

The Role of Atomic Energy Council in ensuring Safe Transport of Nuclear and Radioactive Materials in Uganda

The transport of nuclear and radioactive materials presents one of the most sensitive areas of atomic energy regulation due to the potential risks it poses to the public, the environment and national security. The International Atomic Energy Agency (IAEA) established comprehensive safety standards and requirements for the safe transport of such materials, recognizing that they are essential for peaceful applications in medicine, industry, agriculture, research and energy development. In Uganda, where the use of radioactive sources has expanded significantly in medical applications, industrial applications, oil and gas exploration and academic and research laboratories, the Atomic Energy Council (AEC) serves as the national regulatory authority responsible for ensuring that the transport of these materials is conducted in a safe and secure manner and in accordance with international best practice.

The role of AEC in this domain is anchored in the Atomic Energy Act Cap.154 which empowers it to regulate the possession, use, transport, import and export of radioactive materials. Specifically, the Council issues permits for transport of radioactive materials, reviews transport security and safety plans, inspects consignments of radioactive materials and enforces compliance with the Atomic Energy Act Cap 154 and all security and safety regulations thereunder as well as IAEA transport safety requirements. AEC ensures that packaging, labelling and documentation of radioactive materials adhere to established safety standards to prevent exposure, contamination or accidental release during transit.

One of the AEC's significant contributions has been the development regulations and regulatory guidelines that domesticate IAEA Safety Standards Series No. SSR –6 (Rev. 1) which provide technical requirements for packaging, labelling, segregation and emergency arrangements. The Council also coordinates national inter agency frameworks involving security organs like the Uganda Police Force, Uganda Revenue Authority-Customs department, Civil Aviation authority, Ministry of Works and Transport among others to ensure a holistic approach to safe transport. Through this multi stakeholder collaboration, Uganda is able to respond promptly to transport related incidents, deter illicit trafficking and ensure neighboring states of its compliance with international commitments and obligations.

In addition to regulatory control, AEC prioritized capacity building and training for transport operators, radiation safety officers and customs officials. Training programs emphasize radiation protection principles, emergency procedures and the importance of nuclear security during transport of nuclear and radioactive materials. These initiatives have reduced the risks of human error, strengthened preparedness and promoted a safety culture across institutions that routinely handle radioactive materials. The Council also conducts public awareness and stakeholder engagements campaigns to address misconceptions.

Despite these achievements, several challenges persist. Limited numbers of specialized transport containers and certified carriers present logistical constraints. Resource limitations affects Council's ability to conduct the requisite inspections. Coordination gaps occasionally arise between different agencies involved during transport of nuclear and radioactive materials. Additionally, Uganda's increasing use radioactive materials and potential future nuclear power development means that the scale and complexity of transport operations will expand requiring more advanced infrastructure and regulatory oversight.

To address these gaps, there will be need to strengthen AEC's institutional capacity through increased funding, acquisition of modern monitoring equipment, training of specialized inspectors, enhance collaboration with regional and international partners to share best practices and build resilience against cross border risks, investment in emergency preparedness, and real time communications systems thus improving response capability. Establishing a dedicated cadre of certified transport operators and fostering continuous training will further reinforce safety and security measures.

Accordingly, AEC plays an indispensable role in ensuring that transport of nuclear and radioactive materials in Uganda is conducted safely, securely and in alignment with global standards.

Country or International Organization

Instructions

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