

## NORMS ON

### SPECIFIC REQUIREMENTS FOR LICENSEE IN EPC I, II AND III

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## CHAPTER I. OBJECTIVE, SCOPE, DEFINITIONS

**Art.1** This regulation establishes the specific requirements for preparedness and response in case of radiation emergency for nuclear and radiological installations.

**Art.2** This regulation establishes the requirements for nuclear and radiological installations in Emergency Preparedness Category (EPC) I, II and III.

**Art.3** (1) For the purpose of this regulation, besides the terms defined into the Law 111/1996, on the safe deployment, regulation, licensing and control of nuclear activities, with its subsequent modifications and completions, republished and Fundamental Requirements for nuclear or radiological Emergency Preparedness the terms, definitions and abbreviation used are:

- a) Design basis accident
  - b) Source term
  - c) Normal/Ready Mode
  - d) Alert Mode
  - e) Full Response Mode
- (2) The following acronym are used:
- a) EPC - Emergency Preparedness Category
  - b) LERP - Licensee's Emergency Response Plan
  - c) ERO- on-site Emergency Response Organization
  - d) ICS - Incident Command System
  - e) EALs - Emergency Action Levels
  - f) OILs - Operational Response Levels

## CHAPTER II. SPECIFIC REQUIREMENTS FOR THE LICENSEE

**Art.4** (1) The licensee shall have capabilities and shall set arrangements in response to:

- a) incidents and loss of safety functions,
- b) design base accidents,
- c) beyond design base accidents and severe accidents with very low probability, but of high radiological impact that are expected for the facility.

(2) The licensee shall prepare the Licensee's Emergency Response Plan (LERP) for timely response to events in (1) expected for the facility in accordance to the hazard assessment.

**Art.5** (1) The licensee shall set the on-site Emergency Response Organization (ERO) based on Incident Command System (ICS).

(2) ERO shall be operable at all time.

(3) The following working modes for ERO are defined:

- a.) Normal/Ready Mode in operation of the facility,
- b.) Alert Mode in event of alert at the facility,
- c.) Full Response Mode in event of emergency at the facility.

(4) The licensee shall define in LERP the transition from Normal to Full response mode

**Art. 6** (1) The LERP shall be based on facility-specific ERO. The plan shall include, in the form of a chart, the on-site structure of the Response Organization and the information flow, the responsibilities and planned distances, where it will activate during the emergency, shall be described.

(2) The licensee in EPC I or II shall include the following positions within the Emergency Response Organization, responsible for:

- a) Coordinating the facility planning;
- b) Coordinating the local and national planning;
- c) Making decisions on urgent protective actions;
- d) Implementing urgent protective actions;
- e) National co-ordination of emergency service standards and training;
- f) Providing emergency service support;
- g) Providing response to criminal activities (tactical response and investigation);
- h) Making decisions on longer term and ingestion protective actions;
- i) Implementing longer term and ingestion protective actions;
- j) Coordination with the media;
- k) Off-site monitoring and laboratory analysis capabilities.

(3) The planning basis for licensee in EPC III shall include the following positions in Response Organization responsible for:

- a) Coordination the facility planning;
- b) Coordination the local planning
- c) Providing emergency service support;
- d) Providing response to criminal activities (tactical response and investigation);
- e) Coordination with the media.

**Art. 7** (1) The licensee shall ensure that at all time the premises are available to initiate timely operating actions in plant abnormal conditions and to initiate emergency response actions.

(2) On-site emergency plan shall set a time limit for emergency activation of an extended structure for 24/7.

**Art. 8** (1) The licensee shall designate qualified personnel for the management and execution of functions specified in the on-site Response Organizational chart.

(2) The number of designated persons for each type of response task shall be sufficient to successfully perform specific mitigatory and other protective actions 24/7.

(3) In order to fulfill specific tasks of emergency response, the licensee shall provide a training and qualification program for the personnel having emergency functions and responsibilities established in the on-site emergency plan.

**Art.9** The licensee shall provide technical support to local authorities for the development of local emergency response plan. These plans must be coordinated with the LERP.

**Art.10** (1) The licensee in EPC I and II shall continuously provide CNCAN with critical parameter values, facility security information and other relevant technical data.

(2) The conditions and mode of transmission will be established in a written Protocol between the two parties.

