

Forum for Nuclear Cooperation in Asia (FNCA)
Country Report

December 3, 2003
JAPAN

Japan's Nuclear Energy Policy

Japan has consistently placed the nuclear fuel cycle at the heart of its nuclear policy – from the dawn, in fact, of its nuclear development in the 1950's. In the first Long-Term Program for Nuclear Research, Development and Utilization, issued in 1956 by the then-new Atomic Energy Commission, it was expressly stated that, “in order to establish the fuel cycle in the future, matched to the realities of the nation, Japan will endeavor to develop and improve technologies, including those for breeder reactors and nuclear fuel reprocessing.” Our effort today is a continuation of one begun nearly five decades ago.

Without nuclear power, Japan's rate of energy self-sufficiency would be a mere 4%. We have virtually no natural energy resources. As a result, not only must we depend on nuclear power for our energy security; we must utilize uranium resources as fully and effectively as possible. In that sense, we view recycled nuclear fuel – plutonium – as a “quasi-domestic” energy resource.

In addition, the threat posed by global warming is now well recognized internationally. Along with other nations, we are committed to the fight against global warming, and nuclear power generation – which emits no carbon dioxide in the generation process – is, for that reason, too, an important energy source for Japan.

In October of this year, a new document, Japan's first "Basic Plan for Energy Supply and Demand," was approved by the cabinet. It positions nuclear generation as a key power source for Japan, and restates the nation's commitment to establishing the nuclear fuel cycle.

The final target in Japan's nuclear-fuel-cycle program is introduction of fast breeder reactors for the use and creation of plutonium. Because it will still take some time, however, to bring fast breeder reactors to the stage of commercial operation, we are promoting the burning of MOX fuel in light water reactors as the first step toward the fuller use of plutonium in time.

Current State of Nuclear Power Generation

Unfortunately, recent years have seen a number of mishaps, missteps and other setbacks – one after another – in Japan's nuclear power generation and fuel-cycle programs. As a result, public confidence in all things nuclear has been severely damaged.

Starting last year and continuing, as a result of falsifications of records of self-inspections at nuclear power stations and other occurrences, the operation of a number of nuclear power reactors has been suspended pending confirmation of their safety. Those reactors have been returned to service one by one as safety has been confirmed, but overall availability factor has been reduced.

Similarly, as a result of people's distrust in MOX fuel, which arose from a falsification of data by the overseas manufacturer in 1999, Japanese utilities have yet to load it in any of their light water reactors, and that program, too, is substantially delayed. As for the fast breeder prototype reactor "Monju", because of a

sodium leakage in 1995 and so on, prospects for resuming operation of the reactor remain unclear. Last January, a High Court pronounced a judgment that it was confirmed that the license for establishment of “Monju” was invalid. But the case is being appealed to the Supreme Court.

Although the circumstances are thus difficult, what is most important now is steady effort toward recovering people’s confidence in nuclear power and the nuclear fuel cycle. Toward that end, the Atomic Energy Commission issued a report titled “The Nuclear Fuel Cycle” this past August, in order to promote better understanding by the nation of the fuel cycle program.

As to fast breeder reactors, the final target in our fuel-cycle effort, our present intention is to remodel “Monju” and put it back into operation. With recognition that “Monju” is, as well, an important facility for the study of fast breeder reactors, we also plan cooperative research and international exchange activities.

Similarly, the basic plan for merging two nuclear entities – the Japan Atomic Energy Research Institute and the Japan Nuclear Cycle Development Institute – was finalized last September, and includes international cooperation as a major obligation of the new, combined entity.

Nuclear Energy and the International Community

Japan’s absolute commitment in its utilization of nuclear energy is to exclusively peaceful use. This is embodied in domestic policies and laws, and in international treaties and bilateral agreements by which Japan abides. Japan has a declared policy of not holding surplus plutonium – plutonium for

no specific purpose. This past August, the Atomic Energy Commission – on Japan’s own initiative – issued its “Basic Principles for the Utilization of Plutonium in Japan” in an attempt to further improve transparency.

In order to develop peaceful uses of nuclear energy, sustaining and strengthening the nuclear non-proliferation regime is of paramount of importance. The IAEA Additional Protocol strengthens its capabilities in inspection by enlarging the scope of information to be provided to it, and by implementing “complementary access”. In cooperation with the IAEA, Japan continues to make efforts toward the universalization of Additional Protocols. Japan requests nations represented in this forum that have not yet concluded an Additional Protocol to do so soon.

Advanced Nuclear Science and Engineering

In the area of nuclear fusion, for which expectations are high as a future energy source, the ITER Project, an international fusion energy project, is being promoted among its participants. Japan welcomes participation of China and Korea in the project this year, giving further momentum toward the international cooperation. Japan is determined to make a meaningful and significant contribution to the realization of ITER, and has proposed Rokkasho-mura, in Aomori prefecture, as an ITER site.

Under the FNCA, eleven cooperative projects in eight fields are being carried out. The positive use of radiation is something all countries are highly interested in. The FNCA projects have seen some successful results, including the establishment of a protocol for cancer therapy using radiation, and the wider use of

that protocol. More projects in medicine, industry and agriculture will be implemented, their results, too, expected to be beneficial to all countries.

Under a unique FNCA project on public information, the results of an awareness survey by questionnaire on nuclear energy and radiation are now being consolidated. In Japan, we must make efforts in particular to help the younger generation understand radiation and its uses better and more accurately.

Closing

The vision of the FNCA is to contribute to the development of societies and economies through active partnerships in the region, on the basis of mutual understanding and cooperation. In Asia, conditions in each country are different, and it is necessary that cooperation among nations take those differences into account. Japan supports self-help efforts toward technological development by individual countries. In this way, each country can independently achieve its own research and development capabilities, and successful uses of nuclear science and technology.

Japan will continue to promote international cooperation in Asia through the FNCA and other frameworks.