Provisional Translation

Japan Atomic Energy Commission's Views on Plutonium Utilization Plans Announced by Electric Power Companies and the Japan Atomic Energy Agency

March 3, 2026
Japan Atomic Energy Commission
Cabinet Office, Government of Japan

Regarding the use of nuclear energy, Japan has been upholding the principle of not possessing plutonium without specific purposes. Under this principle and from the viewpoint of enhancing transparency concerning peaceful use of nuclear energy, Japan Atomic Energy Commission (hereinafter referred to as "the Commission") has declared the policy to reduce the amount of Japan's plutonium stockpile in "The Basic Principles on Japan's Utilization of Plutonium" (hereinafter referred to as the "Basic Principles") published in July 2018. The Basic Principles have also requested the electric power companies and Japan Atomic Energy Agency (hereinafter referred to as "JAEA") to make public the plutonium utilization plan (hereinafter referred to as the "Utilization Plan") every fiscal year.

Under these circumstances, Japan Nuclear Fuel Limited (hereinafter referred to as "JNFL") announced the provisional operation plan (hereinafter referred to as the "Operation Plan") of the Rokkasho Reprocessing Plant and MOX Fuel Fabrication Plant (for FY2026-FY2030) in January this year. Also, the electric power companies and JAEA announced their Utilization Plans (for FY2026-FY2028) in February this year.

In response to these announcements and based on the Basic Principles, the Commission hereby presents its views on the Utilization Plans, taking into account the activities and plans of these companies and JAEA.

1. Utilization Plan for FY2026

(1) Japan's plutonium stockpile at the end of FY2025

According to JNFL's Operation Plan and the Utilization Plans of the electric power companies and JAEA, the total amount of plutonium stockpile at the end of FY2025 (March 31, 2026) will be approx. 44.4 tons[1], remaining the same as the previous year, since no plutonium will be further recovered or used in FY2025.

(2) Expected use and recovery of plutonium in FY2026

[1] The estimated amount of stockpile at the end of FY2025 will equal to that at the end of FY2024, since neither use nor recovery will be expected during this period. At the time of the view's release on March 4 last year, the amount of stockpile at the end of FY2024 was estimated to be approximately 44.5 tons. However, considering a subsequent decrease by approximately 0.05 tons due to nuclear decay, the stockpile at the end of FY2024 is now estimated to be approximately 44.4 tons. ("Status Report of Plutonium Management in Japan in FY2024" (August 5, 2025, published by the Cabinet Office))

With respect to the electric power companies, four pluthermal[2] reactors[3] will be in operation during FY2026. Approximately 0.7 tons of MOX fuel is projected to be used at Kansai Electric Power Company's Takahama Nuclear Power Station. To this end, 32 MOX fuel assemblies were shipped from France last November for use at the station.

The construction of the Rokkasho Reprocessing Plant will be completed in FY 2026. However, according to JNFL's Operation Plan, no plutonium is expected to be recovered in FY2026 as the plant will not be in operation during FY2026.

According to JAEA's Utilization Plan, the amount of plutonium to be used is listed as undecided, and the amount recovered is set to be zero in FY2026 since (1) the Experimental Fast Reactor "Joyo" is currently under review by the Nuclear Regulation Authority for approval of the design and construction plan to confirm its conformity to the new regulatory requirements, and (2) the Tokai Reprocessing Plant is in decommissioning process.

(3) Validity of Utilization Plan for FY2026

Based on the above, the total amount of plutonium stockpile of Japan at the end of FY2026 will be approx. 43.7 tons[4], a decrease of approx. 0.7 tons from the end of the previous fiscal year due to the amount used at Kansai Electric Power Company's Takahama Nuclear Power Station.

The Commission believes that the Utilization Plan for FY2026 provides a reasonable outlook at this stage, based on the operation plans of pluthermal reactors, the operational prospects of the Rokkasho Reprocessing Plant and other related facilities, as well as the status of activities for use of plutonium held abroad.

2. Utilization Plans for FY2027 and FY2028

The Commission makes provisional comments on the Utilization Plans for FY2027 and FY2028 based on the information currently available, as the situation may change significantly depending on the progress of various measures taken in the future.

(1) Expected use and recovery of plutonium by the electric power companies

According to the Utilization Plan of the electric power companies, either Unit 3 or Unit 4 of Kansai Electric Power Company's Takahama Power Station is planned to use approx. 0.7 tons of plutonium in FY2027 and zero in FY2028.