**Art.11** (1) The support of local authorities for on-site emergency response shall be supported by developed protocols or other arrangements between the licensee and institutions participating in the response.

(2) Emergency response actions of the license shall be coordinated with the actions of search and rescue specialist, civil and military services.

**Art.12** (1) The licensees belonging to EPC I and II shall maintain and develop their own system for emergency preparedness.

(2) The emergency preparedness system for paragraph (1) shall be described in the emergency plan, the following elements should be covered:

- a) structure of the training program ,
- b) plans and procedures,
- c) equipment and logistical support,
- d) emergency workers training schedule and content
- e) conduct of drills and exercises,
- f) Integrated management system.

(3) The licensee belonging to EPC III shall provide specific training for the personnel involved in emergency response.

**Art.13** (1) The licensee in EPC I and II shall consider in preparedness program, the implementation of protection measures in order to reduce the effects of the accident, to bring the plant in a safe and stable condition, to reduce the potential release of radioactive material, to limit the consequences of the radioactive discharges, to avoid additional radiation doses to operating / response personnel and to prevent severe deterministic biological effects on operating/response personnel.

(2) To fulfill the requirements of par. (1), the licensee shall take into consideration:

- a) actions necessary for the operation of the facility;
- b) requirements for operating information;
- c) stress and work overload conditions for operating personnel;
- d) emergency response actions in the plant/facility;
- e) response personnel;
- f) operation of systems, equipment and instrumentation installation in abnormal and accident conditions;
- g) plant operating procedures for all types of transients and project based accident scenarios ;
- h) management guidelines for beyond design base and severe accidents.

**Art.14** (1) The licensee in EPC I and II shall develop during the preparedness phase the informative materials for population/public.

(2) The materials for the public shall include at least the following:

- a) basic information about radioactivity and radiation effects on the human body and the environment;
- b) other risk categories and their effects on people and the environment;
- c) measures planned for alarm, protection and aid to the population in case of radiological risk;
- d) authorities responsible for implementing protective measures for the population;
- e) instructions on how people should act in an emergency.

(3) The information materials shall be reviewed periodically, at least once every 3 years, by the licensee.

(4) The licensee shall provide the information materials to the local authorities.

**Art.15** (1) The public authority may delegate, during the emergency, certain responsibilities to the licensee.

(2) The conditions and the delegated or transferred responsibilities shall be established in a protocol between the two parties and described in the on-site emergency plan.

### **CHAPTER III. EMERGENCY RESPONSE PLAN OF LICENSEE**

**Art.16** LERP shall be a single integrated document, developed by the licensee, reviewed by the MoI and approved by CNCAN.

**Art.17** LERP shall be based on hazard assessment that determines and characterizes those abnormal plant conditions that may affect employees and other people on-site and population off-site, property, and the environment.

**Art.18** (1) On-site emergency plan shall contain:

- a) General information about the facility;
- b) The legal basis;
- c) The list of reference documents relevant to the implementation of the on-site emergency plan;
- d) Specific terms and definitions;
- e) The purpose, objectives and scope of application;
- f) Planning basis for response in accordance with the provisions of Cap. IV;
- g) Arrangements for emergency response in accordance with the provisions of Cap. V;
- h) Arrangements for preparedness of the licensee in accordance with the provisions of Cap. VI;
- i) Annexes to emergency response plan of licensee in accordance with the provisions of Cap. VII;

**Art.19** The following initiating events for radiation emergencies shall be considered in the LERP:

- a) loss of safety function,
- b) fires, chemical and industrial accidents on-site ,
- c) acts of sabotage on-site,
- d) extreme external events.

**Art.20** (1) The incident, that does not cause the loss of a safety function should not be considered in LERP.

-(2) Response to security events, that does not cause the loss of a safety function, should not be considered in LERP.

**Art.21** (1) LERP shall be endorsed and signed by the head/manager of the nuclear installation and the departments responsible for planning and responding to emergencies, integrated management systems, belonging to the nuclear installation.

(2) Every revision of the LERP shall include a description of the revision and signatures of the persons mentioned in (1).

## **CHAPTER IV. PLANING BASIS**

### **Section 1. Planning elements**

**Art.22** (1) The planning elements for licensee in EPC I or II shall include the following facility information:

- a) The emergencies that could result in on-site exposure or off-site release, warranting protective actions;
- b) Information that can deliver prior warning of release or potential exposure;
- c) Typical radiological composition and timing of a release;
- d) Radiological and other environmental conditions in the facility during a response;

- e) Actions in the facility that could be taken to mitigate the emergency or reduce a release.

