

Romanian electricity producer Nuclearelectrica, the operator of nuclear power plant Cernavoda, announced the advancement of the project for the refurbishment of the plant's unit 1, by signing the first contract with Candu Energy, a member of the SNC-Lavalin Group, the OEM (Original Equipment Manufacturer) of the CANDU technology in phase II of the project.

Within the contract, Candu Energy will provide engineering services for the development of the technical documentation for the procurement of long-lead reactor components, which will be replaced during the refurbishment of unit 1, within the project referred to as reactor retubing. Also, Candu Energy will offer engineering services for the assessment of the conditions of the set of specialized tools which will be used for the replacement of the reactor components and the developing of the documentation for the procurement of the components which need to be replaced/modified.

CANDU reactors have an initial lifecycle of 30 years, which can be extended by another 30 years, following a refurbishment process, and this is what Nuclearelectrica is currently doing for unit 1, which was put into commercial operation in 1996.

According to the report of the International Energy Agency (IEA), in collaboration with the Nuclear Energy Agency (OECD-NEA), prepared in 2020 with regard to the costs of electricity, the refurbishment of nuclear units has the lowest cost of electricity among all sources of energy - on average 32 dollars/MWh (compared to 50 dollars/ MWh for wind energy; 56 dollars/MWh for solar panels; 91 dollars/MWh for coal-fired plants). The cost of energy generated by new nuclear capacities is 69 dollars/MWh, according to the same report.

The refurbishment of unit 1 of NPP Cernavoda NPP is one of the main investment projects implemented by Nuclearelectrica and was approved by the its shareholders in December 2013. The project, initiated in 2017, is implanted in three stages.

Phase I was carried out in the period 2017-2022 and consisted of demonstrating the capability of the current components of the reactor of unit 1 to operate for more than 210,000 hours at the rated power, until at least the end of 2026, as well as demonstrating the feasibility of the project, a stage that was completed in February 2022.

Phase II of the project was launched in February 2022. The estimated cost of the investment is 1.85 billion euros. Phase II will be carried out in the period 2022-2026 and consists of providing the financial resources for carrying out the project, negotiating and granting the Engineering, Procurement and Construction (EPC) contracts; procuring equipment with a long manufacturing cycle; assessing, preparing and scheduling the activities to be carried out, obtaining the opinion of the European Commission, as well as obtaining all the authorizations and approvals necessary to start the project.

Phase III, which will be carried out in the period 2027-2029, starts with the shutdown of unit 1 and consists of the actual performance of the works on the unit's refurbishment and

Romania, Nuclearelectrica announced the advancement of the project for the refurbishment of the plant's unit 1

its recommissioning, in order to be commercially operated for another lifecycle of 30 years, after 2029.