

NUCLEARELECTRICA

Endorsed,

**Robert Tudorache Chairman of the Board of Directors** 

NOTICE

regarding the submission for approval by the Ordinary General Meeting of Shareholders of S.N.

Nuclearelectrica S.A.

of

the "Long-term Strategy for the development of the intermediary dry spent fuel storage facility and authorization for the extension of the lifetime of Units 1 and 2 harmonized with the observations of CNCAN and the Ministry of Environment", as revised (IR-35370-006, Rev. # 6)

#### 1. <u>Background presentation</u>

The "Long-term revised strategy for the development of the Intermediary Dry Spent Fuel Storage Facility (DICA) and authorization for the extension of the lifetime of Units 1 and 2 harmonized with the observations of CNCAN (National Commission for the Control of Nuclear Activities) and those of the Ministry of Environment and Climate Change" was approved through the Resolution of the Ordinary General Meeting of Shareholders no. 5/07.18.2016.

The Presentation Report, document of Cernavoda Nuclear Power Plant (NPP) with code IR-35370-006, Rev.#6 and no. SIPR 19-006/April 10, 2019, presents the revised strategy for the development of the Intermediary Dry Spent Fuel Storage Facility (DICA), as a result of the changes in the estimated deadlines for commissioning Units 3 and 4 and in the date of completion of the Final Geological Repository, aimed at expanding the dry spent fuel storage capacity with a view to extending the lifetime of each unit/cycle from 210,000 EFPH (effective full power hours) to 235,000 EFPH, as well as extending the service life for Units U1/U2 by another life cycle.

The revised strategy is drafted so as to comply with the requirements of intermediate storage of spent fuel originating from Units 1 and 2, as well as Units 3 and 4, following the provisions of the environmental agreement for Units 3 and 4 issued through Government Decision no. 737/2013, as well as following the request of the Ministry of the Environment (MM) transmitted through letter no. 14316/08.17.2016, to handle in an integrated manner the intermediate storage of the burned fuel originating from Units 1÷4. located in the premises of Cernavoda NPP.

In order to respond to the request of the Ministry of the Environment, Cernavoda NPP drew up

Report IR-35370-006, Rev. # 6, a document which also analyzes the variant according to which the spent fuel bundles, resulting from the operation of four units (U1, U2, U3 and U4), over the period of two 235,000 EFPH cycles, will be stored in the modules to be built also in the premises of DICA, in compliance with the provisions of Government Decision no. 737/2013, chapter III, section 2, subsection 4, b.4), with the observations of CNCAN to IR-35370-006 rev.1 transmitted through letter no. 50620/11.22.2013, point 3, registered with the NPP under no. 268/11.22.2013, as well as the SNN Technical-Economic and Scientific Council's Endorsement no. 5/June 08, 2017.

As regards the construction of the resulting modules necessary for the storage of spent fuel originating from Units 3 and 4, this is not an obligation incumbent on SNN-Cernavoda NPP but will be an object of interest for the entity that will provide the management of Units 3 and 4.

## 2. <u>Current situation</u>

The DICA Project, as approved, is founded on the construction of MACSTOR 200 modules and consists in the storage of spent fuel that meets the thermal storage conditions in 27 monolithic concrete modules, arranged on 3 rows, each module comprising 20 storage cylinders consisting each of 10 baskets, with an overall capacity of 12,000 bundles.

At present, in the DICA premises, there are ten MACSTOR 200-type storage modules, of which 9 are fully occupied and sealed by the International Atomic Energy Agency (IAEA), and module no. 10 is occupied up to 0.5%.

The current development stage of the storage facility is based on the construction of module 11 of the MACSTOR 200 type, on DICA row 2, which will be completed, according to the performance schedule, by the end of April 2020.

## Cost analysis in relation to the approved value of the DICA investment

Through the Decision of the Extraordinary General Meeting of Shareholders no. 6/07.18.2016, the DICA Investment Project revised on the basis of the "Update of the Feasibility Study for DICA rev. 1", was approved, with an approved value of the investment of **RON 604.57 million.** The DICA strategy approved by the shareholders in 2016 involved continuing the construction of two more modules (8 and 9) of the MACSTOR 200 type, following that, from module 10 on, 21 more M400-type modules should be built.

