

INTRODUCTION

This is a geographical map of Sierra Leone and the red point indicates facilities dealing with radioactive sources.



According to Section 5 Subsection 2 Articles (Xii) of the Nuclear Safety and Radiation Protection Act 2012.

- The regulatory authority is to establish appropriate mechanisms and procedures for informing the public, media and other stakeholders about the regulatory process and the safety and security aspects of regulated activities and practices, including accidents, incident and abnormal occurrences.

According to Section 40 Subsection 4 Article (i) and (ii) of the Nuclear Safety and Radiation Protection Act 2012. Licensees should:

- (i) Report to the authority any case of over exposure within 24 hours and to fully comply with the emergency measures ordered by the authority.
- (ii) Report to the authority any theft, loss or diversion of radioactive sources or devices emitting ionizing radiation within 24 hours.

According to Section 40 Subsection 5 of the Nuclear Safety and Radiation Protection Act 2012.

- Every Licensee must submit an emergency intervention plan on applying for authorisation to be approved by the authority.

Nuclear Safety and Radiation Protection Authority

The Radiation Protection Board has the responsibility to issue licence for all users of radioactive material in Sierra Leone and to inspect such activities periodically. In a nuclear or radiological accident, the NSRPA will be responsible for assuring that licensees carry out their responsibilities and the Conditions of their licence and all licensees as by law should submit to the NSRPA an emergency preparedness plan that is commensurate to the risk of the practice. This plan should be verified upon application for authorization.

In all radiological emergencies, the NSRPA will perform radiological monitoring and analysis and will serve as the co-ordinator for any governmental radiological monitoring and assessment assistance.

The NSRPA maintains radiological resources, which are available for emergency deployment and which can be used to support the Ministry of the Health, including assistance in decontamination and waste disposal.

General Responsibilities

The owner or operator of an affected facility has primary responsibility for actions within the boundaries of that facility for providing notification and advice to off-site officials and for minimizing the radiological hazard to the public and the environments as required in the authorization terms and condition and the environmental impact assessment. The national authorities have primary responsibility for determining and implementing any measures to protect life, property and the environment in any areas outside the boundaries of a fixed facility.

In special cases such as severe transport accidents the national emergency response shall be activated to deal with the public, property and the environment.

Notification

The owner or operator of the facility is generally the first to become aware of a radiological emergency, and is responsible to respond according to the existing local emergency plan and notify the local, regional and national authorities as applicable. The owner or operator can ask for assistance directly from NSRPA. NSRPA will be notified at their offices or via emergency telephone numbers provided to the expected first responders in an emergency, i.e., Police and Fire Services. The NSRPA will make further notifications, in accordance with pre-established procedures. In these notifications, NSRPA will provide the agencies called with a general assessment of the emergency including location and nature of the event, an assessment of the severity of the problem as known, description of NSRPA's response, and any follow-up actions anticipated by NSRPA.

RESPONSE INITIATOR

First official being informed of an emergency with authority to initiate a response plan.

FIRST RESPONDER

First person or team to arrive at the scene of an accident with an official role to play in the accident response.

EMERGENCY MANAGER

Appointed official in charge of overall emergency response.

RESPONSE ORGANISATION

Ministry of Internal Affairs
Sierra Leone Police
Sierra Leone National Fire Service
Nuclear Safety and Radiation Protection Authority
Ministry of Information
Ministry of Health and Sanitation
Environmental Protection Agency

ORGANISATION AND RESPONSIBILITIES

National Organizations

Responsible organizations (or officials) that represent necessary functions to deal with nuclear and radiological emergencies will be designated according to the following organizational scheme:

Role of the NSRPA

The NSRPA will co-ordinate all radiological aspects of the government actions consistent with its authorities to do so. The roles of the NSRPA and of the other agencies with major response functions when possible, the NSRPA will co-ordinate the radiological aspects of the response activities from an on scene location. Until the NSRPA has established on-scene operations, the NSRPA will accomplish that coordination from a designated location.

Notification

- Determine the appropriate response to the radiological problem after being notified of a nuclear or radiological emergency;
- Notify other government agencies of the emergency, inform them of the NSRPA's actions and provide a general assessment of the emergency.

- Notify the Ministry of Foreign Affairs of any radiological transboundary implications.