(2) The planning elements for licensee in EPC I or II shall include the following off-site general information:

- a) Medical, police and fire fighting support available, other emergency intervention organizations;
- b) Typical sheltering available;
- c) Typical transportation available for evacuation;
- d) Communication channels available for decision makers;
- e) Communications channels available to alert and inform the public;
- f) Locally produced food and milk that may be directly contaminated;
- g) Information on agricultural product collection and distribution system;
- h) Drinking water supply systems;
- i) Transportation systems that may be affected by an emergency (e.g. road, rail, air, sea, canals);

(3) The planning elements for licensee in EPC I or II shall include the following off-site environmental conditions:

- a) Range of weather conditions under which protective actions and monitoring may be conducted;
- b) Severe conditions that may result in an emergency.

**Art.23** (1) The planning elements for licensee in EPC III shall include the following facility information:

- a) The emergencies that could result in on-site exposure or off-site release, warranting protective actions;
- b) Information that can deliver prior warning of release or potential exposure;
- c) Typical radiological composition and time sequence of a release;
- d) Radiological and other environmental conditions in the facility during a response;
- e) Actions in the facility that could be taken to mitigate the emergency or reduce a release.

(2) The planning elements for licensee in EPC III shall include the off-site general information:

- a) Medical, police and fire fighting support available, other emergency intervention organizations;
- b) Communications channels available for decision makers;

(3) The planning elements for licensee in EPC III shall include the following off-site environmental conditions:

- a) Range of weather conditions under which protective actions and monitoring may be conducted;
- b) Extreme weather that may result in an emergency.

## **Section 2. Hazard assessment**

**Art.24** (1) Hazard assessment shall be done before commissioning of the facility and shall take into account a set of scenarios, including, but not limited to:

- d) incidents and loss of safety functions,
- e) design base accidents,
- f) beyond design base accidents and
- g) severe accidents with very low probability, but of high radiological impact associated.

(2) The hazard assessments shall consider, but shall not be limited to:

- a) status of the facility
- b) status of safety functions,
- c) duration of the release,
- d) release routes of the radioactive material,
- e) source terms at different stages of evolution of the accident
- f) weather conditions.

(3) Modeling of the evolution of plant conditions, source terms, dispersion of radioactive material and calculation of radiation doses to the population shall be done.

**Art.25** (1) The licensee shall prepare the Hazard Assessment report.

(2) Hazard Assessment report shall include:

- a) Description of sources/facilities;
- b) Those events for which response actions might be required;
- c) Possible accident scenarios and their probability;
- d) The response actions that would be effective for mitigation the consequences of such events;
- e) Scope, nature and scale of emergency;
- f) Areas endangered by the potential accident and potential consequences of emergency for people, property and environment, and their probability of occurring;
- g) The classification of the off-site area based on projected radiological consequences produced by the expected emergency;
- h) Set of Emergency Action Levels (EALs) reflecting the plant status with source terms expected for given plant status;
- i) The classification of emergency at the facility, based on EALs, graded approach and guided by assessment of projected radiological consequences produced by expected source term;
- j) The suggestions on classification of the on-site area based on hazard assessment and generic criteria;
- k) The suggestions on structure and values of Operational Response Levels (OILs) for timely correction of initial decisions on implementing the protective actions.

## **CHAPTER V. EMERGENCY RESPONSE**

### **Section 1. Establishing emergency management**

**Art.26** Emergency situations, response and evaluation activities which have to be described in LERP are:

- a) identifying, notifying and declaration of the emergency;
- b) protective measures and tacking mitigatory actions;
- c) providing instructions and warnings to the public and local authorities;
- d) radiation protection of emergency workers;
- e) the provision of healthcare and reduce the effects of the emergency, other than radiological;
- f) measurements of radioactivity on- and off- site, during and after an emergency;

- g) measures on the termination of the emergency and actions taken after the termination of the emergency;
- h) keeping records and preserving the information about the facility status;
- i) licensee actions for search and rescue operations.

**Art.27** The licensee shall establish in LERP the transition from a normal state of the facility to a state of emergency without jeopardizing the safety of personnel, population and the environment.

