

Up dated IAEA Regulations for Safe Transport of Radioactive Materials

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- * The latest IAEA Transport Publications in 2009 are the Followings**
 - IAEA, Safety requirement, safety standard series No TS-R-1.**
 - IAEA, Safety Guide, safety standard series No TS-G-1.4.**
 - IAEA, Safety Guide, safety standard series No TS-G-1.5.**

In the present study we shall cover the following items :

- * Transport of radioactive materials embraces the carriage of radioisotopes for different fields:**
 - Agriculture**
 - Industrial**
 - Medical**
 - Research and education**
 - Radioactive waste**
 - Nuclear fuel cycle materials**
- * Estimated number of packages transported all over the world 18-32 million/year.**
- * Transport Regulations are useful and used for national and international transport bodies.**
- * Regulations act as the basis for national and international Regulations for interested organizations.**

- * **The Objective of the Regulations is to protect persons, property and the environment against effect of radiation and contamination.**
- * **Protection is achieved by:**
 - **Containment of radioactive contents,**
 - **Control of external radiation levels,**
 - **Prevention of criticality, and**
 - **Prevention of damage caused by heat.**
- * **These requirements are satisfied by applying different approaches (content limits, package designs, maintenance of packaging and administrative controls).**

- * **The scope of these Regulations is applied to the transport of radioactive materials by all modes on land, waterways or air .**
- * **Transport means all operations and conditions associated with the movement of radioactive material, preparation, consigning, loading, carriage, in-transit storage, unloading and receipt at final destination.**
- * **There are three general severity levels during transport:**
 - **Routine conditions of transport (incident free).**
 - **Normal conditions of transport (minor mishaps).**
 - **Accident condition of transport.**

*** The Regulations do not apply to radioactive material that :**

- Is an integral part of means of transport.**
- Implanted in person or live animal.**
- In Consumer product (Smoke detector).**
- In natural materials and ores containing (NORM).**
- Surface contaminated object (SCO), not exceeding a specified contamination limit.**

*** These Regulations are useful to governments regulators, operators of nuclear and radiation facilities, carriers, users of radiation sources and cargo handling personal.**

Historical review.

- * **The Regulations were first issued as safety series No 6, (1961) .**
- * **The IAEA has worked with its Member States (M.S.) and other relative international organizations to update and review the Regulations.**
- * **The IAEA has issued the following editions of the Regulations:**

- **1964 Edition**
- **1967 Edition**
- **1973 Edition**
- **1973 Edition (As Amended 1979)**
- **1985 Edition (Supplemented 1986, 1988)**
- **1985 Edition (As Amended 1990)**
- **1996 Edition**
- **1996 Edition (As Revised 2000)**

Safety requirement, Safety Standard Series, No TS-R-1(2000)

1996 Edition (As Amended 2003) Safety requirement, Safety Standard Series, No TS-R-1 (2004)

- **2005 Edition**

Safety requirement, Safety Standard Series, No TS – R- 1 (2005)

- **2009 Edition**

Safety requirement, Safety Standard Series, No TS-R-1(2009)

Supporting Documents

- * The IAEA issue different supporting documents as follows:
 - Advisory Material for the IAEA Regulations of the STRAM, *IAEA, Safety Guide TS-G-1.1 (ST-2) (2002)*
 - Planning and Preparing for Emergency Response to Transport *IAEA, Safety Guide, TS-G-1.2 (ST-3) (2002)*
 - Radiation Protection Programme .
IAEA, Safety Guide, TS-G-1.3 (2007)
 - *Advisory Materials for the IAEA Regulations for the STRAM IAEA, Safety Guide, TS-G-1.4 (2009)*
 - *Compliance Assurance for the STRAM IAEA, Safety Guide, TS-G-1.4 (2009)* .

Preparation of the Regulations

- * The procedure used by IAEA for preparation of the Regulations is done through:**
 - panels members (MS and Int. Organizations)**
 - Proposals Co-ordinated by IAEA Secretariat**
 - Draft preparation of the Regulations**
 - Comments from M.S and Int. Organizations**
 - Final drafts for approval by the Board of Governors (BOG).**

- * In order to reach this approach, The Standing Advisory Group on the Safe Transport of Radioactive Material “SAGSTRAM” was established by IAEA in 1978.**
- * Its function is to advise the IAEA on the transport programme, development and implementation.**
- * Transport Safety Standards Committee TRANSSAC was formed 1996 replacing the function of “SAGSTRAM” “TRANSSC”, Renamed to “TRANSSC” in 2000 .**
- * After the revision process by this advisory body and recommends submission to IAEA BOG for approval.**
- * The transport secretariat responds to “BOG” Comments**
- * Then publishes a new edition of the Regulations in the official languages of the IAEA (Arabic, Chinese, English, French, Russian and Spanish).**

Regulations Structure

*** The main structure of the regulation**

Consists of :

- Introduction**
- Definitions**
- General Provisions**
- Activity limits of material restrictions**
- Requirements and control for transport**
- Requirements for radioactive material and for packagings and packages.**
- Test procedure**
- Approval and administrative requirements**

SCHEDULES

- * A set of schedules listing requirements to be met for transport of specific types of shipments were developed.**
- * Schedules were attached to 1973 Edition (AS Amended) as an appendix.**
- * Schedules were serve only as practical aid to users.**
- * For 1985 Edition, SAGSTRAM recommended that schedules be published separately**
- * Schedules were published as SS# 80 (1986)**
- * Experience by the M.S. with the Regulations showed that in the future, the schedules would be better to be back to end of the Regulations.**
- * 1996 Edition includes schedules following the main body of the Regulations.**

ICRP Recommendations

*** To Keep the transport Regulations consistent with radiation protection standards, continuous work is needed through changes in every revision process such as :**

- **In 1985 Edition**

The specific general principles for radiation protection were added.

- **In 1996 Edition**

Radionuclides – specific activity concentrations for excepted material; and Activity limits for an excepted consignment were both added.

- * They replace the simple definition of radioactive material that has existed previously.**
- * These changes were prompted by changes in basic radiation protection requirements published by the International Commission on**
- * Radiological Protection (ICRP) (2007), then they to be implemented into IAEA's basic radiation protection standards .**

THANK YOU

