

Back End Fuel Cycle Regulation in Japan

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(1) Outline of Japan's Nuclear Policy

Japan's Nuclear Policy is based on the strict "Peaceful-Purposes Only" policy. This policy is explicitly declared in the Atomic Energy Basic Law (enacted in 1955), and Japan is a member of IAEA since 1957, and ratified NPT Treaty in 1977.

In addition, Japan's Nuclear Program is based on "Framework for Nuclear Energy Policy". This program is periodically reviewed and the newest version is issued in 2005.

There are also independent committees to audit relevant Ministries, which are the AEC (Atomic Energy Committee) for general policy affairs

Concerning the backgrounds of Japan's ambitious nuclear program lie that Japan's "Energy Self-Sufficient Ratio" remains very low (4%), which is the lowest among major developed countries. Counting nuclear energy as "Semi-Domestic", this ratio will rise to 20%.

For the future, "Framework for Nuclear Energy Policy" indicates that nuclear power is expected to account as much as 30 to 40% of the total electricity generated in years after 2030.

One of the characteristics of Japan's nuclear program lies that we pursue "closed" back end fuel cycle from the start of the nuclear program. At present, commercial introduction of reprocessing around this year (2010), and commercial introduction of FBR cycle around 2050. This means that spent fuels are recognized as resources, not wastes, in Japan.

(2) Management of spent fuel in Japan

There arise about 1,000tU of spent fuels from 54 NPPs annually in Japan. Most of the fuels are currently stored in the NPP pools with wet pool storage.

Volume of spent fuels produced so far is about 25,000tU, and about 7,000tU have been shipped to France and the UK for reprocessing. In addition, about 1,000tU has been shipped to the Tokai reprocessing plant and 3,000tU to the Rokkasho reprocessing plant. On the other hand, 13,000tU are now stored in NPPs.

In Japan, all the amount of the spent fuels are supposed to be reprocessed. As the Rokkasho reprocessing plant (800tU/year) has not been in operation, and even after it began operation, all the amount of spent fuels are not expected to be reprocessed. This requires that Japan need to secure adequate storage capacity of spent fuels in NPP sites or in storage facilities.

(3) Nuclear policy and the stakes-holders communication

In Japan, we recognize the importance of communications with stakes-holders for promoting nuclear program. We have integrated communication activities with residents around facilities into NISA's regulatory processes (i.e. inspection, licensing). In addition, we have improved systems to provide safety related information through cell-phone based web systems called Mobile NISA.

Also, we are considering to enhance communications between regulator and industries in a broad sense (including researchers and workers) in order to share the challenges for improving safety standards.

As a part of such effort, NISA started to convene a new annual conference for this purpose, which we aim to be similar to the RIC held by NRC, USA. The first J-RIC conducted in METI office building on last October. We got as a total of roughly 1,700 audiences in two days.