

Norwegian Radiation and Nuclear Safety Authority and Central Asia: Bilateral Cooperation 2018-2021

DSAs bilateral cooperation is financed through the Norwegian Governments Nuclear Action Plan, with allocation of funds from the Norwegian Ministry of Foreign Affairs. DSA has supported the completion of updated regulatory threat assessments in the field of radiation and nuclear safety and security by the regulatory bodies of Kazakhstan, Kyrgyzstan, and Tajikistan. A new “Roadmap” for future regulatory cooperation has been established for each country.



Picture 1. Stakeholders workshop in Bishkek, Kyrgyzstan, 2019 (Source: SAE&F, Kyrgyzstan)

The bilateral cooperation between DSA and Central Asian (CA) countries entered its third phase in 2018 with an updated set of regulatory threat assessments (RTA2). Bearing in mind the progress already made and reported in NRPA reports 2011:5 and 2016:7, these assessments were designed to provide an updated view and more comprehensive understanding of the more significant remaining radiation safety and security issues that are most in need of regulatory development. Accordingly, the RTA2 covered seven main areas: *organization and general principles of the regulatory body; safety of installations; transport of radioactive materials; radiation safety; emergency preparedness and response; radioactive waste management, including decommissioning and remediation; and radiation and nuclear security.*



Map of Central Asia. (Source: Wikipedia)

RTA2 assessments have been completed by the regulatory authorities in Kazakhstan, Tajikistan and Kyrgyzstan, with support from their TSOs and contributed advice from DSA experts. The basis for assessment was comparison with relevant international treaties, conventions and standards, corresponding recommendations and guidance, and shared experience of their application at the national level. The process of completing the RTA2 has helped the regulatory bodies to gain an overview of the current situation in each country concerning radiation and nuclear safety and security legislation and corresponding regulations, guidance and procedures.

A significant number of continuing, new and newly recognized threats have been identified, showing that important challenges remain to be addressed. *Figure 1* summarizes these threats in each topical area in each country. The distribution of these threats and the priorities for their resolution have emerged from discussions among the relevant stakeholder organizations in each country, e.g. see *Picture 1*, and the numbers should not be compared directly between countries. Based on the updated RTA2, a “Roadmap” for continued regulatory development has been prepared for each country. Each “Roadmap” provides a solid and comprehensive basis for further long term bilateral regulatory cooperation with the DSA, as part of wider international cooperation in the region.

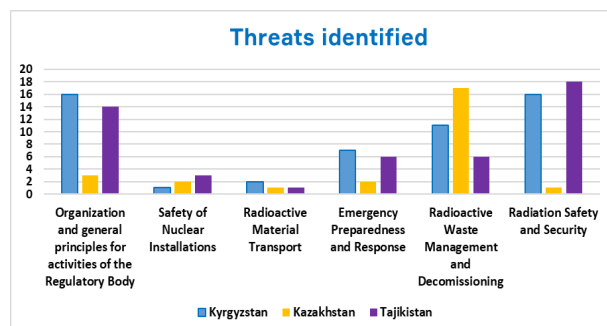


Figure 1. Summary of regulatory threats identified each topical area in each country.

Main threats identified in Tajikistan are related to “Radiation Safety”. The Law on Radiation Safety is a general document and does not include specific requirements related to radiation and nuclear medicine. Diagnostic Reference Levels for medical exposure have not been established in Tajikistan,

which are needed for the control and optimization of patient exposures.

In Tajikistan, the regulatory cooperation program has produced several permanent results as several improvements to laws, regulations and corresponding guidance have been officially approved and implemented. In addition, NRSA (Nuclear and Radiation Safety Agency, Tajikistan) provided additional quality control on the application of these documents, with support from IAEA. This has strengthened the position of the regulatory body and improved staff competence. However, continuing threats have been identified in RTA2.

In Kyrgyzstan, some important progress in the approval of the regulatory documents has been made. Between 2009 and 2012, two normative documents were approved by the Parliament: “Technical requirements for a systematic radiation monitoring scheme around the RW tailings dumps in Kyrgyz Republic” and “Regulatory guidance document on management of radioactive waste, including RW tailings piles and dumps”. However, in general, the position of regulatory bodies remains weak, and their individual roles and responsibilities are not optimally arranged. For example, according to a recent resolution of the Government, operational and regulatory functions connected with remediation of uranium legacy sites are combined in one organisation. This suggests a threat to the independent status of the regulatory body as well as restrictions on the organization of activities of the regulatory body. In addition, there is lack of safety and security assessment of sources of ionizing radiation as well as lack of qualified personnel for working with Tc-99m generators in medical organizations and a lack of quality control programs in X-ray rooms and CT installations.

Kazakhstan has the strongest possibilities to be the leading country in the region regarding the update and development of the legislative and regulatory framework. The following regulatory documents have been developed during 2011-2015: Draft law «On the radioactive waste management in the Republic of Kazakhstan (RK)»; Concept for the strategy of radioactive waste (RW) management in

the RK and proposal on introduction of a new classification of RW in the RK; Regulations for RW management in the RK prior to their disposal (RW predisposal management); Regulations for RW management in the mining industry of Kazakhstan; Regulations for RW disposal in the RK. Work has progressed to implement these changes.

