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NUCLEARELECTRICA AND THE ROMANIAN ATOMIC FORUM JOINT POSITION ON THE EUROPEAN COMMISSION DRAFT OF THE COMPLEMENTARY DELEGATED ACT AND TECHNICAL SCREENING CRITERIA FOR NUCLEAR ENERGY

SN Nuclearelectrica SA (SNN) and the Romanian Atomic Forum ("ROMATOM") welcome the inclusion of nuclear energy in the draft Complementary Delegated Act (CDA) issued by the European Commission on December 31, 2021, considering that this energy source is a vital component of a diversified and resilient energy mix. In the context of rising energy prices and the post-crisis economic recovery, we appreciate the recognition of the benefits of nuclear energy as a low carbon energy source, available 24/7, for which there is a rich operating experience in the pro-nuclear Member States. We are convinced that a decarbonised and energy-independent Europe by 2050 is not possible without nuclear energy.

In this context, we believe that **a number of both technical and procedural issues should be clarified and improved** to ensure that CDA fulfills the role for which it was created, namely to support sustainable investment in nuclear energy and is applicable in practice.

An important aspect that needs to be clarified is **the assumption by the European Commission of new prerogatives in the field of nuclear safety** and the establishment of technical screening criteria regarding the characteristics of nuclear technologies, by promoting subsidiary legislation, which infringes on the nuclear safety directives and provisions of the EURATOM Treaty. The Commission has the possibility to issue recommendations, but is not the competent authority for imposing standards and requirements (especially on the requirement to use the best available technologies, accident-tolerant nuclear fuel, the use of in-depth protection concepts, etc.).

Licenses for new nuclear projects and project modifications are issued by the **national nuclear regulatory authorities in each MS** on the basis of the specific regulatory framework derived from the Nuclear Safety Directives, the Nuclear Safety Convention and the descriptive parameters included in standards issued by the International Atomic Energy Agency (IAEA) and the Association of Nuclear Regulators (WENRA). **The independence and autonomy of national regulators are strictly guaranteed** by a legal framework approved at the level of EU Regulations and Treaties, which cannot be changed by a lower-level CDA-type legislative act. The European Court of Justice strengthened this fact[1].

We believe that the CDA should respect and reflect the current regulatory framework in the field of nuclear safety and the parameters of nuclear technologies, without making changes that could delay or jeopardize projects with a high degree of nuclear safety, with a vital role in ensuring energy security and prosperity within the European Union.

SNN and ROMATOM noted a series of **other technical and procedural aspects** with potential impact on nuclear projects in Romania (life time extention of Cernavoda NPP Unit 1, completion of Units 3 and 4, implementation in Romania of Small Modular Reactors or the deployment of

[1] Judgment of the Court of 10 December 2002-Commission of the European Communities v Council of the European Union, Case C-29/99, https://curia.europa.eu/juris/showPdf.jsf?docid=47577&doclang=EN

generation IV ALFRED reactor by the Institute for Nuclear Research in Pitesti, currently in the research-development phase), as follows:

(i) An additional requirement is included, regarding the mandatory notification to the European Commission of all nuclear projects [preamble, recital (11)], regardless of their value threshold set out in the Annex to the EURATOM Treaty, which gives new powers to the Commission to monitor and potentially censor nuclear projects. The practical application and added value of such a requirement is unclear to MS, Romania included.
We propose that this requirement is removed, maintaing the current notification framework for nuclear installations under art. 41 of the EURATOM Treaty.

(ii) We do not consider it appropriate **to connect the notification of nuclear projects**, under art. 41 of the EURATOM Treaty, with the notification under Articles 10 (2) and Article 17 of Regulation (EU) 2020/852 [CDA, recital (11) and Annex I, Section 2.26, Technical Safety Criteria (TSC), item 2 as well as Sections 2.27, respectively 2.28, item 3], these being two distinct procedures, which must be the subject of separate notifications.
The requirement of notification under Article 41 of the EURATOM Treaty is a clearly defined established process in the existing legislation. We propose the removal of the criteria regarding the notification under Article 10 (2) and Article 17 of Regulation (EU) 2020/852 from the CDA, only maintaining it as an obligation under the Taxonomy Regulation.

(iii) We noted that, under the CDA, nuclear energy is not qualified as having a significant contribution to climate change mitigation, being labelled as a transitional energy source to a decarbonized economy. This qualification does not reflect the significant role that nuclear energy plays in reaching the long-term carbon neutrality objectives of the EU, discouraging the investors appetite for new nuclear projects.
Proposal: Nuclear energy to be qualified as a substantial contributor to climate change mitigation, consistent with the art. 10 (1), letters c, g and h, of the Taxonomy Regulation (2020/852).

(iv) **We noted the inclusion of a time limitation** (*sunset*) **clause for "*the construction and safe operation of new nuclear installions*"** subject to the release of the construction permit by 2045 [CDA, Annex I, Section 2.27, *Description of activity*], as well as for "***the modification of existing nuclear installations for the purposes of extension"***, subject to an authorisation issued by the national competent authorities by 2040 [CDA, Annex I, Section 2.28, *Description of Activity*]. We believe that these limitations affect the feasibility of the climate neutrality objectives by 2050, inducing higher transition costs and jeopardizing funding for nuclear projects, including advanced reactors, such as Small Modular Reactors or future fourth-generation nuclear reactors. Several MS, including Romania have included SMRs in their long term decarbonization strategies and have committed research funds to generation IV reactors. Considering the long-term role of nuclear energy to climate change mitigation, "*by providing a stable baseload energy supply",* which facilitates "*the deployment of intermittent renewable sources and does not hamper their development*" [CDA, recital (6)], we believe that such time limitations affect fair competition on the market and should be eliminated.

