Keynote address
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Mr. Chairman, dear colleagues, ladies and gentlemen, good morning,

It is my great honor to be invited to attend today's Senior Regulators' Meeting of IAEA General Conference. I am very pleased to share the podium with Chairman Klein. I would like to also thank Chairman Klein and USNRC for the longtime supports to NNSA. I would like also take this opportunity to thank Mr. Lacoste for ASN's longtime support to NNSA.

In the past 28 year's nuclear safety cooperation between China and US, NRC has provided comprehensive and effective supports to NNSA. NNSA benefits a lot from such cooperation in many aspects. Since China announced the plan to build four AP1000 reactors, the cooperation between NRC and NNSA has entered a new stage. From this year, NNSA will conduct independent nuclear safety review and surveillance to AP1000 based on Chinese safety regulations, codes and standards. NRC will provide assistance to NNSA in the following 5 areas related to AP1000: (1). use of codes and

standards as well as technical documents for the licensing process of AP1000; (2). computer codes application for nuclear safety analysis; (3) consultation during safety review; (4) training for NNSA staff; (5) based on the need and upon NNSA request, NRC experts will be invited as consultant in the inspection of key safety-related components during manufacturing.

I fully agree with Chairman Klein that the regulator should pay high attention to the quality of components fabrication. By recognizing this point, supervision on safety-related components has been strengthened in China. According to “Regulation on Supervision and Control of Civilian Nuclear Safety Component” promulgated in 2007 by the State Council, relevant licenses should be obtained prior to carrying out activities on the design, manufacture, installation and non-destructive test of civilian nuclear safety component. The welders, welding operators and the non-destructive test personnel, should apply for qualification license from NNSA before they conduct related works.

Ladies and Gentlemen,

Nuclear and radiation safety, compared with conventional industry and

environmental safety, has the characteristics of happening unexpectedly, not easily perceptible, difficult to be recovered, gravely concerned by the public and global impact. Therefore, it is essential to set up a rational regulation system to ensure nuclear and radiation safety.

During the past years, while Chinese nuclear power and nuclear technology application have been developed rapidly, the level of nuclear and radiation safety has been effectively maintained and improved. It shows that not only the China's nuclear industry has been making great efforts for the work, but also the set up of regulatory system in China is relatively rational and feasible, and is in accordance with general rules of safety regulation. There is a lot of practical experiences worth to be summarized and be taken as reference.

In summary, Chinese nuclear and radiation safety regulatory infrastructure has 9 features as follows:

1. The notion of nuclear and radiation safety has been propagandized widely and established firmly. This notion includes: a) nuclear and radiation safety is an important part of national security; b) "safety first, quality first"; c)

nuclear and radiation safety is the biggest economic benefit; d) nuclear and radiation safety is the lifeblood of nuclear energy and nuclear technology application; e) strict nuclear and radiation safety regulation is the strongest support to the regulated enterprises; f) the key point of safety oversight is prevention.

2. Insisting on the principles of safety regulation: “independence, openness, legislation, reasonability, and effectiveness”. Independence can ensure that the regulation will not be affected by the regulated enterprises, and the longtime objectivity and justness can be achieved. Open regulation makes public have the opportunity to know the process and the result of supervision in order to avoid the unnecessary suspicion and fear. At the same time, openness can enforce the regulated enterprises to comply with the law and safety responsibility, correct their existing mistakes, and improve their work continuously. Legislation means all surveillance work implements according to law to avoid being affected by any subjective factors. Reasonability means the execution of supervision is logical and reasonable, it can satisfy the requirements of related laws and responsibility. Effectiveness means the

regulation activities are reliable, and positive to resolve the safety problems and improve the safe level of the nuclear facilities

3. Unifying the responsibility and function of regulation into one authority body and maintaining it independence completely. China has unified the whole nuclear and radiation safety regulation responsibility to the Ministry of Environmental Protection (NNSA). This adjustment really resolves the function-conflicting problems between different administrative departments. Additionally, the safety authority is completely independent from development department in organization setting, staff appointment, administrative management, financial support, technical assurance, which ensures the nuclear and radiation safety regulation to be implemented properly and correctly.

