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## Nuclear Legacy Sites in the CIS countries: Experience and Prospects for Cooperation

### INTRODUCTION

The first generation of nuclear facilities has already crossed the 75-year milestone. In the near future, the pioneering nuclear power units and fuel cycle facilities will be as old as sixty to seventy years of age. Many of them are no longer in operation today; they have been shut down and are waiting to be decommissioned. Passing on the nuclear back-end problems to future generations means that risks to the population and the environment will remain.

What is required for safe decommissioning of Nuclear Legacy Sites? Are there any successful practices and solutions? What helped a small, depressed settlement in Kyrgyzstan transform into the gem of Lake Issyk-Kul? What are the approaches to radioactive waste management that can make the nuclear power truly green?

The paper will describe Rosatom's experience and practices on participation in international cooperation programs to bring nuclear heritage sites to a safe condition and the activity of the TVEL Fuel Company as the CIS member states base organization for SNF and RW management and decommissioning.

### I. ROSATOM'S EXPERIENCE

- Remediation of the waste dump of the depleted uranium ore mining plant in Tajikistan

### II. TVEL FUEL COMPANY AS THE CIS MEMBER STATES BASE ORGANIZATION FOR SNF AND RAW MANAGEMENT AND DECOMMISSIONING

In June 2021, by decision of the CIS Economic Council, TVEL JSC was appointed as CIS member states base organization for SNF and RAW management and decommissioning. The activities of TVEL JSC as a base organization include a wide range of areas: consolidation and systematization of accumulated experience and scientific knowledge, development of common approaches, harmonization of the regulatory framework, personnel training and retraining, as well as direct assistance in implementation of projects and programs for decommissioning of nuclear facilities and environmental remediation, including construction and operation of storage and disposal facilities of radioactive waste.

### III. COMPLEX PROGRAM FOR BRINGING NUCLEAR LEGACY SITES TO A SAFE STATE: CONCEPT, METHODOLOGY FOR NUCLEAR LEGACY SITES RANKING, APPROACHES TO FINANCING

The concept of the program of cooperation in bringing nuclear legacy sites in the CIS countries to a safe condition covers six countries - Armenia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. According to preliminary evaluations, there are more than 40 nuclear legacy sites in these countries (shut-down nuclear power units, research reactors, RW storage and disposal facilities, SNF reprocessing facilities, uranium ore deposits, and tailing dumps).

- The main goal and current issues.
- Nuclear legacy sites.
- Nuclear legacy sites ranking methodology.
- Roadmap for implementation of the Program.
- Funding approaches of bringing nuclear legacy sites to a safe state projects in the CIS countries.

### CONCLUSION

The enormous sustainability potential for the nuclear industry lies in remediating Nuclear Legacy Sites. Such areas as environmental performance, nuclear and radiation safety, development of nuclear back-end technologies, and economic impact of nuclear decommissioning projects, can get a powerful boost in the long term.

### REFERENCES

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