Country Report of Japan

by
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Mr. Chairman, I am pleased to have the opportunity to report on the current state of nuclear research, development and utilization in Japan, and on FNCA activities by Japan. Japan has long been engaged in nuclear activities – exclusively for peaceful purposes and on the premise of ensured safety – in order to secure the energy resources needed for the future. Such activities also spur academic and industrial development, thus contributing to human welfare and improving the national standard of living.

To summarize the state of nuclear utilization, there are currently 52 commercial reactors in operation, providing approximately one-third of total generated electricity, with four more units under construction. In October of last year, the government issued its Basic Plan for Energy Supply and Demand. The plan promotes measures on energy supply and demand, comprehensively and systematically, over the long term. Under the plan, nuclear generation, although it requires strict safety management based on risks, will be promoted as a major national power source (including the nuclear fuel cycle), carried out under the condition of ensured safety, because of its favorable characteristics – namely, stability of supply, and the fact that it contributes to the fight against global warming.

In the area of safety, in order to prevent reoccurrence of falsifications related to nuclear power generation that were revealed in the summer of 2002, and in order to realize a system of safety regulation at the international level, the Electric Enterprise Law and the Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (“reactor regulation law”) were revised in December 2002. Based on those revisions, the Nuclear and Industrial Safety Agency (NISA) established the following systems in order to improve nuclear safety regulation, and these new systems were put into place in October 2003.

Major revisions to the requirements were (1) establishment of quality assurance systems and maintenance and management activities; (2) making mandatory by statute as periodic inspections by companies the self-inspections that had been implemented voluntarily by companies; (3) introduction of periodic safety reviews was prescribed in statutes; and (4) examination of company systems for implementing

periodic inspections (periodic safety management examinations) by the National Institute of Nuclear Safety, an independent organization, and comprehensive assessments by the government based on the results of such examinations.

The Nuclear Safety Commission monitors and audits, through regulatory investigations, the appropriateness of regulatory activities by such regulatory administrative agencies, and, as necessary, presents its views to those regulatory administrative agencies. At the same time, efforts to realize safety regulation incorporating information on risks, including proposals of draft quantitative safety targets, have commenced, with the aim of further improving the regulatory system.

Then, this past August, in the midst of a concerted effort by the public and private sectors to ensure safety, a tragic accident occurred at Kansai Electric Power Co.'s Mihama-3 NPP. Piping in the secondary system ruptured and, although radioactivity was not involved, steam gushed out, killing or injuring a number of workers. Investigation into the cause of this accident reconfirmed the necessity of nuclear companies carrying out appropriate management and operation of their management systems, not only to prevent radiation injuries at nuclear power plants, but to ensure worker safety in all respects. Also reconfirmed was the importance of properly evaluating plant aging and related measures to deal with it – although that was not a direct cause of this accident.

Spent nuclear fuel contains useful components. Japan's basic policy is not to dispose of it as waste, but to recover those components through reprocessing. The immediate use of such components – burning plutonium (MOX fuel) in light water reactors – has been delayed as a result of a series of mishaps that have caused the public to lose confidence in nuclear power. In May of this year, an application to modify a reactor at the Genkai-3 NPP, to accommodate the use of MOX fuel, was filed under the reactor regulation law by Kyushu Electric Power Company, and in November, Shikoku Electric Power Company filed a similar application for its Ikata-3 NPP. It is expected that these will help recover the momentum of the MOX-fuel program. Japan Nuclear Fuel Ltd. is constructing a spent fuel reprocessing plant in Rokkasho-mura, Aomori Prefecture. There, chemical testing is now being carried out. The next step, uranium testing, will be planned thereafter.

Japan is also pursuing the fast breeder reactor cycle, with the expectation that it will play an important role in the future of the nuclear fuel cycle. The experimental FBR "Joyo" has increased its thermal output to 140,000 kW and is now being used for fast neutron irradiation. Operation of the prototype FBR "Monju" has been suspended since a sodium leakage in 1995, but Monju is an internationally valuable

facility for various R&D activities, including efforts to develop “Generation IV” reactors. Japan, therefore, wants to steadily continue the work to modify Monju to improve safety, and then to resume operation so that it and its peripheral facilities can be a base for international cooperation. Additionally, as for R&D toward practical use of fast breeder reactors, Japan will continue investigation and research efforts into a strategy for commercializing the FBR cycle, which are now being pursued by private companies.

The government and the nuclear industry in Japan share a renewed recognition that it is important, in order to win people’s understanding of nuclear activities, to give clear explanations of the benefits and risks, and to listen to the people’s concerns.

Under a new bill that was passed in the current Diet session, the Japan Atomic Energy Research Institute and the Japan Nuclear Cycle Development Institute – both of which have had key roles in Japan’s nuclear R&D – will be combined on October 10 next year, creating a new, independent administrative institution. The new institution will engage comprehensively in basic and fundamental nuclear research, including fast breeder reactor (FBR) development necessary to complete the nuclear fuel cycle. Its major activities will involve cooperation with universities as well as international cooperation.

In promoting the peaceful uses of nuclear power, it is essential to maintain the nuclear non-proliferation regime. Japan was not only among the first to accept the IAEA’s model additional protocol, strengthening IAEA safeguards, but has been active in urging other countries to do the same. On September 15, the IAEA’s Integrated Safeguards were applied to Japan – their first application in a nation that engages in nuclear activities on such a large scale.

To prevent potential sabotage at nuclear generation facilities and the like, protection levels have been raised since September 2001. Attention to the defense of such facilities has continued in accordance with evolving international standards and expectations.

In the area of science and technology, the International Thermonuclear Experimental Reactor (ITER) project is proceeding along the path of research into nuclear fusion. Future expectations for fusion as an energy source are indeed high. Japan has proposed Rokkasho, in Aomori Prefecture, as the site for ITER and is making efforts to realize this. Taking this opportunity, I would like to thank each of you for the understanding and cooperation offered by FNCA countries on the matter.

At this point, I would like say a few words about the various FNCA activities. At present, there are 11 projects going on in eight areas. They have already yielded many useful outcomes, including establishment and dissemination of a standard protocol for cancer therapy. Japan hopes future projects will be selected that can similarly bear fruit for all FNCA member countries in the fields of medicine, industry, agriculture and others. Japan will continue to cooperate, in the spirit of mutual benefit, on, among other things, human resource development and "knowledge management" – creation, penetration and utilization of knowledge – so that the results achieved can be disseminated and used to the maximum benefit of all.

This past October, the first FNCA panel meeting was held in Japan to address the "Role of Nuclear Energy in Sustainable Development in Asia" Asia is the region of the world with the highest rates of economic growth and the sharpest increases in energy consumption. Japan thinks that that panel meeting will prove helpful for FNCA countries in developing energy and environmental policies in accord with international trends, including the Kyoto Protocol coming into effect next year. Japan also believes the panel will provide a place for participating countries to exchange nuclear information useful to them individually in their development of energy and environmental policies.

In conclusion, Japan finds great public interest in the utilization of nuclear technology as an energy source. Nuclear power generation will thus continue to be viewed as a major power source on the premise of ensured safety, and will continue to be promoted, with necessary developments and improvements. Other countries in Asia, meanwhile, have their own, differing conditions. Each country should develop and utilize the nuclear technology it chooses, according to its own purposes, on its own schedule and scale. That said, there are so many issues that can be solved efficiently, effectively – so much we can accomplish – if we all work together. The Japanese government wants to help make FNCA activities even more productive, and to steadily improve and expand cooperation among all participating countries.

Thank you.