4. Emphasizing and making effort in the establishment and optimization of technical codes and standards continuously, and maintaining at the international advanced level. The Chinese nuclear and radiation safety technical codes and standards are established mainly based on the IAEA's code and standard system combining with the domestic experience. They play an important role in the nuclear and radiation safety regulation in China.

5. China has established a completed safety regulation organization. The Chinese nuclear and radiation safety regulation system consists of the headquarter, technical support organizations and regional inspection offices. Regional offices are responsible for daily supervision of nuclear installations. For those important facilities, 24 hours on-site supervision will be conducted. When accident occurs, the regional offices will have the first time emergency response and start investigation immediately.

6. A strict control system of safety license to different stages of the nuclear installation has been established with complete, independent and effective law enforcement and measures including shutdown and revoke licenses. The important facilities with big influence are regulated by central administration; others are regulated by local environmental protection administration department.

7. Emphasizing cultivation of safety culture, paying an attention to the training and re-training of staff. Establishing and carrying out strict quality assurance system, and enhancing operational experience feedback actively.

8. Giving great attention to the international cooperation of nuclear and

radiation safety. Many developed countries have applied nuclear energy and nuclear technology for a long time, and they have plenty of experience in nuclear and radiation safety research and supervision. It has been clearly proved that valuable experience from international cooperation will benefit China greatly to avoid unnecessary mistakes.

9. Establishing comprehensive emergency preparedness and response system. Emergency preparedness and response system in China originated in 1980s. After many years' improvement, now China has accumulated much experience and has built strong emergency response capability.

Certainly, current Chinese nuclear and radiation safety regulatory mechanism is not perfect. However, this mechanism must be insisted and enhanced at present stage firstly, and then it can be gradually improved and developed according to the implementation situation. We have the confidence that, with the further adjustments and improvement, nuclear and radiation safety regulatory mechanism will be more perfect henceforth. It will take more actively effect on ensuring national nuclear and radiation safety, promoting

sustainable development of nuclear energy and nuclear technology application.

Ladies and Gentlemen,

In the next 12 years, nuclear power in China will be developed in larger scale and in unprecedented high speed, as well as the level of self design and localization will be increased significantly. As of this year 2008, 11 units of nuclear power plants are in operation, 10 units of generation 2 plus (M310 plus modification) are now under construction. Another 8 units of generation 2 plus will start the construction in the next two years. In addition, NNSA has received the application of AP1000 and EPR, and 4 units of AP1000 and 2 units of EPR will also be constructed in the next few years. By 2020, it has been planed that 40 gigawatts of nuclear power will be reached, and even, may expand to 60 gigawatts by some optimistic estimation.

Meanwhile, when the nuclear power originated in the early step in China, the situation of multi-nation import, multi-type reactor, and various standards now results in different technology, system, operation and management style.

The situation exists rarely in other nuclear power countries, and it's difficult to the Chinese safety regulation.

Nuclear and radiation safety regulation in China is facing big stringent challenges due to the new plant construction and existing plant operation, as well as the more attention paid by the public.

Among the challenges, the human recourses is the outstanding one. The development of Chinese nuclear power needs large amount of professional personnel. Therefore, the training of professional personnel needs to be strengthened with great effort in the field of scientific research, nuclear reactor engineering, design, manufacture, engineering management, fuel, operation and maintenance management, nuclear and radiation safety, etc.

Facing challenge of nuclear and radiation safety, NNSA will takes following active measures to ensure effective regulation: to insist continuously on the principle of "Safety First, Quality First"; to improve the safety legislation and licensing frameworks, to revise safety regulations; to improve methods of nuclear safety review and inspection; to increase human and financial resources, improve technical capability and internal quality

management; to intensify training at various levels and to promote nuclear safety culture; to strengthen the international cooperation, and very important, to enhance the public confidence for nuclear safety, which I really share the same belief with Chairman Klein, that a strong independent regulator is essential to ensure nuclear safety and the public confidence.

Finally, on behalf of National Nuclear Safety Administration of China, I would like express my deep feeling of how happy we are here today to participate in this annual Senior Regulators' Meeting. I look forward to sharing the valuable experience with my colleagues in this important meeting, and I wish our meeting a fruitful success.

Thank you very much!