

## Current Activities for the Peaceful Use of Nuclear Energy in Japan<sup>1</sup>

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Japan has been promoting nuclear research, development and utilization activities for the past fifty some years, limiting them to peaceful purposes, with a view to securing energy resources for the future, promoting science and industries, and thereby contributing to the improvement of both welfare of human society and the living standard of the people.

As a result, radiations and radioisotopes are currently used for the promotion of science, industries and the public health extensively. As for the use of nuclear power generation, fifty-three commercial nuclear power plants of which combined capacity is 48 GWe are in operation and they are supplying about 26 % of electricity and ten percents of primary energy in Japan. They are contributing to the enhancement of Japan's energy security and playing an important role as a measure for combating global warming.

This September the Democratic Party of Japan won the general election for the House of Representatives and the Hatoyama government has started. Just after forming his cabinet, the Prime Minister Yukio Hatoyama announced at the United Nations Summit on Climate Change that Japan aims to reduce its greenhouse-effect gas emissions by 25% compared to the 1990 level by 2020, though the commitment is premised on agreement on ambitious target by all major economies, and pledged to mobilize all available policy tools. It is clear that the promotion of nuclear power generation is an essential policy tool in this endeavor.

The Premier also declared that it attaches great importance to Asian diplomacy. The main pillar of this policy is cooperation to prosper together, cooperation to save a green

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Asia and cooperation to protect human lives. I believe that the FNCA will be able to play an important role in this respect as this is a unique framework for nuclear cooperation in this region that can contribute to pursue such policy objectives in various ways.

In Japan, in spite of the rise in the hopes for the nuclear power generation to combat global warming, the nation's average capacity factor of nuclear power plants has hovered around 60% level in recent years due mainly to the effect of earthquakes. We hope that the capacity factor will recover soon as we are currently in the final stage of reconfirming the seismic safety of not only the plants that experienced strong earthquake but all the plants in Japan, reflecting lessons in seismology and structural design learned from the recent experience of seismic events. The new maintenance rules recently adopted will also contribute to the improvement of capacity factors.

As for the outlook for the future, we are expecting a continued expansion of the electricity generating capacity as three units are under construction and three more units are under licensing review. Electric power companies have announced that they will start the operation of another nine units within ten years or so. In parallel, they are promoting the utilization of MOX fuel, the construction of interim storage facilities of used-fuel and the selection of a site for the geological disposal facility for high-level waste.

As a major long-term activity, the research and development of fast reactors and related fuel cycles is being promoted, aiming at its commercialization in 2050 or so. Researches for fusion energy and nonelectrical application of high temperature heat from nuclear reactors are also promoted steadily as long-term activities.

The promotion of the utilization of radiation is another important area, because radiation technology is used to advance development in diverse fields such as agriculture, medicine, industry and science. In order to explore wider and deeper application of radiation, Japan has constructed and operated diverse radiation facilities such as TIARA, HIMAC, next-generation heavy ion accelerator facility, RI (radioisotope) Beam Factory, J-PARC etc., for diverse users. Under the FNCA framework, eleven projects in eight fields of radiation application are currently in progress. The results of these projects encourage us to continue our contribution to further progress in these projects and starting of new projects.

Needless to say, any country that utilizes nuclear energy should pursue continuous improvement in all areas related to nuclear safety, security and nonproliferation, adhering to relevant international conventions and IAEA's standards, recommendations and codes of conducts, and nurturing not only safety culture but also nuclear security culture and nonproliferation culture in the organizations that are in charge of nuclear activities.

Specifically, Japan has been placing great emphasis on the importance of the sharing of operating experiences all over the world in the field of nuclear safety. Japan has respected the IAEA's guidance on the Physical Protection of Nuclear Material and Nuclear Facilities INFCIRC/225/Rev.4 in the field of nuclear security. Furthermore, Japan has initiated projects to improve nuclear security, mainly in the Asian region, through its contributions such as those to the IAEA Nuclear Security Fund. Japan attaches great importance to strengthening the nuclear non-proliferation regime, and is promoting the universalization of the Additional Protocol, believing that it is the most realistic and effective way to strengthen regime. Japan will continue to do so, and to this end, will continue to host the Asian Senior-level Talks on Non-Proliferation meetings (ASTOP) and IAEA seminars.

A growing number of countries have expressed their interests in nuclear power programs as a means to addressing climate change and energy security concerns. Considering the importance of developing infrastructure that assure safe, reliable and peaceful use of nuclear energy, Japan has decided to expand its assistance to those countries planning to introduce nuclear power generation, supporting their effort of infrastructure development, capacity building and the establishment of a legal framework.

In conclusion, Japan is continuing to pursue peaceful use of nuclear energy for the benefit of the people. Japan will also continue to cooperate with countries in the region for the advancement of nuclear science and technology and the effective utilization of such advancement including nuclear power generation for social and economic development in each country, in the spirit of prospering together, saving a green Asia and protecting human lives.