(v) **Requirement for the use of Accident Tolerant Fuel** (ATF) [CDA, recital (8)], for new nuclear projects ([CDA, Annex I, Section 2.27, TSC, item 2], as well as for life time extention of the existing nuclear installations [CDA, Annex I, Section 2.28, TSC, item 2]). We would like to draw attention to the fact that this technology is still in the research stage, not approved in any EU Member State, therefore we consider that such a technical screening criterion cannot be supported because it would practically block all nuclear projects.
ATF requirement to be removed.

(vi) **Requirement for the construction of a (final) geological repository by 2050 for high radioactive waste, including spent nuclear fuel,** for the pre-commercial stages of advanced technologies, for the construction and operation of new nuclear power plants and for existing power plants in operation [CDA, Annex I, TSC, point 1 (f) of Sections 2.26, 2.27 and 2.28 respectively] is not justified from a technical and economic stand point. Nuclear utilities and the industry recognize the fact that the final geological storage solution is absolutely necessary, the safe technological concept already exists, but we believe that the commissioning of large-scale operational geological disposal facilities must be harmonized with the nuclear energy strategy and the nuclear fuel cycle in each Member State, as well as the level of the collected funds.

At EU level, nuclear programs are in various stages of development. Member States such as Poland intend to launch nuclear programs in the near future, for example. '*A one size fits all solution'* is counterproductive in this situation. For example, for a nuclear reactor scheduled to enter commercial operation by 2030 (like the case of Unit 3 of the Cernavoda NPP), the geological repository will not be necessary for a certain period of operation of the plant, when the spent fuel will be accommodated within **interim-spent fuel storage facilities located on site** (as currently practiced in Units 1 and 2), ensuring both cooling and a significant reduction in radioactivity throughout the operation of the unit. Thus, the storage costs are optimized and the conditions for the transport of the spent fuel to the final geological repository, usually located at a distance from the plant, are much safer, avoiding simultaneous investments, carrying higher costs.

We propose that the requirement regarding the geological repository by 2050 be a non-binding recommendation in sections 2.26, 2.27 and 2.28, the construction schedule at national level to be harmonized with the life cycle of the nuclear units.

(vii) **The requirement for the operational final storage for low and intermediate level radioactive waste at the time of notification of a new nuclear project** [(CDA, TSC, point 1 (e) of the ADC, Annex I, Section 2.26 and 2.27 and 2.28 respectively], has to be harmonized with the on-site **interim** storage capacity of low and intermediate level radioactive waste as defined by the project. **The construction, operation and maintenance of a final repository for low and intermediate level radioactive waste at the time of notification of a new nuclear project is not feasible**, especially for Member States building the first nuclear power plants.

In both cases mentioned above, there is a technical optimum regarding the level of radioactivity, at which both, the spent fuel and/or the low and intermediate radioactive waste can be safely transferred from the interim storage, located on the sites of nuclear power plants to the respective final repositories. The problem must also be addressed from an economic perspective, involving an accelerated collection of funds necessary for the construction of final repositories. In case of a new project such funds are not yet collected, for the activities provided in Sections 2.26 and 2.27 or are insufficient for the activity contemplated in Section 2.28.

We propose that the requirements, reffered to at (vi) and (vii) above, have an indicative nature (non-binding), knowing the fact that control mechanisms regarding the accumulation of the necessary funds for the construction of final repositories for low, medium and high-level radioactive waste **are already in place, including in Romania**.

(viii) **Excluding uranium mining, processing and nuclear fuel manufacturing activities,** despite the conclusions of the report "Technical Assessment of nuclear energy with respect to the 'do not significant harm' criteria of Regulation (EU) 2020/853 ('Taxonomy Regulation)'", developed by the Joint Research Center in 2021, at the request of the

European Commission, which considers them sustainable with existing technologies. The existence of an integrated nuclear fuel cycle is vital for the development of nuclear programs. Excluding these activities from the taxonomy will lead to the relocation of an entire industry outside the EU and an increase in reliance on raw material imports. Romania, through the recent steps of integrating the natural Uranium Processing Plant with the nuclear power producer, and granting to Nuclearelectrica the mining license for uranium ore in the Tulgheț-Grințieș perimeter, is firmly committed to the development of an integrated and independent nuclear fuel cycle at national level, capitalizing on the domestic potential.

We propose to include these activities in the CDA

(ix) **The transition to a circular economy criterion** [CDA, Annex I, TSC, Additional criteria, item (4) of Sections 2.26, respectively 2.27 and 2.28] addresses "*the maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy*". It is without doubt that the reprocessing of spent fuel to reduce the high-level wastes and to extract fissile material that can be used in the future in fast reactors, is included under this criterion. The reprocessing of the spent fuel falls within the area of competence of the Treaty on the Non-Proliferation of Nuclear Weapons due to the plutonium obtained, discouraging the transfer of fissile material between the signatory parties, requiring special guarantees. For Romania, "*The National Medium- and Long-Term Strategy on the Safe Management of Spent Nuclear Fuel*" provides by exemption the intra-Community transfer, export, respectively import of radioactive waste or spent nuclear fuel, for processing, with subsequent return of the treated radioactive waste resulting after re-processing. However, **Europe's limited capacity to recycle spent fuel, represent a matter of concern.**

We therefore propose a rewording of the first paragraph of the circular economy criterion in order to change its nature from a mandatory requirement to an indicative, non-binding one, as follows:

"A plan for the management of both non-radioactive and radioactive waste is in place and ensures ~~maximal reuse or recycling~~ **the safe and economically feasible disposal, including through reuse and recycling, where possible,** of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, **in compliance with the waste management strategies adopted at national level,** the reflection in financial projections or the official project documentation"