Contribution ID: **63** Type: **ORAL**

Harmonization in International Framework for Transport Safety & Security of Radioactive Material and National experience in Safety-Security Interface

The international framework for the safe and secure transport of nuclear and other radioactive material by all modes of transportation (land, water, air) comprises of IAEA Regulations for the Safe Transport of Radioactive Material (SSR-6) (Rev.1), Convention on Physical Protection of Nuclear Material and its amendment (CPPNM/A), IAEA NSS No. 13, IAEA NSS No. 14, UN Orange Book on the Transport of Dangerous Goods and Modal Transport Regulations. The Modal Transport Regulations for dangerous goods include IMDG Code for sea, ICAO Technical instructions for air, European agreement ADR for road, RID for rail transportation and ADN for Inland waterways.
The IAEA standards play a vital role in encouraging Member States to implement a harmonized approach in safe and secure transport of nuclear and other radioactive material. However, based on experience during implementation of these standards, the following areas still need to be harmonized:

i. In order to define the basic and enhanced security level/measures for transport packages, the IAEA NSS-14 refers to the older version of IAEA SSR-6 i.e. TSR-1 2009 edition. However, the safety standard has been revised multiple times after 2009 i.e. in 2012 and 2018. Besides other changes, some of the major changes in SSR-6 2018 edition are the introduction of new classification of radioactive material SCO-III-Surface Contaminated Objects (large objects which cannot be transported in a type of package because of their size) and requirements for shipment of packages (dual purpose casks) after long term storage. Therefore, for a harmonized approach, the IAEA NSS-14 should consider the new areas defined in SSR-6, 2018 edition.
ii. The IAEA safety standard refers transport comprised of design, manufacture, maintenance/repair of packaging, preparation, consigning, loading, carriage including in-transit storage, shipment after storage, unloading and receipt at the final destination of loads of radioactive material and packages. However, the security standards refer transport comprised of carriage of radioactive material beginning with the departure from a facility of a shipper to arrival at facility of receiver. Furthermore, the categorization concept in safety and security standards is applied in different context. Therefore, the IAEA safety and security standards should be revisited for harmonization of these concepts.
iii. Recognizing the fact that both safety and security have a common aim to protect persons, property and environment from harmful effects of radiation, the IAEA SSR-6 section III (General Provisions) should also consider inclusion of requirements related to "Safety-Security interface during transport". In addition, in Annex I of SSR-6, all relevant security standards are referred, however, IAEA recommendation level standard NSS-14 is missing, which is equally relevant in the context of secure transport of radioactive material. During the next revision of SSR-6, NSS-14 may also be included in the list of referred standards in Annex I.
One of the tools for harmonization is to enhance safety-security interface among the areas during development of safety and security framework for transport of radioactive material. During implementation of transport safety and security framework in the country, difficulties were faced in complying the requirements in safety-security interface areas related to Marking, Labelling and Placarding of transport packages and conveyances. During implementation of such requirements as per Section V of SSR-6, it creates an additional security threat/concern for the States due to visible information for adversaries to perform any malicious act. Therefore, IAEA safety & security standards should consider the said areas for effective implementation of the requirements at national level.
This paper will highlight the key areas for harmonization of IAEA safety and security framework. It will also share national experience related to safety-security interface during transport of radioactive material and challenges & difficulties faced during implementation of safety-security framework.

Country or International Organization

Instructions

Author: KHAN, Adnan (Pakistan Nuclear Regulatory Authority)

Co-author: Mr HUSSAIN, Safeer (Pakistan Nuclear Regulatory Authority)

Presenter: KHAN, Adnan (Pakistan Nuclear Regulatory Authority)

Track Classification: Track 1 Legislative and Regulatory Framework for Safe and Secure Transport