

Experience of the regulatory authority in controlling the transport of different types of radioactive sources over long distances.

¹M.Sc. Fornet Rodríguez O. M. ²M.Sc. Pérez González F.

¹ Environmental Regulation and Control Office. Holguín, Cuba

²“V. I. Lenin” General Teaching Hospital, Holguín, Cuba

Email: ofeliafr1963@gmail.com

Abstract.

The use of radioactive sources in low-income countries entails a number of challenges, including the supply and transport of sealed and unsealed sources to and from their locations.

Though there is enough experience and regulatory support, both internationally and domestic, for this activity, practical implementation and compliance monitoring appear to be the main considerations regarding radioactive material transport. Recent publication by the IAEA of Specific Safety Guide No. SSG-26 (Rev. 1) "Explanatory Material for the Application of the IAEA Regulations for the Safe Transport of Radioactive Materials (2018 Edition)" is conclusive evidence of this.

This work, a practical continuation of the presented at previous transport Conference CN 280 paper, "Regulatory activity experiences and aspects to be strengthened in safe and secure of radioactive materials transport," updates how interactions between consignors, carriers and consignees are established, controlled, and evaluated in our country, as well as between these and the competent authorities involved in transport. This work is based on the available information from inspection and licensing actions for entities related to this activity since last Conference.

The paper provides a brief update on regulatory support for radioactive packages transport and analyzes transport processes carried out, both for industrial practices and for radioactive materials for medical services. These transportations, in industrial practice, are related to new radioactive sources installation in stationary nuclear gauges, and for services using mobile nuclear gauges.

The radioactive package transport control for medical practice is also presented, both for high-activity radioactive sources for teletherapy equipment with ⁶⁰Co, and for medium-activity brachytherapy sources. Likewise, radioactive packages frequently movement for medical use (with ¹³¹I and ^{99m}Mo-Tc generators) to nuclear medicine services in the territory is analyzed. Spent and disused radioactive sources and radioactive waste transport in the eastern part of the country are not excluded from this analysis.

In conclusion, it can be stated that, although established more than 20 years ago, the national regulatory support for control of radioactive material transport is tempered by current international regulations. This, coupled with regulatory authority's action, based on graded approach to this activity, has allowed for strict control of the transportation of radioactive sources in this territory of the country. This has resulted in none of these transportations being carried out outside of regulatory control, no significant doses being received by personnel involved in the transportation or by the public, and no conventional or radiological accidents having occurred during radioactive packages transport.

Despite these achievements, there is a recognized need, primarily based on the involvement of newly recruited personnel in the implementation and control of transportation, to prioritize training of this personnel in a differentiated manner.