



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

(Model Answer) Working Session 1: Conducting a Hazard Assessment for the Transport of Radioactive Material

**IAEA-KINS Workshop on the Emergency Preparedness and
Response to Nuclear and Radiological Emergencies**

19 - 23 June 2023, Daejeon, Republic of Korea

Questions to be Considered

Consider the following questions in the context of a hazard assessment for transport of radioactive material:

- **What type of information would you expect to obtain from the regulatory body and the transport authorities?**
- **What type of information would you like to receive from the consignors and carriers?**

Introduction

- The national hazard assessment starts with identifying:
 - The characteristics of the radioactive material transported within the State
 - The specific radioactive material that may transit through the State's territorial land or waters
- Relevant information can be provided by:
 - The regulatory body
 - The transport authorities
 - The consignors
 - The carriers
 - The consignees, although those can be identified by the regulatory body
 - The civil protection authorities

Information to be Provided by the Regulatory Body

- Identification of the facilities and activities involving the use or transport of radioactive sources:
 - Mining and separation and concentration plants (e.g. uranium ores and tailings, density gauges)
 - Agricultural facilities and industrial buildings (e.g. density and moisture gauges, smoke detectors)
 - Industrial radiography companies
 - Hospitals and laboratories (e.g. radiopharmaceuticals, gamma radiotherapy sources)
 - Nuclear installations (e.g. fuel fabrication facilities, research reactors, nuclear power plants and waste repositories)
 - Facilities that generate radioactive waste, and disposal facilities
 - Industrial facilities (e.g. irradiation facilities, nuclear gauges)
 - This information will also help identify potential consignors, carriers and consignees
- Any existing nuclear security contingency plans

Information to be Provided by the Transport Authorities

- Identification of the authorized carriers
- Relevant in-transit facilities (e.g. ports, airports, rail terminals)
- The primary routes used, and in the case of frequent shipments, representative routes of common shipments
- The locations within these routes with specific transport related risks (e.g. tunnels, bridges, mountains, seasonally-damaged roads)
- For each primary or representative route: the terrain, local geographic conditions and the nearby population distribution
 - This can also be provided by the civil protection authorities

Information to be Provided by the Consignor and/or Carrier

- The nature and frequency of shipments (classified in accordance with UN numbers);
- The types and quantities of radioactive material currently transported;
- The types of package in each type of consignment;
- The primary routes used, and in the case of frequent shipments, representative routes of common shipments;
- The locations within these routes with specific transport related risks (e.g. tunnels, bridges, mountains, seasonally-damaged roads)
- Any existing nuclear security contingency plans



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

Thank you!

Ms. Muzna Assi

Emergency Preparedness Officer
Incident and Emergency Centre

m.assi@iaea.org