

Enhancement of Nuclear Security Culture with Implementation of Nuclear Security Education at PIEAS

Nuclear Security education and training is very important for all personnel who are directly or indirectly involved with the nuclear industry. Pakistan Institute of Engineering and Applied Sciences (PIEAS) is the leading educational and training institute in Pakistan for master programs in various fields related to nuclear engineering and technology. Recognizing the importance of nuclear security education, PIEAS offers a sub-specialization in Nuclear Security in its MS Nuclear Engineering program to ensure its long terms policy of developing nuclear security expertise among nuclear scientists and engineers at post graduate level.

PIEAS started its nuclear security education program as subspecialty of its Master of Science (MS) in Nuclear Engineering Program in October 2009. Two courses, Nuclear Security and Physical Protection Systems have been offered regularly since then. These courses are offered to scientists and engineers who work either as operator or as regulator at various nuclear facilities. So far, 99 students have graduated with this specialty. It has been observed that nuclear security education at PIEAS has instilled security culture in their actions as second nature and is helping them in the development of nuclear security culture in their respective departments. The graduates who are working as operators have set a positive example for personnel by complying with nuclear security requirements, following nuclear security procedures, remaining vigilant, executing their work more diligently, and exhibiting high standards of personal and collective accountability by being a nuclear security culture role model. They have been able to promote an overall positive work environment by improving productivity, to reinforce safety-security interface by adhering to the better safety precautions, and to reduce the potential for an insider threat by decreasing the possibility that the facility personnel will perform, support, or ignore any malicious acts. Those who joined as regulators, have facilitated in updating the nuclear security regulations by upgrading the nuclear security and the physical protection requirements for nuclear materials and facilities. This has also made them capable of inspecting and evaluating (in collaboration with security personnel) the existing security systems, predicting their performance against changing threat scenarios, and stay ahead of evolving threats, capabilities and tactics by an intelligent adversary. An assessment process for nuclear security culture among the scientists and engineers, as per guidelines of IAEA, is currently in progress also.

This paper will present the experiences and lessons learnt related to enhancement of nuclear security culture by implementing nuclear security education for scientists and engineers working at various national nuclear facilities. The results of the nuclear security culture assessment survey will be presented. The significance and importance of interaction of PIEAS with other elements of Centre of Excellence (CoE), i.e., PCENS and NISAS, in improvement of nuclear security culture will be highlighted. The role of nuclear security educational labs, established recently at PIEAS in collaboration with IAEA and PNRA, in enhancement of nuclear security culture will also be discussed.

Gender

Male

State

Pakistan

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