

Regulation

Requirements for Off-site Emergency Plans for Nuclear Facilities (FANR-REG-15)

Version 0

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Definitions

Article (1)

For the purposes of this regulation, the following terms shall have the meanings set forth below. Other capitalised terms used but not defined herein shall have the meaning ascribed to them in Article 1 of the Federal Law by Decree No. 6 of 2009 Concerning the Peaceful Uses of Nuclear Energy (the Law):

Competent Authority:	A Federal or local government entity with legally defined responsibilities in the areas described in Article (3.2) of this regulation.
Deterministic Effect:	A health effect of radiation for which generally a threshold level of dose exists above which the severity of the effect is greater for a higher dose. Such an effect is described as a severe deterministic effect if it is fatal or life threatening or results in a permanent injury that reduces quality of life.
Emergency Action Level (EAL):	A specific, predetermined, observable criterion used to detect, recognise and determine the classification of an Emergency.
Emergency Operations Facility:	The facility that coordinates the onsite and off-site response to an Emergency which warrants off-site Protective Action.
Hostile Event:	An act directed toward a Facility or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the Licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.
Off-site Emergency Plan:	The Emergency Plan required by Article (50) of the Law to be prepared, maintained and coordinated by the Competent Authorities and the Licensee in order to provide civil protection and protection of the public against disasters, accidents and catastrophes.
Protective Action:	An action, other than a remedial action, for the purposes of avoiding or reducing doses that might otherwise be received in an Emergency exposure situation.
Response Organisation:	An organisation responsible for managing or implementing any aspect of an Emergency Response.
Urgent Protective Action	A Protective Action in the event of an Emergency which must be taken promptly (normally within hours) in order to be effective, and the effectiveness of which will be markedly reduced if it is delayed.

Scope
Article (2)

Articles (49), (50), (51) and (55) of the Law include provisions governing Off-site Emergency Plans. In accordance with Article (55) of the Law, this regulation defines:

- a. terms and procedures for preparation of Off-site Emergency Plans;
- b. responsibilities and duties for implementation;
- c. measures for mitigation and remediation of consequences;
- d. arrangements for warning of the public; and
- e. Measures for testing Emergency Preparedness.

Terms and Procedures for Preparation of Off-site Emergency Plans

Article (3)

1. The Competent Authorities, in coordination with the Licensee, shall establish the Off-site Emergency Plan, which shall be exercised and reviewed prior to the receipt of Nuclear Fuel at a Nuclear Facility.
2. In addition to the Licensee, Competent Authorities with responsibilities in the following (or relevant) areas shall be involved in the development of the Off-site Emergency Plan:
 - a. Civil protection, including command and control, alerting and notification, and communications;
 - b. Policing;
 - c. Fire-fighting and rescue;
 - d. National security;
 - e. Emergency medical response;
 - f. Local government;
 - g. Transport;
 - h. Public health;
 - i. Social services;
 - j. Environmental protection;
 - k. Food, water production and agricultural product consumption control;
 - l. Public information; and
 - m. International issues.
3. The Authority shall cooperate with the Competent Authorities, advise them and provide information on Radiation Protection matters concerning Emergency planning and Emergency Preparedness.

4. The Off-site Emergency Plan shall include security-related Emergency Preparedness in the event of an Emergency arising from a Hostile Event, including cyber-attacks. It shall also include the potential for the Emergency Response to take place in circumstances where a wider non-nuclear Emergency has occurred.

Responsibilities and Duties for Implementation

Article (4)

1. The Off-site Emergency Plan shall define the roles and responsibilities of the Licensee and the Competent Authorities.
2. The Off-site Emergency Plan shall address the requirements for a notification point and response capacity (available at all times) and the ability to support protracted operations. It shall include:
 - a. The assigning of a Competent Authority (as a lead Emergency Response authority) responsible for:
 - i. implementation of a command and control system for Emergency Response;
 - ii. co-ordination of the Emergency Responses of Response Organisations;
 - iii. designation of an incident commander having ultimate responsibility for the overall Emergency Response and for directing activities and resolving any disputes among all Response Organisations; and
 - iv. ensuring that all local, national and regional Response Organisations and other organisations that have a role in the Emergency Response have agreed, in writing, to the command system;
 - b. The identification or specification of the necessary supporting infrastructure, including a designated hospital for emergency medical response, an Emergency Operations Facility (and alternative facilities in circumstances of a Hostile Event or extreme natural events) and public information centre;
 - c. The arrangements for assessment of the Emergency and for undertaking measurements of radiation and for coordination of radiological advice to the relevant Competent Authorities;
 - d. Defining the role of the incident command post;
 - e. Establishment of points of contact in the relevant Response Organisations to be contactable 24 hours a day, 7 days a week;