The main threats requiring further regulatory attention in Kazakhstan relate to radioactive waste management. The absence of a final management strategy for spent fuel may be considered as one of the main threats that also impacts on decisions on construction of new nuclear power plant. There have been difficulties with obtaining official approval of crucial regulatory documents that have been drafted as part of the regulatory support program. These difficulties occurred apparently due to re-structuring of relevant organizations, further complicated by staff turnover. In February 2021, relevant amendments were approved to the Law on the Use of Atomic Energy in the Republic of Kazakhstan, revising the powers, responsibilities, and functions of state bodies concerned with nuclear energy use. This has clarified the responsibilities of government agencies and the interpretation of aspects of the laws "On the Use of Atomic Energy" and "On Radiation Safety of the Population."

The draft Concept of the Law of the Republic of Kazakhstan "On RW management" was developed and sent for approval to the ministries and specialized organizations and departments. The comments have been worked out and taken into account in the revised draft Concept. The draft Concept was presented at the meeting of the Atomic Energy Commission of the Public Council of the Ministry of Energy of the Republic of Kazakhstan. The decision of the Public Council established that the Concept should be approved in 2021, and the Law "On RW Management" should be approved in 2022.



Picture 2. 2019- side meeting at the Department of Agriculture and Ecology, Government of Kyrgyzstan. Participants from left to right: J. Rowat (IAEA), A. Zheenaliev (Government of Kyrgyzstan) M. Sneve, T.Zhunussova (DSA), B.Tolongutov (SAEP&F) (Source: DSA)

In 2019, the DSA and the State Committee on Industrial Safety (SISIM) of the Republic of Uzbekistan signed an MOU on "Cooperation in The Field of Nuclear and Radiation" – see Picture 2. SISIM did not take part in the comprehensive analysis of the regulatory situation, RTA2, but it is hoped that Uzbekistan will be able to benefit from continuing regulatory cooperation in the region.

An important feature of nuclear and radiation safety and security efforts in central Asia is international cooperation. For example, experience is shared and explored through expert groups and related workshops, such as the Tromso workshop on Regulatory Framework of Decommissioning, Legacy Sites and Wastes from Recognition to Resolution: Building Optimization into the Process. This was hosted in 2019 by the DSA and jointly organised with the Nuclear Energy Agency, in cooperation with the International Atomic Energy Agency (IAEA) and the International Commission on Radiological Protection – see DSA Report, May 2020, number 5.

Another important initiative in which DSA plays a leading role is the European and Central Asia Safety Network, or EuCAS network. This was created to support the strengthening of the nuclear and radiation safety infrastructure, see meeting of the EuCAS Steering Group in Picture 3. DSA also participates actively in the European Bank for Reconstruction and Development Environmental Remediation Account for Central Asia established in 2015.

Another important aspect of the international work in central Asia is the implementation of the “Strategic master plan” (SMP) on environmental remediation of uranium legacy sites. This was developed by the IAEA Coordination Group on Uranium Legacy Sites (CGULS) (Picture 4) and endorsed by central Asian countries in 2017. DSA has actively participated in CGULS since its inception. The SMP is a living document and provides a platform to review and prioritise remediation activities. A key strategic objective is to establish, through regional cooperation, a larger and more sustainable critical mass of knowledge and expertise within central Asia for undertaking remediation and regulating its safety. Crucially, this includes regulatory issues and corresponding support to national regulatory bodies. Based on the identified threats during bilateral cooperation with CA countries, it was possible to launch a project in 2019, led by the International Science and Technology Center of Kazakhstan. DSA as a Foreign Collaborator is assisting (Kazakhstan, Kyrgyzstan and Tajikistan) with developing a number of the regulatory documents related to remediation in the region.



Picture 4. Group photo of the CGULS, 2019 (Source: DSA)

The bilateral cooperation work described here, and the country specific Roadmaps are presented in detail in DSA Report, May 2021, number 1 (Picture 5). The results and future program are also discussed in a broad international context. It is anticipated that further opportunities for sharing of international experience will occur, extending beyond uranium related issues, such as the work of the recently set up NEA (Nuclear Energy Agency) Committee on Decommissioning and Legacy Management. Such activities are due to include conduct of international peer reviews and providing expert feedback to ensure that best practices in regulatory and technical methodologies are adopted in decommissioning and legacy management, which includes uranium legacy challenges. Given the need to manage and optimize limited regulatory resources, the work of the NEA Expert Group on development of a Holistic Process for Decision Making on Decommissioning and Management of Complex Sites will also be of significant interest.



Picture 3. 4th meeting of the Steering Committee (SC) of the European and Central Asia Safety Network (EuCAS) was held in the IAEA 14-15 May 2019 (Source: DSA)



Picture 5. DSA Report, May 2021 (Source -DSA)