An Overview of Japan's Nuclear Energy Policy[1]
- Current Status and Challenges -

ITO Takahiko, Commissioner
Atomic Energy Commission of Japan

Thank you, Mr. Chairman for your kind introduction.

Ladies and Gentlemen, it is a great honor and pleasure for me to have this opportunity of presenting an overview of Japan's nuclear energy policy.

We have 55 LWRs currently operated by ten electric power companies, which supply about 30% of electricity in Japan and contribute to the increase in Japan's energy self-supply ratio from 4 % to 18 %.

The objectives of nuclear energy policy specified in the Framework are to make the share of nuclear power in electricity generation after the year 2030 greater than the current level of 30 %; utilize fissile material recovered from spent fuel through reprocessing in these LWRs for the time-being and dispose the glassified high-level radioactive waste from the reprocessing process into geological disposal facilities; and pursue the commercialization of fast breeder reactor and its fuel cycle technologies before 2050 that contribute to better utilization of resources and possible reduction of the heat generation rate of the high-level radioactive waste; in addition to wider utilization of radiation & radioactivity.

The first set of actions relevant organizations are asked to incessantly promote are those essential for the promotion of nuclear energy utilization: they are:

a) To assure strict limitation to peaceful purposes;
b) To assure safety, security and safeguards of such activities;
c) To maintain openness and transparency of decision making processes and assure public participation in them, providing the public formal and informal opportunities to learn what nuclear energy is;
d) To Nurture mutual understanding between central and local governments, considering that the acceptance of nuclear facilities by local governments are essential.
e) To secure number and quality of talents for these activities;

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f) To Promote the safe disposal of all categories of radioactive waste;
g) To Promote international cooperation and contribution

In 1998, the AEC decided that activities related with the disposal should be promoted in an open and transparent way and the site of the disposal facilities should be determined based on the application from municipalities.
In 2002, the NUMO, an organization authorized to promote the disposal activity, started to invite mayors of municipalities to apply to site suitability investigation.
However, so far no mayor has successfully applied.

As for safe operation of existing plants, Japanese operators should be proud of the fact that the annual frequency of unscheduled shutdown of Japanese NPPs has been sufficiently low for 20 years.
As for the efficient operation of their plants, however, they have suffered for low plant availability factors in recent years.
In these couple of years, the availability factor of Japan has been around 70%, which was lower than many other countries.

The reasons are;
a) Lengthy communications between local governments and operators before the governments agree to restart plants after an incident, partly because of the lack of local community's trust in the transparency of operators.
b) The frequency of legal periodic plant inspection has been prescribed as once in 13 months, though the situation will be improved as a new system in which plant specific meticulous legal inspection will be down at every 13 or 18 or 24 months depending upon the plant condition.
c) Kashiwazaki-Kariwa and some of the NPPs have experienced seismic motions exceeding the design-basis seismic input and, for their restart, operators were required to submit the report on the integrity of the plant and the report to re-evaluate the seismic safety of the plant.

The seismic input to the plant significantly exceeded the level of design basis seismic input of the plant. The cause of the excess was identified recently as the complex geological structure around the site, which was not reflected on the distance attenuation formula widely used in the past for the estimation of seismic input from nearby faults.

Fortunately any significant damage of safety-related structures, systems and components (SSCs) of the plant has not been reported, whereas non-safety related SSCs were affected mainly by anchorage failures due to significant soil deformation as they were not connected to the bedrock.

Japan has been promoting research, developing, and utilization of nuclear energy strictly for peaceful purposes, while having set the goal of eliminating all nuclear weapons and adhering to the “Three Non-nuclear Principles” of not possessing, not producing, and not permitting the introduction of nuclear weapon into Japan, as the only country that suffered nuclear attack. Japan has ratified the Non-proliferation Treaty, and concluded the Comprehensive Safeguards Agreement and the Additional Protocol with the IAEA.
Japan has actively participated in international activities for non-proliferation.

The important mid-term action is to develop the next generation LWRs, consolidating Japanese experiences in construction and operation of LWRs and making the most of various innovative science and technologies on the horizon. The project is to start this year, aiming at the completion of basic design in 2015.

The AEC has traditionally believed it important to promote international cooperation, recognizing that peaceful uses of nuclear energy are beneficial for the socio-economic development of the international society. The objectives of the cooperation are therefore;

a) To contribute toward shaping the environment for nuclear energy uses, establishing international schemes for assuring nuclear safety, security and nonproliferation, in other words "3S".
b) To globally share knowledge for nuclear energy uses for the benefit of global community, as can be seen in Japan’s initiative to promote the Forum for Nuclear Cooperation in Asia (FNCA) in parallel with active participation in the IAEA activities; and
c) To pursue mutual benefit with other countries for the effective and efficient promotion of nuclear energy use in Japan:

Quite recently the AEC proposed that Japan should be active in establishing international environment for 3S in countries who desire so for combating climate change.

As for nuclear nonproliferation, Japan is inducing other countries to ratify the Additional Protocol to the IAEA Safeguards Agreement for its universalization.
And Japan contributes to the discussion about the establishment of multilateral frameworks for fuel supply assurance, including a so-called safety-net mechanism to back up the fuel supply market in the event of disruption due to non-commercial reasons.

AEC has traditionally believed it important to promote international cooperation with a view to globally share knowledge for nuclear energy uses for the benefit of global community; they are;
IAEA technical cooperation activities, IAEA Regional Cooperative Agreement for Research, Development and Training, and Forum for Nuclear Cooperation in Asia (FNCA), which is a framework that promotes peaceful uses of nuclear energy in Asia, through voluntary cooperation among participating countries.

Lastly the AEC has set it also an objective of international cooperation in recent days to support the activities of other countries to utilize nuclear energy for combating climate change, and proposed the Government to take actions for building a global consensus that the expansion of the peaceful use of nuclear energy is an essential measure against global warming.

Thank you for your attention.