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**ENDORSED**  
**Chairman of the Board of Directors**  
**Teodor Chirica**

### **NOTE**

**regarding the approval of the change in the Strategy for the Implementation of the Investment Project “Tritium Removal Facility for Cernavodă NPP”, as an effect of updating the amount of the investment based on the price increase indexes between 2018 and 2022 and by including certain additional costs, which were not initially considered**

#### **1. Presentation of the background**

By Resolution no. 9 dated 22 August 2018 of the Extraordinary General Shareholders Assembly (EGSA) of SNN, the Strategy for the Implementation of the Investment Project “Tritium Removal Facility for Cernavodă NPP” was approved, based on the Feasibility Study rev. 11, which provides for the implementation of the project under a mixed contract of works, services and products, the so-called “turnkey contract”, which should include the preparation of the detailed design, the procurement of the necessary equipment and materials, the execution of the construction and installation works, the training of the operating and support staff for commissioning and testing (FIDIC Plant and Design-Build - Yellow Book, edition 1999), with an economic operator which has the specific expertise required. The total cost of the investment, according to the General Estimate, at the level of the year 2018 was estimated to the amount of RON 895,247,882, the equivalent value of EUR 190,478,273, of which **RON 612,965,309**, the equivalent value of **EUR 130,418,151** at the exchange rate of RON/EUR 4.7, representing the cost of the actual execution works.

Subsequently, according to the Decision of the SNN Board of Directors (BD) no. 172/21.08.2020, the initiation and conduct of the procurement procedure for the CTRF execution works was approved, together with and based on the EBRD “Two Stage Open Tender” procedure, which was cancelled after the pre-qualification stage, given the lack of qualified competition. According to the Decision of the SNN Board of Directors no. 78/17.04.2021 the procurement was resumed in the same time with extending the possibilities for demonstrating the technical and managerial abilities of fulfilment of the qualification requirements. Considering that no competition level corresponding to the EBRD requirements was obtained this time also, (a single tender was qualified of those three submitted), by Addendum 1/07.07.2022 to the Mandate Letter, SNN and EBRD decided to terminate the agreement related to financing the execution of the facility by EBRD.

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Given the above, the SNN Board of Directors issued Decision no. 171/09.09.2022, which approved the initiation of the procurement procedure and the contracting strategy related to the “Works for the execution of the Tritium Removal Facility for Cernavodă NPP”, by applying the Competitive Negotiation procedure, regulated by Law no. 99/2016 on sectoral procurement, the contractual mechanism used being FIDIC Yellow (Plant and Design-Build), edition 1999. At the same time, the amount of the investment was updated based on the price increase indexes between 2018 and 2022, by including the amount of the administrative building necessary for the staff involved in the implementation of the project and the capitalization of the component of the remuneration for this staff, the new amount being RON 1,246,832,368, respectively EUR 254,455,585, of which the cost of the execution works was estimated to **RON 988,904,484**, the equivalent value of **EUR 197,780,897**, at an exchange rate RON-EUR forecasted to RON/EUR 5 at the end of October 2022.

## **2. Benefits and technical and economic parameters of the project**

The implementation of “Tritium Removal Facility for Cernavodă NPP” project (CTRF) shall ensure keeping the tritium concentration from heavy water contained in the nuclear systems of the plant at a low level, thus contributing to the reduction of the contribution of tritium to the doses of the operating staff, the reduction of the radioactive emissions in the environment and of the quantities of radioactive waste.

By implementing this project, a series of benefits will be obtained, as follows:

- The reduction of operational costs due to the significant reduction of the necessary radioprotection materials associated to the tritium related hazard;
- Simplification of the access in radiological areas and the reduction of the duration of the maintenance/repair works;
- Optimization in applying ALARA – „As Low As Reasonably Achievable” principle, respectively radioprotection, for the purpose of ensuring that all exposures, including those potential ones, within the performed practice be kept at the lowest reasonably possible levels, taking into account the economic and social factors. This principle is a legal requirement, according to the provisions of Article 16 of NSR-01 - “Fundamental Norms for Radiological Safety”;
- The cost reduction related to the management of waste resulting from the normal operation of units;
- Reduction of the duration of planned outages;
- Support for refurbishment, by reducing the costs of radioprotection materials and the cost of the radioactive waste management;
- Revenue resulting from the tritium saling;
- Provides the possibility of valorisation of de-tritiated heavy water;
- Reduction of additional costs for the management of tritiated heavy water upon decommissioning.
- Reduction of costs related to decommissioning.

