

Evaluation and Assessment of Nuclear Threat and Security Interfacing

A threat and security analysis concerning the Physical Protection System (PPS) of Nuclear material (NM) and Radioactive material (RM) is a complex sector because of their widely used in justifiable functions like in industry, medicine, agriculture and scientific research. But their probable factors may be misrepresented by the incorrect performer to achieve particular anti-state goal in the form of deterrence and violence. Besides, threats in the forms of terrorism are nowadays seen from terrorists obtaining NM and RM in order to expand and fabricate radiological weapons specially capitalizing by the spirit of the fundamentalism and extremism. Therefore, a threat and security analysis and evaluation relating to the PPS of NM and RM such as nuclear fuel, nuclear waste, other radioactive substances and associated facilities dependent on the number of disparate and non-quantifiable features. These features involve technical, organizational, political, ethical and national security issues, and must be approached on the basis of expert judgments and evaluations. Hence, this study presents a comparative evaluation and assessment of threat and security interfacing for structuring and investigating the total set of relationships contained in multi-dimensional and non-quantifiable problem complexes. It is especially useful for the initial structuring of very complex socio-technical issues when there is limited time and resources. A very good co-relation has been found between level of violence or deterrence created by the localized accumulation using fuzzy expert system (FES). The study also presents the evaluation of safety and security as well as the vulnerability with predictive analysis. Hence, relevant national and international community should treat equally the legitimate possession of the RM and NM from the viewpoint of terrorism impact. Additionally entry control and subsequent usages of management, legitimate organization must be incapacitated.

Gender

Male

State

Bangladesh

Author: Dr HOSSAIN, Md Altab (Department of Nuclear Science and Engineering, Military Institute of Science and Technology)

Co-authors: Dr AKBAR, Mohammad Shawkat (Bangladesh Atomic Energy Commission, Dhaka, Bangladesh); Mr MAWLA, Md Rosaidul (Department of Nuclear Science and Engineering, Military Institute of Science and Technology)

Presenter: Dr HOSSAIN, Md Altab (Department of Nuclear Science and Engineering, Military Institute of Science and Technology)

Track Classification: CC: Nuclear safety and security interfaces