, nuclear security officer at the IAEA. “There is a real need for these kinds of specific measures to be adopted, and it is more difficult and costly to add them later.”

The LLP Ortalyk ISL in situ recovery mine in southern Kazakhstan.

(Photo: Kazatomprom)