From 2016 to the present, modules 8 and 9 of the MACSTOR 200 type + Portal crane for Row 2 of modules were built, with an investment value of **RON 25.92 million**, and works were contracted for the execution of modules 10 and 11, Type MACSTOR 200, with an investment value of **RON 22.58 million**.

The strategy proposed through IR-35370-006, rev. 6 leads to a change in the necessary number of modules, as compared to the variant approved in 2016, by building 6 more modules of the MACSTOR 200 type (modules 12 to 17), following that, from module 18 on, 20 more modules of the MACSTOR 400 Type should be built, so as to provide the storage capacity for spent fuel originating from two operating units, U1 and U2, for two life cycles (according to VARIANT I of IR, rev. 6).

As regards the costs associated with this change of strategy, we consider that, despite the increase in the number of modules, according to VARIANT I of IR, rev. 6, this does not involve increases in the already approved value of the concerned investment project, i.e. RON 604,567.54 thousand, given that, as a result of contracting the modules execution works through open tender procedures, the tendered values constantly amounted to 80% of those estimated.

Therefore, by comparison with the value approved in the General Meeting of Shareholders of SNN, the DICA investment costs in VARIANT I are

## With the Final Geological Repository (DGF) completed in 2055:

RON 387.85 million + RON 48.50 million (modules 8 - 11 M200) = RON 436.35 million < RON 604.57 million

#### Without the Final Geological Repository:

RON 585.76 million + RON 48.50 million (modules 8 – 11 M200) = RON 634.26 million < RON 604.57 million

Considering the situation in which the tendered values, following open tender procedures, amounted to 80% of the estimated values, the DICA investment costs, in the variant without a Final Geological Repository completed by 2055, may be estimated as amounting to:

# 80% x RON 585.76 million + RON 48.50 million (modules 8 – 11 M200) = RON 517.11 million < RON 604.57 million

It results from the above analysis that the extension of DICA in VARIANT I of IR, rev. 6, the variant of interest for SNN which provides for the management of units U1 and U2, requires costs that fall within the DICA investment value, as approved by Decision of the Extraordinary General Meeting of Shareholders no. 6/07.18.2016.

#### 3. <u>Proposals submitted for approval</u>

Given the above and taking into account the following:

- ✓ The fact that, through the Decision of the SNN's Board of Directors no. 138/18.09. 2019, the "Long-term Strategy for the development of the Intermediary Dry Spent Fuel Storage Facility and authorization for the extension of the lifetime of Units 1 and 2 harmonized with the observations of CNCAN and the Ministry of Environment" revised (IR-35370-006 rev.6), was endorsed in Art. 1;
- ✓ The fact that the "Long-term Strategy for the development of the Intermediary Dry Spent Fuel Storage Facility and authorization for the extension of the lifetime of Units 1 and 2 harmonized with the observations of CNCAN and the Ministry of Environment" involves a strategic approach that the SNN is to take for the fulfillment of its national and international legal obligations and of the conditions imposed by CNCAN in the plant's Operating License, in relation to the obligation to ensure the appropriate capacities and conditions for the dry storage of spent fuel in DICA;
- ✓ At the same time, according to the provisions of Art. 13 par. 2 letter h) of the updated Articles of Incorporation of SNN, the authority to approve the development strategy and policies of the company is incumbent on the Ordinary General Meeting of Shareholders,

we submit to the approval of the Ordinary General Meeting of Shareholders of SNN the following:

The "Long-term Strategy for the development of the intermediary dry spent fuel storage facility and authorization for the extension of the lifetime of Units 1 and 2 harmonized with the observations of CNCAN and the Ministry of Environment" as revised (IR-35370-006, Rev. # 6)

Cosmin Ghiță General Manager

Dan Laurentiu Tudor Deputy General Manager Adrian Dumitriu Chief Financial Officer

Laura Constantin Legal Division Director Romeo Urjan Chief Operating Officer