

## **Country Report of China**

by

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Chairman

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Mr. Chairman,

Ladies and Gentlemen,

It gives me great pleasure to lead the Chinese delegation to attend the 5<sup>th</sup> FNCA Ministerial Meeting at the invitation of the Ministry of Science and technology of Vietnam and the Japanese Atomic Energy Commission. The warm weather of Hanoi and warm hospitality of the host make us feel quite at home. We are grateful to the Vietnamese government for the preparation for the meeting and would take this opportunity to extend greetings to the ministers and colleagues attending the meeting.

Mr. Chairman, this year is of special significance to China's nuclear industry, which began 50 years ago. Within this period, our nuclear industry embarked on a development road in line with China's national situation and has scored great achievement.

Ever since the 1980s China's effort of peaceful uses of nuclear energy has gained rapid development under the principle of focusing on nuclear power construction and "cooperating with international partners with China playing the major role". China independently designed and constructed the Qinshan Phase I NPP of 300 MW, Qinshan Phase II NPP of 600 MW, and the exported 300MW NPP. With international cooperation, the Daya Bay, Lingao and Tianwan NPPs of 1000 MW, and the Qinshan Phase III of 700 MW were successfully constructed. By November 2004, there are altogether 9 nuclear power units in operation in China's mainland with a total installed capacity of 7010 MW. When the Tianwan NPP is put into operation in 2005, the total installed capacity will reach 9130 MW.

Mr. Chairman, China has determined nuclear energy as is an important part of the state energy strategy and is continually increasing the proportion of nuclear energy in the country's total energy supply. According to the preliminary estimation of the outline of state energy development planning, the total installed capacity of nuclear power in China will rise from the present 9130MW to 36000 MW or even more by 2020. This year, the State Council of China approved the two expanding projects of Qinshan Phase II in Zhejiang and Lingao NPP in Guangdong, and two projects in

Sanmen of Zhejiang and Yangjiang of Guangdong which will be constructed through international bidding. The new projects will stick to the principle of “cooperating with international partners with China playing the major role, introducing technology and promoting localization”, follow a unified technological line and adopt advanced technology to promote the safety and economic factor of the nuclear power units. The comprehensive capability of China’s nuclear power industry is going to be improved by the means of realization of localization on design, manufacturing and construction of large-capacity nuclear power units. The preparatory office for the Nuclear Power Technology Corporation was recently set up to start the bidding invitation and negotiation for the new nuclear power projects.

Mr. Chairman, with more than 20 years of development, a fairly complete system of nuclear scientific research and development consisting of basic studies, application research and engineering research has been in shape in China, supported by a team of engineers and scientists for nuclear power design and research in all needed disciplines and knowledge and at reasonable age.

Driven by nuclear power development, the important links of nuclear fuel cycle such as natural uranium production, low-enriched uranium processing, fuel element fabrication has gained significant progress through technology introduction and independent development. Several Achievements in different phases have been made in the aspects of spent fuel reprocessing, treatment and disposal of high-radiological waste liquid and MOX fuel.

China is also actively carrying out research and development on other nuclear energy applications than nuclear power. The high-temperature gas cooled reactor of 10MWe was completed in 2003, and the China experimental fast reactor is under construction. A lot of work has been done in hydrogen production by high-temperature reactor, heating supply by low-temperature reactor and seawater desalination. Isotope and radiology technology is widely applied in medicine and health, industry, agriculture, environmental protection and public security in China. Efforts have been devoted to expand the scope and scale of nuclear technology application, increasing the varieties of technology and products with independent intellectual property rights, and fostering backbone enterprises with innovative capability and advanced technology, so that the non-power nuclear technology application may do great contribution to the national economic development.

The Chinese competent authorities make macro control on nuclear energy development through formulating related regulations, policies and development planning. With full exercise of governmental function on industry management, relevant authorities actively support the evaluation and experience feedback of power

plant operation, and attach importance to the investment in nuclear technology research and retrofit of R&D infrastructures. In order to ensure the safe, reliable and healthy progress of China's nuclear energy industry, Chinese relevant governmental organizations fully exercise the authorized function on nuclear safety supervision, establish the nuclear safety standard and supervision management system in line with the international practice, carry out safety licensing on NPPs and other civil nuclear facilities, and implement supervision on the whole process.

To cater the sustainable development demand on human resources, more than a dozen universities with subjects of nuclear science and technology, including the Tsinghua University, Beijing University, Xian Communications University, Shanghai Communications University, and Harbin Engineering University, provide large amount of qualified personnel to nuclear industry. They are the major routine channel of human resource for China's nuclear industry development. Taking the Tsinghua University as an example, about 300 students majoring in nuclear disciplines were orientedly trained for China National Nuclear Corporation(CNNC) from 1996 to 2003, providing high-quality new force to the company. Meanwhile, both China National Nuclear Corporation and China Guangdong Nuclear Power Holding Corporation attach great importance to the on-the-job training and whole-life education of the staff, and improve the staff's knowledge of nuclear science and technology and professional ability through regular training, qualification certification, and strict examination. As the medium and long term planning for nuclear power development has been decided and new projects approved, the demand on qualified personnel of nuclear power designing, construction, operation and maintenance is going to further increase and human resource reserve will become one of the major challenges to the sustainable development of nuclear energy in China. To face this challenge, related governmental organization of the Chinese Government is formulating the 2006- 2010 planning on cultivating qualified personnel of nuclear science and technology. And I will further talk about the issue of human resource in this region in the round-table discussion.

Mr. Chairman, while speeding up the development of peaceful uses of nuclear energy, China pays close attention to the development of the global nuclear energy development and has supported and participated in different multilateral and bilateral activities.

The FNCA, as an important stage for multilateral nuclear energy cooperation in this region, has demonstrated growing influence to the social and economic development in this region with joint efforts of the member states ever since its official establishment in 2000. We learned from the today's introduction on the forum's activities that this year cooperative activities in the eight fields under the forum framework have been successful and effective. Member states has not only given more

attention to the relationship between the forum and other cooperative mechanism, but also brought forward constructive ideas on evaluation of cooperative programs under the forum and selection of new projects. The panel meeting “Role of nuclear energy in sustainable development in Asia” was held for the first time this year in which topics of the energy development strategy and the role of nuclear energy for sustainable social and economic development in this region were widely discussed. Member states’ participation and positive attitude to these activities are to the interest of the steady and healthy development of the forum.

Mr. Chairman, China, as one of the member states, has always given confirmation to the positive role of the forum in promoting peaceful uses of nuclear energy in this region, performed our duties within the forum’s framework, and carried out and participated in exchange activities in various fields. We are confident that with our joint efforts, the FNCA will continue making contribution to promoting the development of peaceful uses of nuclear energy in this region and the world as long as all member states stick to the principles and objectives set at the establishment of the forum.

Thank you.