

STRIMS - ISIN: Material, Sources and Waste Traceability System

ISIN - National Inspectorate for Nuclear Safety and Radiation Protection, which is the Italian regulatory authority for nuclear safety and radiation protection, has developed a web based application called STRIMS, which, starting from January 2022, represents the ISIN Traceability System for Radioactive Waste, Nuclear Materials and Ionizing Radiation Sources.

STRIMS has been developed to comply with a requirement set by Italian law (Legislative Decree 101/2020). In addition to registration obligation on ISIN institutional site for all kinds of operators in the nuclear field, anyone who carry out intermediation, trade, detention and transport of radioactive materials and sources of ionizing radiation, or performing waste management operations, like treatment and/or storage of radioactive waste, after being registered on ISIN web portal (called STRIMS), is required to transmit data relating to each materials, sources and radioactive waste object of the specific activities performed.

STRIMS allows to track every movement that occurs on the Italian territory for each source of ionizing radiation with particular attention to the identification of High Activity Sealed Source (HASS) and radioactive waste. More than 12,700 operators in the sector are already registered and have sent data relating to 230,000 events that include commercial operations, shipping and transportation, production of new waste, detention of new ionizing radiation sources or cessation of a detention.

Main strengths of STRIMS are described below:

1. The high availability of numerous data and guaranteed access to the STRIMS web portal, with any browser, allows ISIN to derive up-to-date and near real time information on subjects authorized to transport radioactive materials;
2. Carriers, through registration in STRIMS, provide a number of items that complete the registry such as, for example, a copy of the transport license granted by the Ministry of the Environment and Energy. The user, at the time of registration, must provide information including the mode of transport, UN numbers, the vehicles used for transport, and the names of the key figures in transport safety and radiation protection (e.g. ADR Transport Advisor, Radiation Protection Expert);
3. Communications on the transport of radioactive material, sent by authorized carriers, are focused on the exact recognition of the consignor and consignee identity, and this facilitates the analysis of the entities who deal with radioactive sources, contributing significantly to the traceability of ionizing radiation sources;
4. Communications, sent by consignors, are formulated prior to transportation and are useful feedback for ensuring the traceability of radioactive sources. Illegal transportation activity can also be highlighted via the communications;
5. Communications on the transport of radioactive waste provide a timely and up-to-date monitoring of the collection activity of such material;
6. In the back-office section of the STRIMS portal, reserved for ISIN, several specific reports are available, which are a useful tool for conducting verification and supervisory actions on the transport activity covered by the communications, data consistency analyses, and data compliance with transport regulations and national regulatory requirements;
7. The flexibility of data input methods, offered by STRIMS, is an important factor contributing to the completeness and consistency of the data. It allows both to send a large quantity of shipping and transport communications (interoperability) or to fill a guided web form;
8. The requirement to include the unique identifier for sources in transport communications, in particular for High Activity Sealed Source (HASS) sources, is a key element to ensure the traceability of relevant sources;
9. STRIMS' special focus on radioactive waste shipments and transports enables tracking of the main flows, and ISIN can exercise effective surveillance of the management and disposal of radioactive waste, including RW from decommissioning nuclear plants and from the industrial, research and medical sector.

Country or International Organization

Instructions

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