- f. Describing the classification of Emergencies at the Nuclear Facility as established under the Regulation for Emergency Preparedness for Nuclear Facilities (FANR-REG-12) and the actions to be taken by the relevant Response Organisations for each classification;
 - g. The arrangements for ensuring the availability of required communications, taking into account the potential for damage to communications infrastructure; and
 - h. A cyber-security plan for the command system.
3. The Off-site Emergency Plan shall also include:
 - a. Arrangements for notification of neighboring countries; and
 - b. Arrangements for notifying the International Atomic Energy Agency and for seeking assistance in accordance with the requirements of the Convention on the Early Notification of a Nuclear Accident and the Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency.
4. The Off-site Emergency Plan shall establish the resources required by each Competent Authority to achieve its defined role.

Measures for Mitigation and Remediation of the Consequences

Article (5)

1. The Off-site Emergency Plan shall establish the precautionary Protective Actions and Urgent Protective Actions that may need to be taken and establish a decision-making process for the taking of Protective Actions in a timeframe consistent with the effective protection of people, property and the environment.
2. The Off-site Emergency Plan shall include:
 - a. Emergency Action Levels (including for Hostile Events) established consistent with intervention reference levels to form the basis of the taking of precautionary Protective Actions and Urgent Protective Actions. The classification of emergencies in the Off-site Emergency Plan shall be consistent with classifications in the on-site Emergency Plan required by FANR-REG-12;
 - b. The specification of Emergency Zones for which arrangements shall be made for taking Protective Action. The Emergency Zones shall include:

- i. A precautionary action zone (PAZ), for which arrangements shall be made with the goal of taking precautionary Protective Action, before or shortly after a release of Radioactive Material occurs on the basis of conditions at a Facility (such as the Emergency classification) in order to reduce substantially the risk of severe Deterministic Effects; and
 - ii. An Urgent Protective Action planning zone (UPZ) for which arrangements shall be made for Urgent Protective Action to be taken promptly, in order to avert the occurrence of Doses off-site in accordance with international safety standards.
- c. Identification of the processes for taking decisions to:
- i. Promptly evacuate or provide special shelter for members of the public on-site and for workers not required to maintain Safety and security at the Nuclear Facility;
 - ii. Promptly evacuate or provide substantial shelter for the public in the PAZ (in all directions);
 - iii. Provide iodine prophylaxis (thyroid blocking) within the PAZ and UPZ;
 - iv. Recommend to the public within the UPZ that they remain indoors and await further instructions (in-place sheltering);
 - v. Promptly conduct monitoring within the UPZ (as well as at shelters in the PAZ) to determine where reference levels may be exceeded and to commence evacuation if appropriate;
 - vi. Restrict the consumption of potentially contaminated food within a food restriction planning radius until the food is monitored and providing instructions to protect agricultural products;
 - vii. Monitor intakes to water production plants and take any necessary action to protect drinking water supplies;
 - viii. Restrict access to the evacuated area;
 - ix. Monitor the people who have been evacuated and determine if decontamination or medical treatment is needed;
 - x. Manage any necessary medical response; and
 - xi. Open or establish reception centres for evacuees from the Emergency Zones.
- d. The arrangements to allow for the actions above to be taken within the timeframes indicated by the Authority.

Arrangements for Warning of the Public

Article (6)

1. The Off-site Emergency Plan shall establish the arrangements to provide useful, timely, truthful, appropriate and consistent information throughout an Emergency.

2. The Off-site Emergency Plan shall include arrangements for:
 - a. Coordinating the release of information during an Emergency, including identifying the Competent Authority to be the source of official information;
 - b. Providing the public with prompt information on risks and any protective actions required or that may be required, including information to the public outside the Emergency Zones;
 - c. Responding to any misleading, inaccurate or confusing information appearing in the media; and
 - d. Ongoing education of the public in the vicinity of the Nuclear Facility about Protective Actions.

Measures for Testing Emergency Preparedness

Article (7)

1. The Off-site Emergency Plan shall include arrangements for regular exercising of the Off-site Emergency Plan and such exercises shall be reviewed and assessed by the Authority against criteria defined in its regulatory guidance.
2. The Off-site Emergency Plan shall include:
 - a. A description of the knowledge, skills and abilities to carry out the functions identified in the Off-site Emergency Plan and the training requirements to support them.
 - b. Arrangements for the conduct of drills and exercises at regular intervals for the functions to be performed under the Off-site Emergency Plan, including the testing of organisational interfaces. Cyber scenarios should be included in the exercises. An exercise of the full Off-site Emergency Plan, together with the on-site Emergency Plan, is required prior to the receipt of Nuclear Fuel at a Nuclear Facility and then at least every two years thereafter.
 - c. Arrangements for the evaluation of drills and exercises and for the consequent review of the Off-site Emergency Plan.