Status of Nuclear Energy Development and Construction of Public Information on Nuclear Energy in China

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(Nov.4, 2003)

Dear Chairman, Ladies and Gentlemen,

I am delighted to be here to meet all friends and experts attending the meeting of FNCA Today.

Achievements obtained in the development of nuclear science and technology and the peaceful uses of nuclear energy are one of the greatest achievements of human beings in the twentieth century. With the development in the past more than half a century, nuclear energy technology has penetrated into all fields such as energy, industry, agriculture, medicine, and environmental protection, resulting in important contributions to the improvement of life quality in the world.

For a long time past, while promoting the peaceful uses of nuclear energy, China has been making efforts in favorable communication between nuclear energy community and the public. China's nuclear energy policy and related activities have won the understanding and support of the public.

Taking this opportunity, a brief introduction will be given below in respect of the status of nuclear energy development and construction of public information of nuclear energy in China.

I. Status of nuclear energy development in China

Nuclear power in China was initiated in the eighties of last century. For more than 20 years, guided by the principle of “mainly relying on our own while pursuing Sino-foreign co-operation, and introducing technology while promoting localization”, the construction of nuclear power and nuclear industry have achieved great success, and the nuclear science and technology research and the application of nuclear technology have obtained considerable development. Thus, great contributions were made to the development of China’s economy and society and the improvement of people’s life.

Qinshan NPP, a self-designed and self–constructed 300 MWe unit, was connected to the grid in 1991. Daya Bay NPP, having two 900 MWe PWR units constructed with equipment introduced from abroad, was completed and put into operation in 1994. Nuclear power production turns the edge of electricity shortage in China’s coastal area and promotes the development of local economy. Since operation of first NPPs in China for over a decade, the radioactive effluents and the generation of solid radioactive wastes are far below the control level as stipulated in the national standards. Through the continuous monitoring provided by the NPP and the environmental protection agencies in local area, the radiation level in environment always remains at the natural background level. Operation of NPPs does not cause any adverse impact to environment. The facts show that the construction of China’s NPPs is successful, and the operation is safe and reliable, which provides experience and lays a technical foundation for the further development of nuclear power in China.

Last year, nuclear power construction in China made achievements attracting worldwide attention. In 2002, four new nuclear units were put into operation successively. Up to now, the total number of nuclear units in operation in China is seven, with an installed capacity of 5400 MWe. The construction of additional four units proceeds smoothly, which will be completed and put into operation in

succession before 2005. At that time, the total nuclear installed capacity in China mainland will reach 8700 MWe, when the electricity generation by nuclear power units will account for around 3% of the total in the country.

Applications of nuclear technology to various fields involving industry, agriculture and medicine have been developed greatly. At present, there are over 300 units engaged in the R&D of nuclear application technology and production in China with an industry scale of tens of billions RMB Yuan. Since the nineties of last century, the practical amount of source installed in industrial-used electronic accelerators and industrial cobalt sources annually increases above 20%, making China be one of the fastest development countries in the world. Successful R&D, such as container monitoring systems with electronic beam for customs and sterilization installations with electronic beam for correspondences, provides effective technical means to fight against smuggles and protect against terrorism. Nuclear technology makes significant achievements in China's agriculture and creates great benefits in economy, social and ecology. China has 7 bases producing radioactive medicine, maintaining the momentum of rapid development of nuclear medical appliance. There are over 1000 hospitals applying nuclear medical technology, which make considerable contributions to the improvement of public health level.

Chinese government actively encourages the peaceful uses of nuclear energy. Under the guidance of the principle of "mainly relying on our own while pursuing Sino-foreign co-operation, and introducing foreign technology while promoting localization", China's nuclear power construction will be developing towards "independence and standardization" continuously.

During the development of nuclear power, China pays great importance to nuclear safety, and consistently insists on the principle of "Safety First and Quality First". To ensure the quality and safety of NPP, China has established a complete management system of nuclear safety. Through these codes and regulatory system, Chinese government carries out an overall and effective safety regulation for NPPs in each stage including siting, design and operation.

In the application field of nuclear technology, technical innovation will be greatly facilitated to develop renewed products with high quality. The focus will be put on those projects of saving energy, environmental protection and life science, struggling for breakthroughs in several key techniques with the innovation having Chinese characteristics. The application of nuclear technology to such fields as industry, agriculture and medicine will be extended continuously. In the orientation of the market, industry scale will be further enlarged and technical level improved to give full play to the application of nuclear technology in solving issues related to agriculture, ecological environment, water resources management and medical health.

？. Prospects of peaceful uses of nuclear energy and construction of public information of nuclear energy

It is well known that nuclear energy, as a clean energy source with proven technology and utilization in a large scale, plays an important role which can not be replaced in dealing with future energy shortage and carbon release reduction. The environment issue caused by using large quantities of fossil fuel is quite outstanding. Unlimited use of coal, oil and gas continuously will lead to much heavier pressure on the environment. Chinese government has ratified the “Kyoto Protocol”. China will develop clean energy in priority while promoting energy efficiency. With the steady development of national economy and further improvement of people’s living standard, nuclear power will have larger space for development in China.

Today, the development of nuclear energy worldwide is influenced by various social and political factors. Public acceptance becomes the biggest limit to the nuclear power development in some countries. Owing to two significant nuclear accidents ever occurred (Three Mile Island and Chernobyl) and leakage accidents of nuclear wastes, public worry about the nuclear safety and waste treatment. Therefore, construction parties, operators and governmental authorities of nuclear power should put the nuclear power safety at a very high position, which must be implemented by using practical measures. Meanwhile, we should also notice that due to all kinds of NPPs’

technology being proven day by day, safety protection measures are perfected more and more. The NPPs' safety can be completely guaranteed. A good record in respect of safety operation and environmental protection in China's NPPs for dozen of years is just a demonstration.

Although it is proved that nuclear energy is safe, the public still lack understanding to nuclear energy . Some people who do not have the access to nuclear knowledge and information have doubts on peaceful uses of nuclear energy and "nuclear phobia" still exists. In order to promote the peaceful uses of nuclear energy, we have paid attention to and made efforts to public acceptance of nuclear energy, and carried out the construction of public information and safety culture of nuclear energy. We will carry out nuclear energy popular science education through exhibitions, public lectures, newspapers, televisions, internet, and other modern media means, provide visit and interpretation in the local public of a NPP, and report much more about the NPP's operation and project progress. So the public could understand nuclear power, support nuclear power, so as to facilitate the development of nuclear power.

In April of this year, the Regional Information Seminar on "Nuclear Energy and Human Needs in Asia" held by CAEA and IAEA in Beijing. Approximately 200 people from neighboring countries, and domestic participants attended the seminar. This seminar made the public in China pay more attention to the development of nuclear energy and technology through televisions, newspapers and internet. It is a successful activity.

Next year, China will have joined IAEA for 20 years. We are planning to set a series of activities to celebrate the special day, so as to enhance the communication with the public.