

Asian Nuclear Safety Network Education and Training Topical Group
Regional Workshop on the Management of Training Systems for Nuclear and Radiological
Safety

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PNRI, Manila, Philippines

The Potential of Nuclear Energy is Boundless

Collectively We Can Forge a More Promising Future

CHINA

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PART 1

National Arrangements and Requirements for Nuclear and Radiological Safety

National Arrangements and Requirements for Nuclear and Radiological Safety

- **China has always adheres to the concept of rational, coordinated and balanced nuclear security, and to advance the nuclear security process in a comprehensive and systematic way is the core of China's nuclear security concept.**
- **China adheres to the concept of safe development and strives to explore effective ways to strengthen nuclear security. It has incorporated nuclear security into the overall national security system, written it into the National Security Law, and defined the strategic positioning of nuclear security.**

PART 2

Company Overview



Company Overview

■ China National Nuclear Corporation (CNNC)

- CNNC is a crucial state-owned enterprise, established with the approval of The State Council and under direct management by the central government.
- CNNC serves as the principal entity in the national nuclear science and technology industry, playing a pivotal role in nuclear energy development, construction, and technological applications.
- Equipped with a comprehensive nuclear science and technology industry system, CNNC bears the significant responsibility for promoting national economic and social development.



Company Overview

■ China National Nuclear Corporation (CNNC)

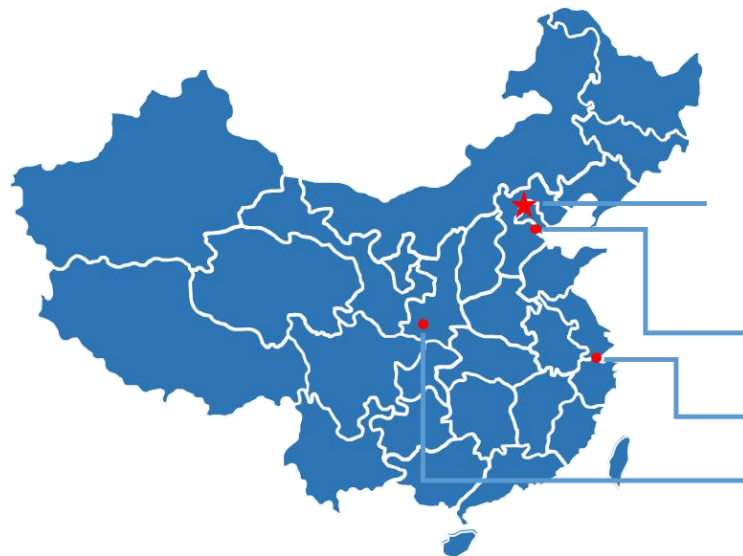
- CNNC has established a sound nuclear industry chain.
- CNNC adheres to the core values of "responsibility, safety, innovation and synergy", and continues to promote safe and innovative development and peaceful use of nuclear energy。



Company Overview

■ Nuclear Industry Management College (NIMC)

- Nuclear Industry Management College is the organization directly under CNNC Group and is the main platform for talent education and training of the Group company. With the history of nearly 60 years, the College is the "frontline of party building, cradle of talent training, education base and decision support platform of the Group company.
- The college has three campuses and two branches.



Daxing District Campus

Fangshan District Campus

Tianjin Campus

Nuclear power engineering branch

Uranium enrichment branch

Company Overview

■ Nuclear Industry Management College (NIMC)

In the course of past education and training, NIMC has obtained a variety of qualifications, including:

- CNNC high-level nuclear science and technology personnel training base
- National Energy Administration nuclear power plant operator basic theory training base
- National education and training base of the Ministry of Ecology and Environment

And so on, about a dozen items.

PART 3

The Establishment of Nuclear and Radiation
Safety Training System in Nuclear Industry
Management College

The Establishment of Nuclear and Radiation Safety Training System in NIMC

- A multi-dimensional training system for nuclear and radiation safety will be established
- Relevant courses are set up in postgraduate education curriculum system, professional and technical personnel training, skilled personnel training



- Multi-dimensional refinement of nuclear and radiation safety training system

- Training of managers in the nuclear field and practitioners in different positions in the nuclear field, postgraduate education, and nuclear science popularization by the public

- The establishment of a training system for nuclear and radiation safety was jointly promoted by various parties
- Government, nuclear experts, educational institutions

The Establishment of Nuclear and Radiation Safety Training System in NIMC

■ Take professional and technical training for example

In 1988, the course of nuclear power basic theory and English training began. For more than 30 years, the training has always been adhered to the nuclear characteristics and served the nuclear industry, and has now expanded to the basic theoretical training of the whole industrial chain in the nuclear field. So far, it has trained more than 22,000 students.

● Textbook Construction

- We have compiled seven series of textbooks, containing nearly 100 books, and all the series are set in the radiation protection and nuclear safety related teaching materials.