On the other hand, according to JNFL's Operation Plan, the annual maximum amounts of plutonium recovered at the Rokkasho Reprocessing Plant during the same period are assumed to be approx. 0.6 tons in FY2027 and approx.1.4 tons in FY2028.

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

[3] As of February 2026, the pluthermal reactors in operation are Units 3 and 4 at Kansai Electric Power Company's Takahama Nuclear Power Station, Unit 3 at Shikoku Electric Power Company's Ikata Nuclear Power Station, and Unit 3 at Kyushu Electric Power Company's Genkai Nuclear Power Station.

[4] The estimated total amount of Japan's stockpile at the end of FY2026 obtained by subtracting approx. 0.7 tons which Kansai Electric Power Company's Takahama Nuclear Power Station will use from the amount of stockpile of approx. 44.4 tons at the end of FY2025.

(2) Expected use and recovery of plutonium by JAEA

In JAEA's Utilization Plan, the amounts of plutonium to be used in FY2027 and FY2028 are listed as undecided since the licensing review of the Experimental Fast Reactor "Joyo" by the regulatory body remains uncertain, and the amounts recovered are set to be zero in FY2027 and FY2028.

(3) Utilization Plans for FY2027 and FY2028

Based on the above, the total amounts of Japan's plutonium stockpile at the end of FY2027 and FY2028 will be approx. 43.6 tons[5] and approx. 45.0 tons[6] at maximum, respectively.

According to the operators' explanation, it takes approximately 4 years for the plutonium recovered at the Rokkasho Reprocessing Plant to undergo fuel fabrication[7] at the MOX Fuel Fabrication Plant (hereinafter referred to as the "J-MOX Plant") and be delivered to power stations. During this period, and until the plutonium is irradiated and used in pluthermal reactors, the amount of plutonium stockpile will temporarily increase. It is important, however, to show the prospect of a decrease in the stockpile in the future through the steady implementation of pluthermal operations.

The Commission strongly requests the operators and other parties concerned that, based on the Basic Principles, they should ensure the plutonium supply-demand balance, keep the amount of plutonium stockpile to the minimum necessary during the period from reprocessing to irradiation and utilization, and reduce it to a level required for the appropriate operation of the Rokkasho Reprocessing Plant and other related facilities. At the same time, from the perspective of firmly upholding the principle of not possessing plutonium without a specific purpose, and of steadily reducing plutonium stockpiles, the Commission strongly requests the operators and other parties concerned to intensify their efforts to use plutonium at home and to reduce stockpile stored abroad to comply with the Basic Principles.

Given that the Rokkasho Reprocessing Plant is expected to begin recovering plutonium in FY2027, the projected recovery amount for FY2027, which is to be included in JNFL's operation plan due during FY2026, should be presented in a way that aligns with the amounts in the Utilization Plan of the electric power companies. Accordingly, the Commission requests that the electric power companies set a planning period in their Utilization Plan that allows for projections for the operation of JNFL's Rokkasho Reprocessing Plant and J-MOX Plant. Also, the Commission requests that each electric power company gives the breakdown of the amounts of plutonium held and used into those stored abroad and at home. Furthermore, the electric power companies should clarify and publish their approach to MOX fuel fabrication with respect to their

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[5] The estimated amount of stockpile calculated by adding the maximum amount recoverable in FY2027 (approx. 0.6 tons) to the estimated total amount of Japan's stockpile of approx. 43.7 tons at the end of FY2026 and subtracting the estimated use at the Kansai Electric Power Company's Takahama Nuclear Power Station (approx. 0.7 tons).

[6] The estimated amount of stockpile calculated by adding the maximum amount recoverable in FY2028 (approx. 1.4 tons) to the estimated total amount of Japan's stockpile of approx. 43.6 tons at the end of FY2027.

[7] Japan Nuclear Fuel Limited (JNFL) plans to complete the construction of the MOX Fuel Fabrication Plant in FY2027, conduct quality verification tests, and commence MOX fuel fabrication in FY2030.

plutonium stockpile at home and stored abroad, as well as additional plutonium recovered from reprocessing.

JAEA is expected, in cooperation with the relevant parties, to continuously investigating the various ways being considered now, to further explore every possible way that will contribute to reducing its plutonium stockpile and to ensure transparency.

Lastly, in order to enhance the transparency of the use of plutonium in Japan, the Commission strongly requests the electric power companies and JAEA to make revised reports of the Utilization Plans in a timely and appropriate manner, in accordance with the progress made in specific initiatives.