Nuclear decommissioning assistance programmes in Bulgaria, Lithuania and Slovakia 2014-2020

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The Commission presents its report on the implementation of the work under the nuclear decommissioning assistance programme to Bulgaria, Lithuania and Slovakia in 2019 and previous years.

In June 2019, the Commission established the mid-term evaluation report of the European Union nuclear decommissioning assistance programmes in Bulgaria, Lithuania and Slovakia.

The present report follows up the evaluation and reviews the further accomplishments obtained in 2019.

Progress and performance

The Commission stated that to date, progress against the objectives is generally satisfactory and the cost of the work has been as planned.

Bulgaria - Kozloduy programme

The Kozloduy programme made significant progress on dismantling in the auxiliary buildings, e.g. completing the dismantling of equipment in the turbine hall in August 2019, a year earlier than scheduled. The plasma melting facility, a first-of-its-kind facility for the high-performance volume reduction of radioactive waste, started operations in November 2018 (target: March 2018) and continued with the support of the system provider until the end of 2019. It is now in industrial operation and the technical and financial evaluation of the first operational campaign will be finalised in 2020.

The similar design of the Kozloduy and Bohunice reactors provides an excellent opportunity to share experiences, methods and tools. This knowledge-sharing reduces risks and cost. The end date of the programme (2030) was reconfirmed.

Slovakia – Bohunice programme

The Bohunice decommissioning programme is the most advanced of the three programmes assisted by the EU and will probably see the first complete decommissioning of a VVER-type reactor. The programme made substantial progress in 2019. After completion of the dismantling of the turbine hall equipment and the auxiliary buildings, including the demolition of the four cooling towers, the dismantling of the large components in the reactor building started in earnest.

By July 2019, all 12 steam generators, each made up of 145 tonnes of steel, had been removed from the reactor building and transported to the former turbine hall. In the second half of 2019, the pressurisers were cut up and the construction started of two wet-cutting workshops in which the reactor internals will be segmented under water. The decommissioning is scheduled to be completed by 2025.

Lithuania – Ignalina programme

The reactor design includes a large graphite core. Its decommissioning is a first-of-a-kind challenge and is scheduled to last until 2038. The decommissioning process is therefore at an earlier stage: currently the

spent-fuel assemblies are being safely stored in a new dedicated facility. The transfer operation is expected to last until July 2022. Meanwhile, preparations are under way to dismantle the reactor cores. A thorough process of identification and assessment of available options (scheduled for 2022) aims to mitigate the risks involved.

Main conclusions

In line with expectations, Bulgaria, Lithuania and Slovakia continued to make effective progress in decommissioning their nuclear power plants in 2019. Indications to date are that greatly improved safety levels will be achieved at the sites as a result of EU funding under the 2014-2020 MFF. The completion of the decommissioning programmes up to their planned end-state will require additional funding. In 2018, the Commission adopted proposals for the programmes continuation in 2021-2027. They lay down inter alia national contribution levels, thus removing remaining uncertainties regarding the required funding.

Future developments

The outlook for 2020 promises further major developments:

Bulgaria

- progress will have to be made on the management of legacy waste, and decontamination and dismantling activities in the reactor building;

Slovakia

- steady progress is expected in dismantling large components from the reactor building, including the reactor vessels, leading to the last stage of decommissioning;

Lithuania

- the very low-level waste disposal facility will be used for the first time;

- construction of the low-level waste disposal facility will start; and

- preparations for dismantling the irradiated graphite core will move to concrete action with expert support.

For the three programmes, the Commission will carry out a study on the earned value management systems already in place in order to identify best practices and possible routes for ongoing improvement.