A set of 14 textbooks for nuclear and radiation safety training.



国家能源局《压水堆核电厂操纵人员基础理论培训系列教材》

国家核安全局初任业务培训系列教材

中核集团《核电厂新员工基础理论培训教材》

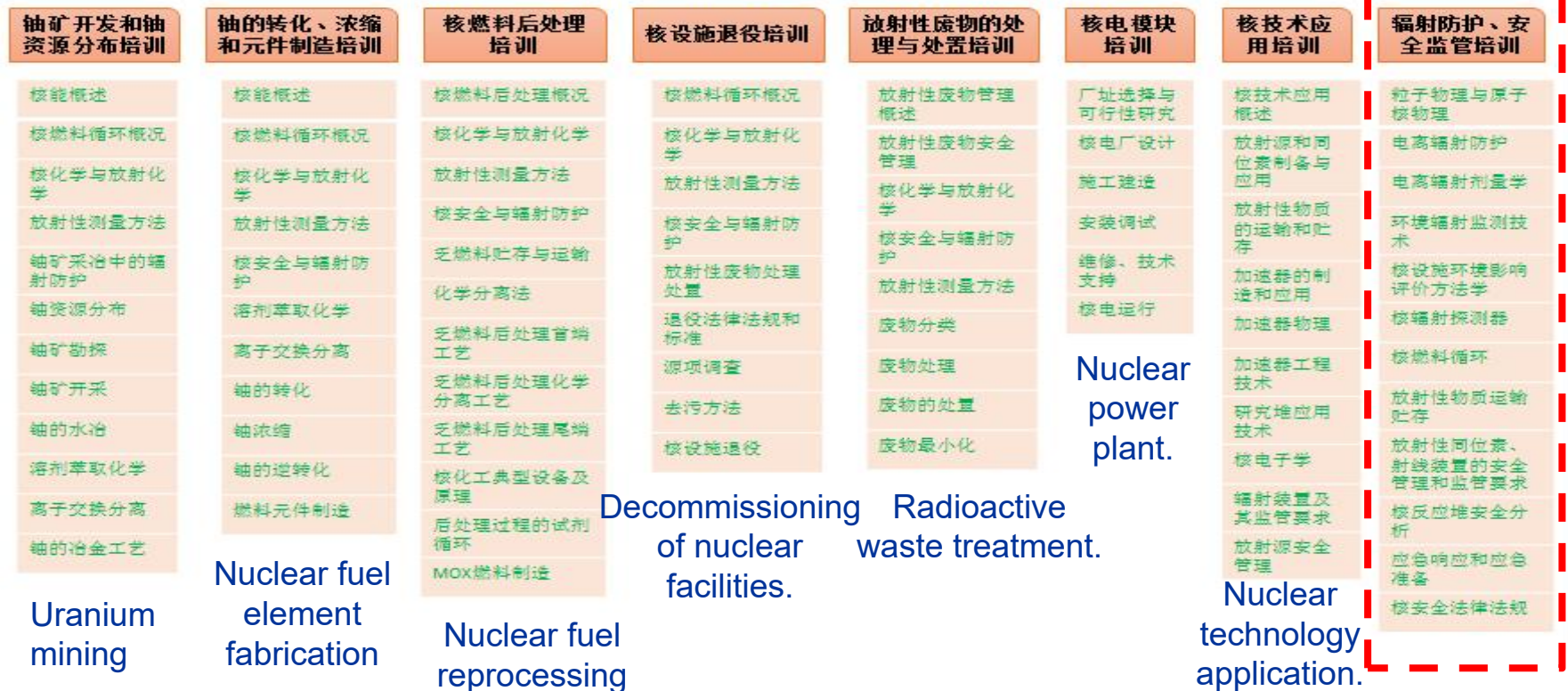
The Establishment of Nuclear and Radiation Safety Training System in NIMC

■ Take professional and technical training for example

Curriculum System

Radiation protection and safety regulation training courses.

