

Japan Expresses Interest in GNEP Participation

On September 8, the Japan Atomic Energy Agency (JAEA) released a statement of interest in conjunction with related domestic corporations related to technological proposals vis-à-vis the Global Nuclear Energy Partnership (GNEP) now being advanced by the Department of Energy (DOE) of the United States.

This past February, the United States announced its long-range, comprehensive GNEP concept, the goal of which is the simultaneous pursuit of the global assurance of nuclear fuel supplies and nuclear nonproliferation. In line with that, it announced that plans would be advanced to build an advanced reprocessing test facility as well as an advanced burner reactor (ABR).

Thereafter, on August 3, substantial revisions were made to the GNEP, making it more realistic in nature. Specifically, the project called for the recruitment of technological proposals from industrial circles, both in America and abroad, for the purpose of enabling the early launch of facilities by broadly incorporating various advanced technologies from around the world. A deadline of September 8 was set for the recruitment of "statements of interest."

JAEA was the central organization preparing Japan's statement, and was joined by such signatories as Japan Nuclear Fuel Ltd. (JNFL), Fuji Electric, Hitachi, Ltd., Mitsubishi Heavy Industries, Ltd. (MHI), and Toshiba Corporation.

DOE's new proposal comprises the construction of a consolidated fuel treatment center (CFTC) and the aforementioned ABR. Under the "Track 1" stage, the short-range program for the CFTC, spent fuel from light water reactors (LWRs) will be reprocessed at the pace of several hundred tons annually. The entire line of processing at the CFTC will employ a non-purex process so as to avoid the emergence of pure plutonium as MOX fuel is produced.

Later, under the longer-term "Track 2" stage, spent fuel from fast reactors will also be reprocessed, including minor actinides, to manufacture fuels that will be used in the ABR that is to be newly constructed. The ABR is envisaged to have an output of 200-800MW; by type of reactor, it is exemplified by sodium-cooled fast reactors.

Construction is slated to begin in 2010 for both the CFTC and the ABR, and operations are projected to commence at both facilities around the year 2020.

As far as the ABR is concerned, Japan has proposed the alteration of the design it currently uses in existing technologies, converting the dual straight-duct steam generator (SG) system to be used in its FBR program to a single-duct helical SG or a single straight-duct SG, as well as separating the intermediate heat exchangers to be installed inside the pump.

Now that the deadline for the statement of interest has passed, JAEA takes the upcoming schedule to be as follows: after the U.S. midterm elections in November, a public recruitment of design proposals will be made by the end of the year by those entities submitting statements of interest.

It is expected that around ¥500 billion (\$4.2 billion at \$1=¥118) will be needed for the completion of CFTC, and around ¥200-300 billion (\$1.7-2.5 billion) for the ABR. Two years from now, in 2008, the details of the construction for the entire GNEP project will be announced.

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