

Radioactive Materials Transport Regulation in Georgia

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Abstract: Georgia is a small country with growing up economics. The number of shipment of radioactive materials increases. The country develops its regulatory system for transport of radioactive materials considering all aspects of safety and security issues. The system includes developed of national legal instruments and corresponded infrastructure based on these instruments

1. Introduction

Georgia is small country situated on the territory of the south Caucasus. The country has not nuclear industry or NPP. One nuclear research reactor IRT-M was operated and shut down at 1998. Decommissioning of the reactor is going. Georgia also does not produce any radioactive material, but increasing of number of radioactive material shipments is fixed during the last years mainly provoked by two following reasons:

- Growing up Georgian industry and research activity more widely using radioactive materials;
- Geopolitical aspects set preferences for using the country for I international transport of goods among western and eastern countries.

Therefore Georgia is developing (step by step) radioactive material transport management system in accordance to international standards.

2. Legislative and regulatory framework

Radiation protection system in Georgia is based on Frame Law – no.1674-IS “On Nuclear and Radiation Safety” (Fig.1), issued at January 1 1999. According to the Law the Ministry of Environment Protection and natural resources was assigned as a state Regulatory Body for Nuclear and Radiation Safety. Nuclear and Radiation Safety Service (NRSS) was established within the Ministry for practical application of its regulatory functions (Frame law Art8, para.2). NRSS is also assigned as a Competent Authority for radioactive material transport regulation. Regulations of other dangerous good transport are carried out by the Ministry of Economical and Sustainable development.

Regulatory requirement system for transport of radioactive materials in Georgia is not well developed. It includes requirements stated by Frame Law, law no. 1775-RS “On Licences and Permits”, RSL-2000 (basic safety standards) and “Transport of Dangerous Goods by Roads”. The last one is composed taking into account ADR requirements, but simultaneously contains some exhausted standards. Developing of further regulations based on standards set by IMO:IMDG code, ICAO, RID and ADN is considered. Based on IAEA standards (TS-R-1) new draft law “On Transport of Radioactive Substances” and regulation “On Main Rules for Transport of Radioactive Substances” are elaborated. The new version of Frame Law is also prepared.

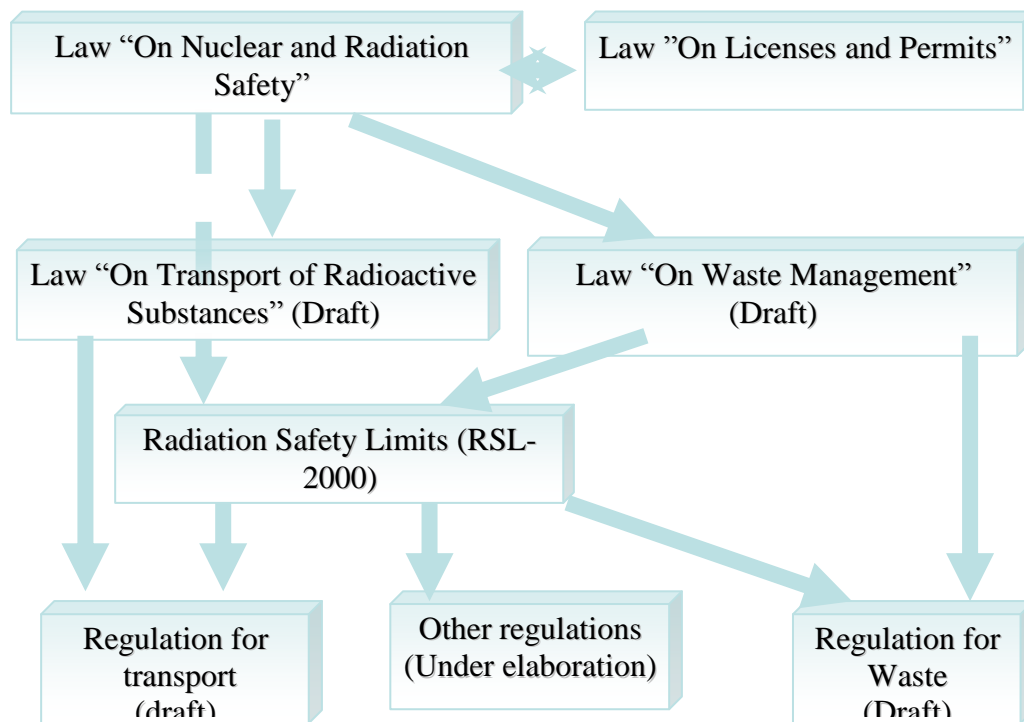


Fig.1 Scheme of legislative basis for nuclear and radiation activities

2.1 Licensing

According to Frame law (Art4.parab) every activity involving not exempted sources should be licensed. All radioactive source operators should fulfil requirements for safe and secure transport of their sources. The separate license should be issued for radioactive material carriers. License may be terminated in the situation of penal offence or failure to observe the obligations..