横向：覆盖核工业全产业链的培训课程体系



The Establishment of Nuclear and Radiation Safety Training System in NIMC

■ Take professional and technical training for example

Nuclear power module training course system

核电模块培训课程体系

厂址选择与可行性研究	核电厂设计	施工建造	安装调试	维修、技术支持	核电运行	核电管理
核能概述	核安全文化	核安全文化	核安全文化	核安全文化	核安全文化	核安全与安全文化
核电前期工作和可行性研究	反应堆工程原理	核反应堆物理	核反应堆物理	核反应堆物理	核反应堆物理	核电项目管理
厂址选择过程及方法	反应堆设计原理	核反应堆热工	核反应堆热工	核反应堆热工	核反应堆热工	核电工程管理
公众沟通	核反应堆物理	核电厂材料	核电厂材料	核电厂材料	核电厂材料	核电厂质量保证
人力资源准备	核反应堆热工	核电厂水化学	核电厂水化学	核电厂水化学	核电厂水化学	不同堆型核电厂介绍
核电项目管理	核电厂材料	核电厂通用机械	核电厂通用机械	核电厂通用机械	核电厂通用机械	核燃料循环综述
核电厂总体介绍	核电厂水化学	核电厂仪控	核电厂仪控	核电厂仪控	核电厂仪控	核安全法律法规
核电厂总体平面规划	核电厂通用机械	核蒸气供应系统	核蒸气供应系统	核蒸气供应系统	核蒸气供应系统	核电厂辐射防护
不同堆型核电厂介绍	核电厂仪控	蒸汽动力转换系统	核电厂电气系统	蒸汽动力转换系统	蒸汽动力转换系统	核能概述
核电厂系统与设备	核蒸气供应系统	核电厂电气系统	核电厂辐射防护	核电厂电气系统	核电厂电气系统	核电厂系统与设备
核安全与安全文化	蒸汽动力转换系统	核电厂辐射防护	核电厂核安全	核电厂辐射防护	核电厂辐射防护	集团核电建设经验
	核电厂电气系统	核电项目管理	核电厂运行	核电厂核安全	核电厂核安全	
	核电厂辐射防护	核电工程管理	核电项目管理	核电厂运行	核电厂运行	
	核反应堆安全分析	核电质量管理	核电工程管理			
	核反应堆概率安全分析	核电厂质量保证	核电厂质量保证			

<Radiation protection for nuclear power plant>、<Nuclear power plant safety>、<Nuclear safety culture>...

The Establishment of Nuclear and Radiation Safety Training System in NIMC

■ Other education and training activities of the NIMC

➤ Master's and doctoral education

- With the fundamental task of "cultivating morality and cultivating people", we adhere to the orientation of nuclear characteristics and the goal of covering the nuclear industry, and carry out high-quality postgraduate education.
- Since 1985, it has trained more than 5,500 postgraduate students.
- A total of more than 110 courses are offered , highlighting the foundation, focusing on the frontier, and strengthening practice.



The Establishment of Nuclear and Radiation Safety Training System in NIMC

■ Other education and training activities of the NIMC

➤ Skilled personnel education and training

- NIMC have undertaken the task of building the skilled personnel team of the nuclear industry of China National Nuclear Group since 2010, and built a broad platform for the growth of skilled personnel.
- NIMC has organized the compilation of 40 national vocational skills appraisal training materials, 25 professional skills training standards for skilled personnel of the group, and developed more than 210 vocational skills training courses.



The Establishment of Nuclear and Radiation Safety Training System in NIMC

■ Other education and training activities of the NIMC

➤ **Network education platform**

- In February 2020, the construction of the online learning platform was completed. So far, it has provided training to 320,000 people .
- The platform can provide online learning, online class training, blended learning, social learning, course management, class management, teacher management, expert management, research, evaluation, online examination, online live broadcast, news information, task push, points mall, micro-course competition, knowledge base, job management, learning data query, big data analysis and other services.



The Establishment of Nuclear and Radiation Safety Training System in NIMC

■ Other education and training activities of the NIMC

➤ International Cooperation

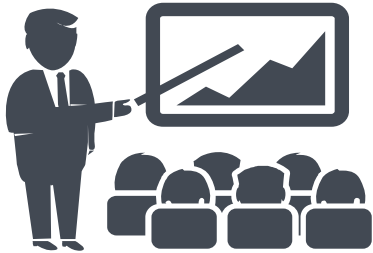
NIMC has actively carried out cooperation and exchanges in nuclear education and training with IAEA and CAEA. The first China-IAEA Nuclear Energy Management School was established in our Institute, and has undertaken basic theoretical training programs in Pakistan, Sudan, the Arab League and Saudi Arabia, exploring a new path for higher-quality Belt and Road cooperation.



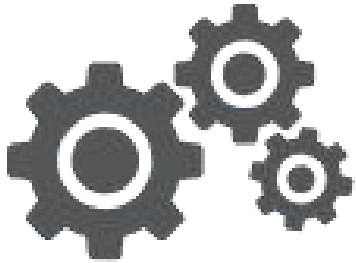
PART 4

Challenges in Education and Training

Challenges in education and training



- **More work needs to be done on popularizing nuclear safety, but for complex groups, public acceptance of nuclear safety is limited;**



- **The Nuclear Industry Management College needs to further strengthen the systematic construction of nuclear and radiation safety education and training, especially online.**

- **China has always placed nuclear safety as its utmost priority in the peaceful utilization of nuclear energy!**
- **NIMC will do its utmost to strengthen the establishment of a robust nuclear and radiation safety training system, thus contributing to the advancement of nuclear energy for the benefit of humanity!**
- **Looking forward to a better future!**

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Thank you!