The facility will provide the following design and operational key parameters:

- Heavy water processing capacity: 40 kg/hour;
- The concentration of tritium in the moderator heavy water at the beginning of operation: >54 Ci/kg;
- Detritiation factor (DF): 50-100;
- Isotopic composition of D2O (supply): min. 99% (primary system) and min. 99.7% (moderator);

- Tritium purity (stored) min. 99%;
- Availability: for at least 40 years.

### 3. Stages of the works procurement procedure

In accordance with the Decision of the SNN Board of Directors no. 171/09.09.2022, the following stages of the procurement procedure were taken:

- The approval of the Strategy and of the award documentation (DIA), obtaining the ANAP conformance opinion and the publication of the award documentation in SEAP and JOUE;
- The submission of the application by KHNP, the qualification of the candidate, obtaining the opinion of ANAP and issuance of the invitation for tender in the second procedure stage (submission and negotiation of tenders);
- Submission of the preliminary proposal, assessment, clarification and negotiation of the tender;
- Submission of the reviewed proposal according to negotiations;
- Submission, assessment and acceptance of the final tender.

Given the above, upon drafting this Note, the following major steps shall be taken until the completion of the procedure:

- Obtaining the opinion of ANAP for the technical, financial offer and the Procedure Report;
- Endorsement/Approval of the Final Procedure Report at the level of the SNN management;
- Issuance of ANAP Opinion for the final Procedure Report approved by DG;
- Transmission of the communication (Letter of Acceptance) to the tenderer (KHNP);
- Contract approval at the level of SNN corporate bodies and contract signature by SNN-KHNP;
- Issuance of the Performance Bond by KHNP (within maximum 28 days from the Letter of Acceptance);
- Contract effective date (Commencement Date).

The technical and financial proposal in its final form, negotiated with KHNP Company, fully covers the requirements regarding the carrying out of the detail design, the procurement of the equipment and materials necessary for the project, the execution of the construction and installation works, the training of the operating, engineering and maintenance staff, commissioning and trial run of the facility, until its transfer to Cernavodă NPP.

The tender provides for the use of the catalyst (an essential component of the technology of isotopic separation of tritium) and of the isotopic exchange columns produced by ICSI Râmnicu Vâlcea, and thus, will ensure the valorisation of the results of the Romanian researches in this field, as well as the independence of the supply chain for the catalyst, under the circumstances of an international situation likely to become volatile.

The negotiated duration of works, including the trial run, shall be of **50 months**, and the negotiated amount of the contract is **EUR 195,324,868**, including the provisional sum (EUR 1,000,000) and the cost of the consumables necessary for the first two years of operation (EUR 695,903).

#### **4. Proposals subject to the endorsement of the SNN Board of Directors and approval of the Ordinary General Meeting of Shareholders of SNN**

Given the above, and considering that:

- ✓ The negotiated value of works contract having in scope the execution of Works for Tritium Removal Facility for Cernavoda NPP is lower than the amount of EUR 197,780,897, initially approved upon initiation of the procurement;
- ✓ The fact that the update of the general investment estimate determined a total value amounting to EUR 254,092,262, in the conditions of a value initially approved by the SNN Shareholders in 2018 of EUR 190,478,273;
- ✓ The provisions of the updated SNN Articles of Association (By-Laws), respectively the provisions of art. 13 parag.(2), letter h), stating that the Ordinary General Meeting of Shareholders approves the company strategy and development politics,.

we submit it for endorsement by the SNN Board of Directors and approval of the SNN Ordinary General Meeting of Shareholders **the change in the Strategy for the implementation of the “Tritium Removal Facility for Cernavodă NPP” Investment Project** for the purpose of:

- a. increasing the approved value of the investment to the amount of EUR 254,092,262
- b. increasing the value of the initially approved execution works, from EUR **130,418,151** at the exchange rate RON/EUR 4.7, to the new amount, of **EUR 195,324,868**, at the exchange rate of RON/EUR 5, as a result of the update of the investment value based on the price increase indexes between 2018 and 2022;

In the same time we inform the company shareholders on the conclusion of the sectoral contract having as object “**Execution works for the Tritium Removal Facility for Cernavodă NPP**” with **Korea Hydro & Nuclear Power Co. Ltd. Company**, which ensures the fulfilment of all performance requirements of the facility, this contract having a completion duration of 50 months, a guarantee period for works of 5 years and the amount of **EUR 195,324,868**, the contractual mechanism used being FIDIC Yellow (Plant and Design-Build), edition 1999.

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