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PLANNING FOR SAFETY AND SECURITY DURING TRANSPORT OPERATIONS FOR THE BOLIVIAN NUCLEAR REACTOR (RB-01)

Introduction

The Bolivian research reactor is a thermal neutron pressurized water pool reactor with a beryllium reflector and will have a power output of 200 kW. It will operate with VVR-M2 fuel assemblies with uranium fuel enriched to 19.7% U235. It will have experimental devices designed to ensure that research and experimentation using radiation can be performed in the following areas.

- Production of radioisotopes in vertical experimental channels with subsequent production in the Radioisotope Laboratory.
- Neutron activation analysis (NAA) using two vertical channels and a pneumatic transport system.
- Training and education of staff, university and graduate students, etc.

Safety during transport operations of nuclear fuel from the RB-01 reactor

The nuclear material shipped is classified by the UN as 3325 RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III) (BAE-IIII)-FISSILE. For transport operations, this would require special transport containers of the Industrial Package Type 3 (Type BI-3) (Type IP-3) type.

As an operator, the Bolivian Nuclear Energy Agency (ABEN) is responsible for providing radiation protection and physical security at all stages of activities related to the use of fresh nuclear fuel imported from the Russian Federation.

The material will be transported to the Bolivian Nuclear Research Reactor (RB-01) at the Nuclear Research and Technology Center (CIDTN) in the city of El Alto, Bolivia, following an air route from Russia to El Alto International Airport, followed by a land route to the CIDTN.

Fresh nuclear fuel will be brought into Bolivian territory via the international airport. The armed forces will monitor the air transport of nuclear material within Bolivian territory. In addition, the Strategic Command will ensure security during ground transport through

the armed forces' transport section in order to prevent biological, chemical, and nuclear attacks or disasters.

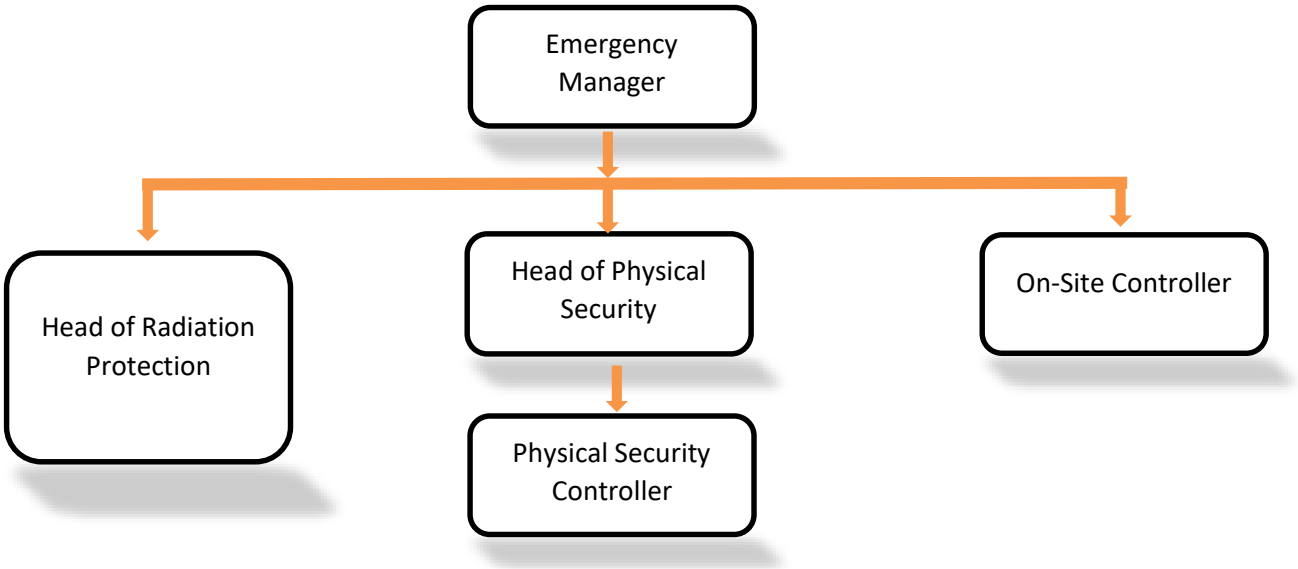
ABEN will maintain a database that will register carriers participating in transport operations, thus ensuring efficient management of these human resources in the future, as well as appropriate management of sensitive information.

During transport, communication is planned, for which there will be a point of contact to maintain continuous communication with the Transport Communications Center, with the aim of coordinating any changes to the route or transport plan in real time.

An emergency plan will be in place for transportation, establishing clear guidelines and specific procedures for managing emergencies that may occur during the transport of fuel, with the aim of protecting human health and safety and the environment, and ensuring safety throughout the entire transport process, in accordance with the guidelines of the International Atomic Energy Agency (IAEA).

For the implementation of the Emergency Preparedness and Response Plan for the Transport of Nuclear Fuel for RB-01, initiating events have been identified, such as: theft or loss of fuel, contamination by radioactive substances and/or exposure of personnel involved, leakage or spillage of fissile material, detection of elevated radiation levels, and others.

In addition, the following individuals will be responsible for directing the emergency response:



An emergency manager will be assigned to perform the following functions: coordinate the overall response to the emergency, determine the information to be distributed to the public, manage priorities and the protection of the public and emergency workers, coordinate with the Regulatory Authority in the event of an emergency, among others.