

Development of National Training Capabilities to Support Nuclear Security Infrastructure in Kazakhstan N. Izmailova, M. Idrissova

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1. Background

Kazakhstan has a rich nuclear heritage and extensive nuclear infrastructure, including former nuclear test sites; uranium industry; BN-350 fast breeder reactor under decommissioning; nuclear research centers with research reactors and radiochemical laboratories; IAEA Low Enriched Uranium Bank; industrial companies and medical centers using thousands of radioactive sources.



The training courses conducted at the Center demonstrated the advantages of nuclear security training in a specialized center equipped with full-scale simulators, mock-ups and demonstration stands, a training ground and a transport checkpoint with modern equipment, same as equipment being used at real facilities.



Former Nuclear Test Sites 10 sites in the territory of Kazakhstan

Industrial Fast Breeder Reactor BN-350 under decommissioning

Uranium Mining Industry Natural uranium - 40% of global production About 10 largest mines



Uranium Fuel Plant UO₂ powders and fuel pellets Natural U₃O₈ Establishment of fuel assemblies production IAEA Low Enriched Uranium Bank



Radioactive Sources Metal and chemical industries Non-destructive testing **Oncology** hospitals Research centers Sites for storage of disused radioactive sources





MEASURES TO MINIMIZE RISKS:

3. Development of NSTC Training Capabilities

To maintain and improve the relevance of the training provided by the Center, the nuclear security training needs within Kazakhstan must periodically be evaluated and re-assessed.

The initial Training Needs Analysis (TNA) was conducted in 2013 during conceptual designing of the Center. After first year of Center's operation, updated TNA was performed in 2018. As a result of jointed work of Kazakhstan and US experts, the need to include additional topics into the training curriculum, as well as additional technical, administrative and human resources needed to further develop the Center were identified. The updated scope of training includes, in particular, radiological and transportation security.

Taking into account the findings of TNA-2018, the Center in cooperation with US DOE is currently working on updating existing programs and training materials, as well as developing new training programs.

The training ground of the Center was modernized in 2019 with support of the Threat Reduction Agency of the US Department of Defense (DOD/DTRA) under the Global Nuclear Security Program.





RISKS:

Regulatory Framework Physical Protection Accounting and Control Combatting Illicit Trafficking Information Security Personnel Training

Nuclear Facilities Nuclear Materials Radioactive Materials Double Use Materials Nuclear Knowledge

Risk of Theft Risk of Dissemination of Sensitive Information Terroristic Threat!

Sustainable and efficient functioning of the nuclear security infrastructure, coordinated interaction and improvement of all its elements require continuous development of human resources. Recognizing the need for education and training of personnel in the field of nuclear security, at the 2012 Nuclear Security Summit, Kazakhstan announced its intent to establish a specialized training center.

2. Establishment of Nuclear Security Training Center in Kazakhstan

The Nuclear Security Training Center (hereinafter - the Center or NSTC) was constructed through a cooperative effort between Institute of Nuclear Physics (INP) of the Ministry of Energy of the Republic of Kazakhstan and the United States Department of Energy's National Nuclear Security Administration (DOE/NNSA). The Center, inaugurated in May 2017, provides training on nuclear security aspects and serves as platform for discussing best practices in this area.





4. International Cooperation

International cooperation is indispensable for maintaining high standard of personnel training in nuclear security. NSTC successfully collaborates with the US DOE, DOD and National Laboratories, JAEA and IAEA to share experiences and best practices and to improve the level of training in support of nuclear security regime.



Since the Center opening, 30 training courses and workshops, 20 working meetings were hosted and conducted. More than 400 specialists represented Kazakhstan's nuclear industry enterprises and nuclear research centers, state authorities, regulatory bodies, border guard and customs services, interior and national security agencies, and transport companies have been trained in the Center.

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SRL - SLAEI

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To participate in the international dialogue, the Center in 2017 became a member of the International Network of IAEA Nuclear Safety Training and Support Centers. The data on current and planned activities of NSTC can be found in the NSSC database.

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The Nuclear Security Training Center in Kazakhstan has become not only an element of national security, but also Kazakhstan's contribution to strengthening global nuclear security.

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