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A Conceptual design of engineering-scale plant applied the simplified MA-bearing fuel fabrication process

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Researchers at Japan Atomic Energy Agency (JAEA) have proposed the transmutation of minor actinides (MAs) by both fast reactors (FRs) and accelerator driven system (ADSs) as a way to contribute significantly to the reduction of the volume and the potential radiotoxicity of radioactive wastes. In order to achieve this goal, it is important to introduce a fully automated and remote operation fuel fabrication plant with shielded hot cells and manipulators to deal with extremely strong radiation dose and heat generation from MAs. JAEA' s facilities including Plutonium Fuel Production Facility (PFPF) have fabricated MOX fuel. On the basis of the operational and technical experience obtained in above facilities, the conceptual design of engineering-scale plant applied the simplified MA-bearing fuel fabrication process with shielded hot cells and manipulator was done. It will be able to fabricate high MA-bearing fuel and to perform the maintenance and repairing of each equipment with manipulators. This plant will be constructed based on this concept and development plan.

Country/Int. Organization

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