

Russian federal regulations and rules in the area of decommissioning: the current state and perspective for development

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The existing Russian safety requirements in the area of decommissioning began to form after release of Federal Law №170-FZ “On the Use of Atomic Energy” [1] in 1995, which defined facilities decommissioning as activity in the field of nuclear energy use.

Federal Regulations and Rules (FRR), which regulate safety of decommissioning, have been developed after release of Federal Law №170-FZ involving Russian nuclear regulatory body (Rostechнадзор) and its technical and scientific support organization (SEC NRS). They include:

- Rules on Safety Ensuring During Industry Reactors Decommissioning (NP-007-98);
- Safety rules for decommissioning of nuclear power plant unit (NP-012-99);
- Safety Rules for Nuclear Research Installations Decommissioning (NP-028-01);
- Rules on Safety Ensuring During Decommissioning of Ships and other Vessels with Nuclear Installations and Radiation Sources (NP-037-02);
- Safety Rules for Decommissioning of NFC Nuclear Installations Decommissioning (NP-057-04);
- General Safety Provisions for Radiation Sources (NP-038-11), which contain a separate section “Safety of decommissioning radiation sources”.

Common feature of the listed FRRs is accounting of decommissioning on the design stage of facility and acquisition of information important for decommissioning at the operational stage. Mentioned above FRRs establish requirements for:

- development of decommissioning program until facility permanent shutdown;
- conducting of comprehensive engineering and radiation survey;
- development of facility decommissioning project;
- preparation of safety report to be submitted to the Rostechнадзор to obtain the decommissioning license.

Various decommissioning projects have started in Russia in last years. They include decommissioning of NPP unit and research facilities. Besides that, Russian legislation in the field on nuclear energy use was changed significantly. In particular, changes have been introduced into Federal Law № 170-FZ [1] and Federal Law № 190-FZ “On the Management of Radioactive Waste and Amendment of Some Acts of the Law of the Russian Federation” [2] was put into force. The changes have shown the need to update the regulatory framework in force in the area of decommissioning.

Federal regulations and rules NP-091-14 “Safety Ensuring in Decommissioning of Nuclear Facilities. General Provisions”, which came into force in 2014, were developed on the first stage of regulatory framework updating. NP-091-14 covers all types of nuclear facilities and combines requirements common to decommissioning thereof. The IAEA documents were taken into account (in particular “Decommissioning of Facilities” GSR part 6 [3]) during development of NP-091-14. This document enshrined that decommissioning planning must be carried out through all stages of facility lifecycle, preceding its decommissioning.

Currently the next stage of regulatory framework revision is carried out –the improvement of FRRs, listed above. FRR, regulating safety during decommissioning of radioactive waste storage facilities is under preparation.

One of the requirement stated in all FRR revised, is that the operating organization must define possible decommissioning strategies at initial stage of facility’s lifecycle and select preferable strategy as result of comparing possible strategies. Implementation of final survey of facilities site after decommissioning completion to confirm that facility end-state have been met is another requirement.

The immediate dismantling, the deferred dismantling and entombment (or theirs combination) are provided as possible decommissioning strategies. Entombment is allowed only for the limited number of facilities which contain radioactive waste referred by the Resolution of the Government of the Russian Federation to the “special” waste.

References

1. Federal Law №170-FZ, dated 21.11.1995, “On the Use of Atomic Energy”
2. Federal Law №190-FZ, dated 11.07.2011, “On the Management of Radioactive Waste and Amendment of Some Acts of the Law of the Russian Federation”
3. INTERNATIONAL ATOMIC ENERGY AGENCY, Decommissioning of facilities. IAEA Safety Standards Series, № GSR part 6, Vienna (2014)

Country or International Organization

The Russian Federation

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