The request for license presented by the applicant comprises:

- the administrative information (in particular the clear identification of the physical persons and their skills who will have the role of designated responsible for ensuring the correct application of requirements),
- the description of planned activities,
- the description of the means of transport,
- the nature and the quantities of material concerned,
- the measures that the applicant proposes to implement to ensure the protection and the control of shipped radioactive material (Radiation Protection Programme) ,
- the organization to manage incidents and alert (Emergency Plan),
- the organization of physical protection during the transport.

The licensee should submit to NRSS annual report (Law no.1775-RS, Art21. para3) at 1 May considering its activity. The draft law "On Transport of Radioactive Substances" (art14.para.1) requires submission to NRSS monthly reports in details describing the conducted activities and all related safety and security issues.

2.2 Inspection

The main aspects of the inspection are as follows:

- The licensee management to provide the necessary personnel and resources to carry out an effective programme for compliance with the Regulations
- The licensee management to provide and documented the proper training
- Using by consignor the proper packaging for the specific contents of packages
- examination of the packages by proper authority
- The documentation, including the relevant competent authority certificates and any associated instructions for handling, loading, stowage and use of packages, and for maintenance of packaging
- The established procedure for the preparation and use of the packages, in accordance with the approval certificate, the instruction manual and related documents
- Properly mark and label packages in accordance with the Regulations.
- Procedures are established and followed, and appropriate and properly calibrated instruments are provided to monitor both the radiation and contamination of packages
- Procedures are established and followed for correct preparation and control of all relevant shipping documents, as well as for provision of the correct placarding of the carrier's vehicle, of the required documentation for carriers and of any required notification of the competent authorities of each country into which or through which the consignment is transported
- During transport, carriers are performing the required actions relating to placarding, stowage and separation of packages, particularly any administrative controls relating to exclusive use shipments or to supplementary operational controls as specified in the competent authority approval certificate
- Procedures are established to respond to incidents of non-compliance

NRSS usually conducts the following types of inspection:

- Routine inspection: usually planned inspection conducted once per year
- Reactive inspection: inspection for checking of some particular issue
- Complex inspection: inspection with invited experts. The inspection can be conducted as a planned base, as a unplanned.

Usually before the inspection the licensee should be notified, but in some situation NRSS conducts also inspection without any notification.

2.3 Emergency response

Every licensee should develop "Emergency Response Plan" to design potentially possible emergency event descriptions and define the activities for mitigation of the event consequences according to the threat category [1]. The licensee should:

- timely notify Competent authority and local governors for occurred incident or accident
- localize accident are and take all measures to prevent (or mitigate) spreading of radiation contamination

- take all measures for mitigation of incident (or accident consequences),
- provide first medical aid (according to existed capabilities) to injured persons,
- provide to the state responsible organizations all possible human and financial resources for mitigation of accident consequences.

According to the order of the President of Georgia no.415 NRSS and Emergency Management Departments are responsible leader organizations for mitigation of radiological accident consequences (function11) and conduct the following activities [2]:

- Rescue and provide emergency medical aid to any victims,
- Control fires and the other common consequences of transport accidents,
- Identify the hazards of the material involved,
- Control any radiation hazard and prevent the spread of radioactive contamination,
- Recover the package or packages and transport vehicle,
- Decontaminate personnel,
- Decontaminate and restore the thoroughfare and delineate the borders of other contaminated areas,
- Decontaminate in the vicinity and restore to a safe state.

3. Security issue

The state is responsible to establish state security regime for transport of radioactive materials covering also international transport of radioactive materials within the state territory [3]. The state nuclear security regime should contain the following essential elements:

- State responsibility;
- identifying and definition of nuclear security responsibilities;
- Legislative and regulatory framework;
- International transport;
- Offences and penalties;
- International cooperation assistance;
- Identification and assessment of nuclear security threat;
- Identification and assessment of targets and potential consequences;
- Use of risk-informed approaches;
- Detection of nuclear security events
- Planning for, preparedness for, and response to a nuclear security event
- Sustain nuclear security regime

Some of them in relation of transport of radioactive materials are partially on fully implemented in Georgia. The operator should develop the special contingency plan (physical protection plan). According to Georgian legislation the plan together with other documents should be submitted to Ministry of Internal Affairs to assess the security level of the proposed actions and identify secure carrier.

4. Conclusion

Georgian regulation system for radioactive material transport needs further development, especially for establishment of:

- Quality Assurance programmes
- Safety Assessment Reports by operators and their regulatory review,
- Compliance Assurance programme

References

1. INTERNATIONAL ATOMIC ENERGY AGENCY, Preparedness and Response for a Nuclear or radiological Emergency, IAEA Safety Requirements Series No. GS-R-2, IAEA, Vienna (2002).
2. INTERNATIONAL ATOMIC ENERGY AGENCY, Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material, IAEA Safety Standards Series No. TS-G-1.1, IAEA, Vienna (2002).
3. INTERNATIONAL ATOMIC ENERGY AGENCY, Security in the Transport of Radioactive Material, Implementing Guide, IAEA Vienna (2008)