

JNFL Releases Report on New Centrifugal Separator

On September 20, Japan Nuclear Fuel Ltd. (JNFL) released a report on the current status of development of a new centrifugal separator, along with that of demonstration tests of MOX fuel fabrication technology, etc. The report was presented at the second meeting of the Nuclear Power Subcommittee's working group to address nuclear fuel cycle technology. The subcommittee falls under the Advisory Committee for Natural Resources and Energy's Electric Utility Industry Subcommittee.

Aiming at the production of enriched uranium by 2010 using the world's top centrifugal separator, the project entered its Phase II in FY2006 (beginning April 1 this year), and cascade tests are now being carried out. Based on the final specifications decided before the beginning of the current fiscal year, the manufacturers handling the parts in the new centrifugal separator to be used in the cascade tests have already been producing and delivering them. JNFL has then been balancing the delivered rotators, assembling parts, and so forth. The company reported that it had completed the assembly of ten units so far, and would install the planned number of units by the end of the fiscal year (i.e., by March 31, 2007).

At the same time, an evaluation of the final specifications has shown that costs are exceeding the initial targets, so JNFL has been reviewing changes to the production process and design, and with introduction more competition in the bidding for the procurement of the static parts that cost the most.

In September 2006, tests were conducted to confirm operational conditions for the first and secondary mixers, aiming at the smooth launch of the construction of the JNFL MOX Fuel Fabrication Plant (J-MOX) next April, with a operation scheduled to commence in April 2012. In the final testing stage, which is planned for FY2007 (which begins April 1, 2007), quality confirmation tests will be conducted.

At J-MOX, powder mixing will be carried out using the MIMAS (micronized master blend) process – a method already proven overseas – while the MOX powder to be used there will be made using Japan's unique MH process, which involves direct denitration through microwave heating. One objective of the tests, therefore, is to ascertain the compatibility of the two methods. At one point, powder sticking to the wall of the mixer was identified as a problem, but operational conditions were adjusted to prevent its recurrence. Hot tests – carried out since April of this year – have proceeded as planned, confirming the performance of the facility without any sticking, faulty ejection, or other problems.

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