



Consideration on safety and security, prevention of accidents or malicious acts during the transport of radioactive material-a challenge

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Abstract:

The transport of Dangerous Goods-Class # 7 Radioactive Material (RAM)-according to the UN classification is an important part of the Radioactive Waste Management Area.

The work will presents a safety case due to the transport, by road, of radioactive wastes using type A packages, to the National Repository in Romania.

The work will emphasize the importance of management for safety and security, the environmental impacts as well as the prevention of accidents or malicious acts during the transport of RAM.

To apply the concept, it is required to discuss possible radiological consequences raised by sabotage with realistic assumptions and a level of unacceptable radiological consequences.

The potential risks to human being and impacts to the environment will be presented and will include the followings:

- The assessment scenarios will be represented in the conceptual models such as computer codes: INTERTRAN 2, RADTRAN 6 and RISKIND.
- estimation of the expected potential radio-nuclides release and possible impact for human beings and the environment;
- evaluation of risk expectation values-the expectation values or average of risk, measured in terms of expected number of fatalities/y, the possible expected radiological consequences such as: annual collective dose-person Sv/y, expected fatalities/y, individual dose and associated cancer fatalities/y, due to a potential threat (sabotage during transportation, dispersion or exposure to radioactive materials RAM, capture of type package) during transport.

The work is based on the IAEA Scientific Research contract entitled: "Romanian contribution to the Development of Methodology for Risk assessment and State Management of Nuclear Security Regime (Framework) due to RAM transportation" where I'm serving as Chief Scientific Investigator (CSI), under the IAEA's CRP (Coordinated Research Project)-Development of Methodology for Risk assessment and state Management of Nuclear Security Regime.



Biography:

Gheorghe Vieru has completed his PhD at the age of 50 years from Transylvania University, Brasov Romania. He is Deputy Director, Sparex Nuclear 3S, Romania. He has published more than 150 scientific papers in reputed journals and has been serving as an editorial board member Member of the EB (Editorial Board) of the Journal - Packaging, Transport, Storage & Security of Radioactive Material-MANEY Publishing House, London, UK, since 2004;

Member of the World Institute of Member of the International Institute for Strategic Studies (IISS), London, 2015 Nuclear Security-WINS, Vienna, 2013,

Member of the International Institute for Strategic Studies (IISS), London, 2015

Publication of speakers:

- IAEA Security in the Transport of Radioactive Material, IAEA Nuclear Security Series 9.
- CNCAN, Romania, "Norms for Transportation of Radioactive Materials" (NTR-01BIS), Nov, 21, 2005;
- IAEA's International Conference on Effective Nuclear Regulatory Systems, December 14 to 18, 2009, Cape Town, SAF- List of contributed papers;

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