

## Decommissioning and Remediation in the Russian Federation: Main Results and Future Plans

*Monday, 23 May 2016 12:00 (20 minutes)*

For a long time nuclear power and nuclear industry in Russia were operated under planned economy and state ownership. It was assumed that RW management and decommissioning activities were to be performed according to a predefined plan using state funds. Changes in the economic management system caused the accumulation of significant challenges in decommissioning and SNF and RW management. By mid-2000, the challenges facing nuclear industry were mainly associated with:

- ☒ over 150 shut-down nuclear and radiation hazardous facilities awaiting decommissioning, including 4 NPP units and 10 uranium production reactors;
- ☒ engineered barrier systems at certain nuclear and radiation hazardous facilities some of which operated for more than 50-60 years required urgent overhaul, including water reservoirs (Karachay, the Techa Cascade of water reservoirs, settling ponds) and tailings.
- ☒ accumulated SNF inventory that totaled 18 500 tons while SNF storage capacity at RBMK and EPG-6 reactor sites was almost exhausted;
- ☒ need for new disposal facilities designed for different RW classes;
- ☒ lack of a clear straightforward legal framework to address nuclear legacy challenges;
- ☒ absence of RW management and decommissioning funds;
- ☒ absence of real market providing engineering services in RW management and decommissioning.

In 2008, the federal target program “Nuclear and Radiation Safety in 2008-2015” was launched. It was carried out in parallel with conversion of nuclear entities into joint stock companies and the establishment of new requirements in RW and SNF management and decommissioning including certain legal standards, thus seeking to avoid further accumulation of issues. In 2015, the federal target program was completed and the Government of the Russian Federation approved a similar program for 2016-2030. The State Corporation “Rosatom” was appointed as the main contractor.

The report discusses the key milestones in the program deployment as well as the main results of nuclear legacy decommissioning and cleanup efforts. The primary focus is on:

- issues associated with safe retrieval of SNF and nuclear materials from nuclear facilities being part of pre-decommissioning efforts. Over 25,000 SFAs (RBMK-1000, AMB, all types of SNF from research reactors and nuclear-powered ships) were either delivered to centralized storage facilities or reprocessed under the program;
- legal framework development, establishment of a state RW management system covering the procedures for inventorying the accumulated RW, creation of new RW disposal facilities. The state of over 2,000 nuclear facilities has been assessed countrywide. In 2016-2030, relevant efforts are scheduled for many of them (the most hazardous ones). Based on integrated risk-cost analysis, strategic decisions have been justified for all legacy RW, practical solutions have been identified for many RW sites.
- actual situation in decommissioning. Under the program, efforts have been performed at 200 facilities, 53 of which have already been decommissioned, including a production uranium-graphite reactor, a number of nuclear fuel cycle facilities and research complexes;
- remediation of contaminated territories. 4,259,000 m<sup>2</sup> of contaminated lands have been remediated under the program;
- establishment of centers for decommissioning excellence;
- public attitude towards the nuclear back-end activities;
- current progress in nuclear submarines dismantlement and remediation of coastal bases. These efforts have been carried out for 15 years already, also under the Global Partnership Initiative;
- work plans for 2016 –2030.

### Country or International Organization

Russian Federation

**Type "YES" to confirm submission of required <br> Forms A and B via the official channels**

yes

**Primary author:** Mr KRYUKOV, Oleg (State Corporation "Rosatom")

**Presenter:** Mr KRYUKOV, Oleg (State Corporation "Rosatom")

**Session Classification:** Conference Opening Session 2