**Art.28** (1) The coordination of response actions is under the responsibility of the Emergency Response Manager.

(2) The actions of off-site emergency organizations on-site shall be coordinated with the on-site response.

(3) The licensee shall describe in LERP how the capacities and resources designated for response to conventional emergencies should be used in response to radiation emergency.

**Art.29** (1) In emergency, the licensee shall provide sufficient information to the Public and Regulatory Authorities.

(2) The licensee shall designate the liaison officer for communication and coordination of actions with the Local Authorities.

## **Section 2. Identifying, notifying and declaration of the emergency**

**Art.30** (1) In the Normal/Ready Mode of the ERO, the position of the person responsible for identifying, notifying and declaring the emergency shall be defined.

(2) That authorized/responsible person shall be able to timely identify and classify the emergency at facility and notify the Public Authorities.

**Art.31** (1) LERP shall describe how to identify and classify an emergency, how to assess and declare an emergency and the general criteria for action and operational response levels for each class of Emergency defined in the regulations issued by CNCAN.

(2) The identification, classification, evaluation and declaration of emergency shall be detailed in the emergency response procedures.

**Art.32** (1) The on-site emergency plan shall include a description of alarming the facility personnel and notifying the public authorities and the competent authority.

(2) The actions specified in (1) shall be detailed in the emergency response procedures.

(3) Procedures for emergency notification shall be prepared jointly with the authorities to be notified.

(4) The content of notification messages and contact points shall be established in advance and included in emergency response procedures.

**Art.33** (1) The licensee shall make arrangements for requesting assistance from firefighters, police, health services and other national organizations to support the response in case of emergency.

(2) The request for international assistance must be made through the National Competent Authority in relation with international assistance conventions and bilateral agreements, when the national capabilities are exceeded.

(3) The licensee shall develop its own procedures to request international assistance in collaboration with the competent authority.



### **Section 3. Protective actions and tacking mitigatory actions**

**Art.34** (1) The protection measures for the staff on-site at the beginning of the emergency shall be described in the emergency plan and detailed in the emergency response procedures.

(2) The protective actions provided in paragraph (1) shall include:

- a) alarm inside the installation,
- b) reviewing staff meeting and gathering areas,
- c) sheltering,
- d) evacuation,
- e) administration of potassium iodide (if applicable),
- f) decontamination of personnel,
- g) monitoring of contamination,
- h) the immediate provision of first aid and search and rescue operations.

(3) the staff gathering areas, decontamination areas, means of access and escape routes for personnel that are not part of the emergency structure shall be described in LERP.

**Art.35** (1) For EPC I an II the criteria used for recommending protective actions for the population shall be described in the emergency plan and detailed emergency response procedures.

(2) The criteria used are:

- a) classification of emergency;
- b) the conditions of the nuclear facility and prognosis of this conditions;
- c) the radiological situation on site and off site;
- d) weather conditions and short term forecast.

(3) The licensee shall make recommendations to protect public immediately after the classification and declaration of an emergency and submit these recommendations as soon as possible to the public authorities responsible for decisions making.

(4) Re-evaluation of the recommendations on protective measures for the population must be made throughout the evolution of the emergency situation, based on

- a) the conditions of the installation/facility;
- b) the radiological situation on-site and off-site and;
- c) weather forecast

**Art.36** (1) The licensee shall establish and declare in LERP the protection strategy based on general criteria for emergency action.

(2) To establish general criteria for emergency action, the licensee shall take into account the general criteria established in the Regulation issued by CNCAN/regulatory authority.

(3) The licensees belonging to the EPC I and II shall develop the operational response levels.

**Art.37** (1) For events and scenarios provided in art. 21, the licensee shall describe in the emergency plan and detailed site emergency procedures, immediate actions that the emergency structures must take in order to avoid the worsening of the emergency, to reduce the effects and to restore the nuclear installation in a safe and stable condition.

(2) The actions specified in (1) are based on the evaluation of the emergency, the technical condition of the systems of installation, radiological situation both in premises and on-site and off-site.

(3) The actions to prevent or reduce as far as possible uncontrolled releases of radioactive material into the environment shall be described in LERP.

