Transport Safety Regulatory Infrastructure in IRAN

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- Capital: Tehran
- 1’648’000 km2
- Population: 80 million.
Status of Laws and Regulations

- Radiation Protection Act of Iran (1989)

According to Radiation Protection Act of Iran (1989), Atomic Energy Organization of Iran (AEOI) is appointed as the regulatory body. Iran Nuclear Regulatory Authority (INRA) is the body established within AEOI to proceed as the safety competent authority.
Radiation Protection Act of Iran (1989)

Article 3: Inclusion of Provisions
Provisions of this Act govern all the affairs related to radiation protection in the country including the followings:
1) Radiation Sources.
2) Working with radiation.
3) Construction, establishment, commissioning, operation, decommissioning and being in charge of any unit in which, work with radiation is carried out.
4) Any activity connected with radiation sources including import and export, custom clearance, distribution, production, manufacturing, possession, acquirement, exploration, mining, transportation, transaction, construction, transfer, application and/or waste management.
5) Protection of workers, public, and progeny in general and the environment against the harmful effects of radiation.
Regulations & Guides for Transport Safety

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**Regulations:**

- “Regulations for the Safe Transport of Radioactive Materials” (INRA-RP-RE-100-07/ 3-0-Aza.1386) is in force.
- It was developed based on 2005 edition of IAEA safety standards No. TS-R-1. It was approved by Iran Nuclear Regulatory Authority (INRA) commission in 2007.

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**Guides:**

- Guidance on Radiation Protection Program developed based on TS-G 1.3
INRA as the national nuclear regulatory body has been established within Atomic Energy Organization of Iran (AEOI) authorized to regulate safety of nuclear and radiation facilities or activities.

**Mission:**

- INRA’s mission is to ensure the safe utilization of nuclear energy and radiation sources in Iran aimed to protect workers, public, future generations and the environment against harmful effects of radiation.
Organization:

- INRA comprises **three departments:**
  1. National Nuclear Safety Dept. (NNSD)
  2. National Radiation Protection Dept. (NRPD)
  3. Nuclear & Radiation Service Dept. (NRSD)
The prime responsibility for safety rests with the operating organization.

The primary objective of INRA is to ensure that the operating organization fulfils its responsibility.
INRA activities for Transport Safety

INRA responsibilities related to safe transport of radioactive material are as follows:

- All facilities and activities involving transport of radioactive material (Industrial Radiography, Nuclear Medicine, etc.), through licensing procedure, shall submit all documents related to safe transport of radioactive materials. The procedures are reviewed by INRA and the license will be issued only if the requirements are met.

- Performing inspections in ports, transport companies, manufacturer of packages and testing facilities.

- Issuing import and export licenses.
INRA activities for Transport Safety (cont)

- Enforcement as appropriate according to Law and Regulation.
- Supervision on training program in national level.
  - National Training Course in cooperation with IAEA (2010)
  - Training course for the Safe Transport of RAM for Iran Air Captains and Cargo personnel (2012)
- Issuing Approvals for Special Form of RAM, Special Arrangement, Package Design and Import/Export license.
INRA activity for Transport Safety (cont)

- Improving Safety Culture
  - Poster
  - Animation
- Notification for Transferring Industrial Gamma Projector
facilities and activities

➢ More than **500 facilities and activities** engaged with Transport of **Sealed Sources** from kBq to PBq:
  • Radiotherapy facilities,
  • Industrial radiography centers,
  • Nuclear gauges,
  • Well logging Companies,
  • Universities and Research Institutes,
  • Irradiation facilities,
  • calibration facilities,
  The main Radionuclide: Ir-192, Co-60, Se-75, Cs-137, Sr-90, Am-241/Be

➢ More than **150 Nuclear Medicine facilities** engaged with Transport of **Unsealed Sources** (Radiopharmaceutical):
  • The main Radionuclide: I-131, I-125, Mo/Tc-99,
Modes of Transport:

RAM Transported to Iran:
- 90% by air,
- 5% sea,
- 5% Road & Rail

Transport of RAM within the country:
- 30% by Air
- 70% Road
Typical Type A Packages
Typical Vehicle
Typical Vehicle
Measures to Strengthen Transport Safety Regulatory Infrastructure

- Developing Targeted Training Course for the Safe Transport of RAM for all engaged parties.
- Increasing Frequency of Inspections.
- Dealing with other national authorities such as Custom, Aviation, Rail & Road for Decreasing Denial of Shipment.
- Design and establishing a Testing facility for Packages.
- Revising national transport safety regulation to comply with latest version of IAEA regulations (SS-R-6).
Challenges

- International Transport Safety Regulation changes faster than capability of member states.
- Lack of testing facilities for packages.
- Inadequate Safety Culture among the engaged parties.
THANK YOU FOR YOUR ATTENTION