Provisional Translation

On Revised Medium-Term Implementation Plan for Spent Nuclear Fuel Reprocessing by the Nuclear Reprocessing Organization of Japan
－ Views of the Japan Atomic Energy Commission －

March 21, 2024
Japan Atomic Energy Commission
Cabinet Office, Government of Japan

In response to the request by the Minister of Economy, Trade and Industry as of March 6, 2024 (20240304, Document No.18)[1], the Japan Atomic Energy Commission (hereinafter referred to as "the Commission") hereby presents its views on the revised Medium-Term Implementation Plan for Spent Nuclear Fuel Reprocessing (hereinafter referred to as "the Medium-Term Implementation Plan") which has been applied for approval by the Nuclear Reprocessing Organization of Japan (hereinafter referred to as "NuRO").

The Medium-Term Implementation Plan on which the Commission is requested to make an opinion has been applied for revised approval by NuRO to the Minister of Economy, Trade and Industry in March 2024 based on the second sentence of Article 45, paragraph 1 of the Act on the Reprocessing of Spent Fuel in Nuclear Power Plants. The plan was based on the provisional operation plan for the Rokkasho Reprocessing Plant (hereinafter referred to as "RRP") and MOX Fuel Fabrication Plant (hereinafter referred to as “J-MOX”) by Japan Nuclear Fuel Limited (hereinafter referred to as "JNFL") and the plutonium utilization plan by electric power companies, both formulated in February 2024.

The Medium-Term Implementation Plan specifies the locations, timing and quantity of reprocessing of spent fuel and MOX fuel fabrication during the three-year period from FY2024 to FY2026.

The locations indicated are RRP and J-MOX, both owned by JNFL. These and other related facilities are subject to the safeguards by the International Atomic Energy Agency (IAEA).

With regard to the timing and quantity of reprocessing and fabrication, it is planned, as long as reprocessing is concerned, that 70 and 170 tons of spent fuel will be reprocessed to recover 0.6 and 1.4 tons of plutonium in FY2025 and FY2026, respectively, and as for MOX fuel fabrication, that 0.1 tons of plutonium to be recovered at RRP during 3 years from FY2024 to FY2026 will be fabricated into MOX fuel assemblies in FY2026.

On the other hand, according to the plutonium utilization plan announced by the electric power companies in February of this year, MOX fuel assemblies containing 0.7 tons of plutonium which have been fabricated in France will be loaded in FY2026. In addition, the plutonium to be recovered

[1] The Minister of Economy, Trade and Industry requested an opinion of the Japan Atomic Energy Commission as per the resolutions accompanying the Act for Partial Revision of the Spent Nuclear Fuel Reprocessing Fund Act.

in the relevant period is planned to be loaded into pluthermal[2] reactors after FY2027, taking into consideration necessary period for fuel fabrication, transportation and so on.

However, the operational status of J-MOX and consumption in pluthermal reactors after FY2027 contain uncertainties and could be changed depending on future development.

Therefore, considering the period required from reprocessing to fabrication of MOX fuel assemblies and irradiation in pluthermal reactors, the Commission recognizes that the estimated plutonium stockpiles may temporarily increase slightly in the early stage of operation of RRP and J-MOX in the updated Medium-Term Implementation Plan. It is important to show a prospect of a decrease in the stockpile in the future.

In light of these circumstances, the Commission requests that the Minister of Economy, Trade and Industry, on approving the Medium-Term Implementation Plan, should provide the necessary and appropriate instruction and guidance for NuRO and other relevant organizations on the following points to ensure the peaceful use of nuclear energy and the balance between demand and supply of plutonium.

1. When NuRO recovers plutonium through reprocessing, it should make utmost efforts to properly operate RRP and J-MOX taking account of the balance between demand and supply of plutonium, while ensuring transparency, as set out in "The Basic Principles on Japan's Utilization of Plutonium" (declared by the Commission on July 31, 2018). The electric power companies are required to make their every effort to steadily consume the MOX-fuel produced by J-MOX at their domestic reactors.
2. NuRO is required to make revised reports of the Medium-Term Implementation Plan in accordance with the progress made in specific initiatives, in a timely and appropriate manner.
3. In the execution of the Medium-Term Implementation Plan, NuRO and JNFL should work together in an efficient and effective manner under appropriate division of roles and implementation framework, placing the highest priority on ensuring safety.
4. JNFL should make an appropriate process management with the highest priority on safety to ensure the safe and smooth operation of RRP and J-MOX, and should work on the continuous nurturing and hand-over of technical expertise to the next generation. In addition, electric power companies and relevant organizations should provide necessary and sufficient technical and human support for JNFL as required.

End

[2] The term "pluthermal" stands for the use of MOX fuel assemblies containing plutonium in thermal reactors.