Response

- Deploy NSRPA response personnel to the site, when appropriate.
- If NSRPA personnel are deployed designate an NSRPA official at the site of the emergency as Radiological Assessor; he/she will manage the technical aspects of the response to the emergency;

- Establish an on-scene base of operations to oversee the technical aspects of the response monitor and support the owner or operator activities; provide technical support to the owner or operator, if requested; and serve as the principal government source of information about radiological conditions.

- Keep other agencies informed of conditions and government actions on-site and provide assessment of any of these conditions that might have significant off-site impact and any means for mitigating the off-site consequences.

Environmental Protection Agency

The Environmental Protection Agency (EPA) will perform environmental impact assessment to determine extends of damage to the environment. EPA will also assist with its expertise to prepare recommendations regarding appropriate remedial actions.

Ministry of Health

In the event of a nuclear or radiological emergency, the Ministry of Health through the NSRPA will be responsible for providing or obtaining appropriate medical care for overexposed or contaminated individuals. Where a radiological accident involves the medical use of radioactive materials, the Ministry of Health will provide medical advice to the NSRPA. The Ministry of Health is also responsible for monitoring the long-term health problems that could arise due to radiological event.

Ministry of Internal Affairs

Establish and maintain a source of integrated, co-ordinated information about the status of all off-site government response activities and make the information known to all pertinent agencies through the Ministry of Information.

Identify and inform government agencies of actual or apparent omissions, redundancies, or conflicts in response activities; and Monitor the status of the government response to all requests for assistance from the affected regional and local governments and provide the necessary logistic support.

Sierra Leone Police

At the scene of a radiological accident, Sierra Leone Police will carry out its traditional role in ensuring the security/ protection of personnel and the public during the emergency.

Sierra Leone National Fire Force

In a nuclear or radiological accident, the Sierra Leone National Fire Force will take all lawful measures to extinguish and control any fires and protect life and property from fires involved in the accident. Where the Ghana National Fire Services are the first responder to an incident, they will take appropriate actions to save lives and property, restrict access to the accident location, notify Police and seek the advice of the RPB. Ghana National Fire Services will also participate in any investigation of a radiological accident involving fires and assist in the recovery phase of such an accident.

Ministry of Information

The Information Service Department can support a government response to a nuclear and radiological accident by: (1) providing instructions via television and radio and the print media to the public on protective actions that are recommended by the government; (2) provide factual information to the general public on the radiological accident; (3) assist the government response by using its facilities to respond to rumors that are creating fear and anxiety among the public.

Office of National Security ONS

This organisation has the legal right to coordinate all emergency and security issue in the country. The nuclear safety and radiation protection authority has been given the priority to deal with nuclear and radiological emergency.

CONCEPT OF OPERATION

Organization of the government response

The concept of operations for a response is designed to facilitate the delivery of co-ordinated assistance to government authorities and the private sector. The responsibility of SLNPF, the SLP and the other government agencies that may be involved in the response.

In the event of a nuclear or radiological emergency, the NSRPA will serve as the Lead Technical Agency (LTA).

Emergency conditions and immediate response actions

Response to an emergency requires rapid and co-ordinated response.

Protective Action Recommendations

The NSRPA will assist local authorities and other government agencies, by advising them on initial protective action and recommendations. In providing such advice, the NSRPA should use advice from other government agencies with technical expertise in non-radiological aspects of radiological emergency, primarily from EPA.

The NSRPA's responsibilities for development and presentation of protective action recommendations are to:

- Respond to requests from regional or local authorities plus national agencies for technical information and technical assistance.
- Provide staff liaison representatives to regional and local authorities or national agencies to help interpret the technical aspects of the emergency on-site and its potential or real off-site radiological consequences.

- Review all technical recommendations made by other government agencies exercising statutory authorities before their release to ensure that they are consistent with other radiological recommendations.

- Approve the release of off-site radiological monitoring data and assessments to regional and local authorities and national agencies, plus the public.
- Prepare a co-ordinated government position on protective action recommendations, and present to appropriate regional, local and national authorities.

