Interface Issues in Transport: Safety/Security and Emergency
Frank Koch, Switzerland 12.09.2018

Introduction
Recently the IAEA has introduced two additional committees: the Nuclear Security Guidance Committee (NSGC) and the Emergency Preparedness and Response Committee (EPReSC). Both committees have interfaces to the Transport Safety Standards Committee (TRANSSC). Several security documents of the NSGC address transport such as NSS No. 9 (Security in the Transport of Radioactive Material) and No. 26-G (Security of Nuclear Material in Transport). With respect to EPReSC, it is mainly the Former TS-G-1.2 (Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material), which should be now updated by EPReSC as the leading committee.

These interface issues require a basic understanding of the needs and specifics of the other domain to find reasonable solutions and improvements. With respect to the safety/security interface, the IAEA has already identified the need for rather intensive collaboration of the two domains. Some valuable measures have been implemented to improve the interface such as the Coordination Committee, Conferences addressing both domains and particular interface documents (TECDOC “Managing the Interface between Safety and Security for Low-Activity Radioactive Material in Transport”).

This INF-paper explains special features of the transport domain and tries to provide reasons for possible misunderstandings. The paper highlights the problems occurring in transport practice because of these misunderstandings. Finally, proposals for possible amendments of the situation will be provided.

Issue
Most IAEA documents are created for nuclear power plants, which is the main focus of the IAEA to ensure nuclear safety. Power plants are usually on one place for the whole lifetime. Member states have to implement their own national regulations based on IAEA documents to assure safe operation of nuclear power plants.

Transport is an activity, which enables the movement of radioactive and nuclear material crossing borders and using land, sea and air mode. So, an internationally harmonised approach for regulatory control is essential to feed industry, consumers, researchers and hospitals with a wide range of radioactive and nuclear products using reasonable transport infrastructure. Therefore, for most of the member states, the IAEA Transport Regulations are transferred to the regulations for all dangerous goods provided by the United Nations (UN model regulations better known as the UN orange book) and subsequently transferred again to international land, sea and air transport regulations. Safety, security and emergency provisions are not only necessary for radioactive or nuclear material but also for other hazardous materials covered by the above mentioned UN orange book. Those provisions can be significantly different for land, sea and air mode.
The recommendation often made by experts in the security or emergency domain to consider national arrangements are easier to fulfil for an operator of a nuclear power plant, because it has usually to comply with one national regulation set, but it is quite difficult for a consignor in the transport domain, because it has to comply with multiple national regulations. Some consignors, even in Switzerland, have to transport regularly to destinations in more than hundred countries all over the world. Therefore, the transport modes have harmonised security and emergency provisions to enable transport of dangerous goods at all.

The approach followed by security and emergency experts is often nationally driven, because threat levels and emergency infrastructure can be quite different in the member states. These national differences can be acceptable for nuclear power plants but not for internationally harmonised transport activities. It will be necessary to reach consensus on a higher level respecting provisions for other hazardous materials and transport modes. Safety improvements have to fit into the internationally harmonised regulatory framework for dangerous goods.

The proposals made by security and emergency experts are clearly based on the leading IAEA documents such as NSS No. 13 and GSR Part 7. Transport is usually not directly addressed in these documents. Therefore, the duties assigned to the operator of a nuclear power plant are usually transferred to the consignor. But this is not adequate. A transport activity consists of various stakeholders such as consignor, consignee, carrier, packer or loader. The stakeholders themselves can be quite different due to the product transported: Consignors can be a simple craftsmen sending fire detectors to the waste collecting facility, a research institute sending radiopharmaceuticals to hospitals or a mining company sending uranium ore to a conversion facility.

Proposal

The collaboration between the concerned committee members of TRANSSC, NSGC and EPreSC could be improved. Common committee meetings could be contribute to a better understanding.

In advance of the first draft of a document, an intensive discussion between members of the different committees has to take place.

The specific aspects of the transport domain have to be clearly respected:

- Is the proposal in compliance with the internationally harmonised approach of the transport regulations?
- Is the proposal applicable for the land, sea and air mode and multimodal transport activities?
- Is the proposal adequate with respect to the variety of consignors or other concerned stakeholders in the transport domain?