



That happened in September:

Who are the Stakeholders

in the nuclear quality management and process?

Arnaud Lefevre

In China, the Fukushima accident has not only brought into question the safety of nuclear power plants. The quality of management and education are now the main focus of the Chinese nuclear industry.

The international seminar on nuclear safety and serious accidents, hosted by SNPTC, involved 167 experts and scholars from sixteen countries and highlighted the continuity of China's nuclear expansion⁽¹⁾.

The dilution of experienced staff by the arrival of fresh graduates reveals an impractical education system that cannot match the requirements of the construction, engineering and operation of nuclear power plants.

During the month of September at least twelve different events were dedicated to education, safety, standards, and management.

The education industry had the opportunity to express its concerns in Xining. Invited by CNNC with 35 delegates from research institutes, nuclear power plants and government officials⁽²⁾, the participants indicates the lack of a joint training policy, exchange training programs, different admission selection methods and curriculum, no paper requirements, no mentor team building, and distinctive education management systems.

On the other hand, representatives from the nuclear power training groups stated their internal demand to ensure the safe operation of nuclear power. As per examples, Jiangxi Nuclear has taken steps to become a training department, responsible for corporate training work, while the China Nuclear Energy Association, with Suzhou Thermal Power Research Institute, organized a working group on the reliability maintenance in the nuclear base of Haiyan.

During the nineties, China had no major investments in the nuclear industry and most of the universities reduced their nuclear education. Consequently, the restart of the nuclear program in 2006 was disturbed by the lack of human capital. In 2012, the significant shortage of experienced nuclear power staff still affects the quality and safety properties of construction sites.

The Fourth Institute of Nuclear Engineering of CNNC that hired external quality assurance experts to provide expertise in nuclear engineering quality control and assurance management conveyed one solution.

CNI 23 brought another solution. The SOE issued training materials on construction company knowledge management, these included the following fields: technology, welding, quality, safety, financial expertise, business, human resource, information document management, and administration.

Would such training material become a domestic reference in the construction industry?

The Chinese Nuclear Society is moving in that direction. It retained Fuqing Nuclear Power Company Limited to undertake the nuclear industry information resources sharing platform known as the Nuclear Technology Digital Library. This platform is set to gather all the knowledge from the industry.

What that project does not indicate is whether or not the quality assurance audit from other nuclear power plants, such as the newest "Quality Month Program" of Fangjiashan, would be available on this platform.

The signal could come from CNNC and Ventyx Enterprise Asset Management that built a nuclear power plant production management system, known as the N1-EAM to obtain standardized information platform stage results. All units from Fuqing, Fangjiashan and Hainan Nuclear Power plants will be the pilot projects.

The other significant improvement in quality assurance systems in September comes from the manufacturers, in particular in the Zirconium, the welding and the AP1000.

Gao Pengfei, deputy general manager of State Nuclear Baoti Zirconium Industry gave a lecture on nuclear product quality assurance for the Zirconium and Titanium industry. Besides, CNI 23 unified its quality assurance system operation for its new welding's assessment center.

In Shandong, Yantai nuclear power base built a 40,000 square meter project to manage the AP1000 nuclear island engineering, production and operation of major special issue of R&D. A competitive project to the Yantai base is the Advanced Civil Engineering Materials Collaborative Innovation Center. The center was created by eight universities⁽³⁾ and is led by Huaxing Construction Company, inaugurated in Nanjing to become a demonstration platform and joint laboratory-training base.

The month of September denoted a fascinating vitality from all the stakeholders in the nuclear power industry to improve the fields of education, training, design, manufacturing and management. In these regards, we believe the industry should integrate in and use the new digital library of Fuqing, analyze the CNI 23 new model of management and finally support the expansion of Yantai, Haiyan and Nanjing bases.

(1) Delegates from Shanghai Jiaotong University, Korea Advanced Institute of Science and Technology University, the University of Tokyo, and the International Atomic Energy Agency.

(2) Delegates from National Nuclear Security Administration, the Nuclear and Radiation Safety Center, China Academy of Engineering Physics, Huaneng Nuclear Power Development Co.

(3) Including the following institutions: Southeast University, Tongji University, Tsinghua University, China Nuclear Huaxing and Jiangsu Provincial Architectural Institute of Science and Technology