Joint Information Co-ordination System

Operational Objective

This plan is established on the premise that public information co-ordination is most effective when national, local or regional, and other relevant information sources participate jointly. This plan refers to the process of collecting, co-ordinating and disseminating public information in emergencies as the Joint Information Co-ordination System. The term 'System' refers collectively to the personnel, facilities, equipment, and procedures, which systematically link together all public information officers and other sources from the national, local, regional authorities, and to the extent possible, from the private sector. The purpose of linking these information sources, ideally to one primary location, is to provide a mechanism for sharing data and information so that each response agency knows what the other agencies are telling the media. Co-ordination means that the principal parties should be notified of the content of information to be released to ensure its consistency with the total information available.

The objectives of the joint information co-ordination system in a nuclear or radiological emergency are to accomplish the following:

- Compile information about status of the emergency, response actions, and instructions for the affected population.
- Co-ordinate all information from various sources with the other national, local, regional and nongovernmental response organizations.
- Provide a system whereby various sources can work co-operatively, yet maintain their independence in disseminating information.
- Establish co-ordinated arrangements for dealing with rumors and citizen inquiries.

Operational Location

The process of co-ordinating public information will be located at the Information Services Department and at the national, Regional, District and Information Centres. Responding organisations are encouraged to appoint a spokesperson from each major response organisation at a single location. The media should be informed that this centre is the primary source of public information from the national, local and regional spokesperson. This primary source of public information would be called the Joint Information Centre (JIC).

Activation

Once notified, each agency will assess the need to initiate its response based on the situation reported. A government response will begin upon receipt of notification and consists of the following steps depending on the circumstances of the emergency:

- Alerting or activating various agency components.
- Activating agency emergency response teams and deploying them to the Scene.
- Establishing bases of operation at the scene of the radiological emergency to assure that the government response components are organised and consistent.
- At the national level, determining whether assistance is required and whether local or regional authorities need additional assistance.
- At the national level whether assistance is required from international organizations such as IAEA, WHO, etc.

Deployment

Some emergencies will not require full-scale response and a response at the regional or national level might proceed only through notification. Responding organisation will provide EPA the following information:

- The name and location of a designated organisation contact;
- The telephone number at which personnel can be contacted at headquarters or at the scene.
- The name of the primary official to be deployed to the scene, an estimated time of arrival and location at the emergency site.

The NSRPA, the EPA and responsible local and regional authorities will keep each other informed of the status of the response efforts. The NSRPA, Police and Fire Services will work together at the scene to ensure that each has an accurate understanding of the total situation throughout the emergency.

Recovery

Recovery planning will generally not take place until after the initiating conditions of the emergency have stabilised and immediate actions to protect the public health and safety, property and the environment have been accomplished. The EPA and NSRPA will co-ordinate the activity of national, local and regional agencies involved in decontaminating the affected area and controlling the radioactive material. The NSRPA will develop technical recommendations and other government agencies should provide expertise in particular areas and assist the NSRPA in the development of recommendations.

Response Deactivation

Each organisation will discontinue response operations when it is determined that their assistance is no longer required or when its statutory responsibilities have been fulfilled. Prior to discontinuing its response operation, each agency will discuss its intent to do so with the NSRPA and EPA Organisations providing radiological monitoring and assessment assistance will discuss discontinuation. The radiological monitoring and assessment activities will be terminated when the EPA, after consultation with the NSRPA local and regional officials determines that there is no longer a threat to the public health and safety or to the environment.

The NSRPA will consult with the EPA and determine when the information co-ordination operations at the JIC should be terminated. This will occur normally at a time when the rate of information generated has decreased to the point where it can be handled through the normal day-to-day co-ordination process. The NSRPA through EPA will inform the other participants of the intention to deactivate informative co-ordination operations at the JIC and advise them of the procedures for continued coordination of information pertinent to recovery from the radiological emergency.

Decommissioning of source



Orphan source

The picture above is a scenario where a radiological emergency occurred, a Cs137 source was found abandoned in a room used as a scrap yard right next to a dwelling house. The source was detected by one of our staff using a PRD as all of the technical staffs are provided with PRD's, the staff was moving along a place called kissy and all of a sudden the PRD starts to alarm the search and secure of the source began. The source was finally recovered and the Authority has to inform IAEA as this was the very first time we had to deal with an orphan source and within 72 hours the IAEA send us an expert by the name of Juan Carlos who is specialized in decommission of sources, helped us to safely commission and secure the source.



Source safely secured