**Art.38** (1) Upon declaration of an alert at facility, the licensee shall activate the ERO on Alert Mode.

(2) Upon declaration of the alert, the licensee shall promptly take actions to:

- a) assess and to mitigate the potential consequences of the event,
- b) restore the safety functions, regain the safe status of the facility, and
- c) prevent the developing of the emergency.

**Art.39** (1) Upon declaration of the emergency, the licensee shall activate ERO on Full Response Mode.

(2) Upon declaring the emergency at facility, the licensee shall promptly take actions to:

- a) assess and to mitigate the potential consequences;
- b) to prevent the progress of the emergency and development of the catastrophic conditions on-site and severe conditions off - site.

#### **Section 4. Providing instructions and warnings to the public and local authorities**

**Art.40** The licensee in EPC I and II shall describe in LERP the arrangements established with local authorities on informing, warning and providing instructions to the population in the emergency planning before and during the emergency,.

**Art.41** The licensee in EPC I and II shall designate in LERP the responsible group that provides support to local authorities to alert the population in case of emergency and is in charge with the development of instructions and information to the public.

**Art.42** The licensee in EPC I and II shall declare in LERP the alarm systems and material resources used by the licensee for providing support in terms of warning, training and information of the population in emergency planning.

**Art.43** (1) The licensee in EPC I and II shall make arrangements to support the public authorities in informing the public during the emergency.

(2) The EPC I and II shall develop information and warnings to submit to the public authorities; these have to be clear and to provide information on:

- a) current situation;
- b) installation status;
- c) the prognosis;
- d) the radiological risk for population;
- e) protective measures for the licensee personnel;
- f) instructions and protective measures for population.

#### **Section 5. Radiation Protection of emergency workers**

**Art.44** The licensees in EPC I, II and III shall designate the personnel responsible with radiation protection during the emergency.

**Art.45** (1) For the anticipated response activities, the licensees in EPC I, II and III shall declare the locations and conditions of radiological risk and other potential risk for response personnel that will work in emergency situation on-site or off-site.

(2) For all anticipated risk conditions the licensee shall establish arrangements for protection of emergency workers.

(3) The arrangements referred to in paragraph 2, for the licensee in EPC I and II, shall include:

- a) methods of monitoring, recording and reporting the radiation doses for each exposed person during the response;
- b) methods of dose reconstruction;
- c) the first protective measures to be taken by rescue personnel after the emergency is declared;
- d) training methods for emergency workers before and during the emergency;
- e) providing protective equipment and individual dosimeters for emergency workers.

## **Section 6. Mitigating the health consequences during and after a radiological emergency**

**Art. 46** (1) The licensee shall describe in the emergency plan arrangements with local medical institutions and specialized medical institutions to provide medical surveillance for emergency workers during the emergency and after.

(2) The licensee shall describe in the on-site emergency plan arrangements for first aid, treating the contaminated persons or overexposed, decontamination and transport of wounded in specialized medical units and for dose reconstruction.

(3) In the frame of protocols concluded between licensee and local medical facilities and specialized medical units has to be considered the treatment of severe cases of contamination or overexposure.

**Art.47** (1) The licensee shall describe in LERP arrangements with local authorities for providing the information to the public during the emergency response to avoid rumors and to increase the trust of the public.

(2) The licensee shall provide for emergency workers psychological counseling during the preparedness of the response and medical aid and psychological support during and after the emergency.

## **Section 7. Radiation monitoring**

**Art.48** (1) For evaluation of emergency conditions and for projection of its development, the licensee in EPC I and II shall provide adequate monitoring techniques.

(2) Assessment criteria and techniques referred to in (1) have to be defined in emergency response procedures.

**Art.49** (1) The licensee in EPC I and II shall have in place evaluation methods for assessment of radionuclide inventory for all postulated emergencies.

(2) For radiation monitoring shall be used radioactivity data from fixed surveillance networks, and mobile teams.

(3) In assessing the emergency radiological consequences, the licensee in EPC I and II shall use the results of the meteorological measurement taken at the nuclear installation /facility meteorological tower.

**Art.50** (1) The licensee in EPC I shall have in place procedures and equipment for environmental radioactivity monitoring on-site and in PAZ and arrangements with local authorities for carrying out joint measurements in other emergency planning zones.

(2) The licensee in EPC I and II shall have in place:

- a) field monitoring teams,
- b) field sampling teams,

- c) arrangements with other institutions for analysis of radioactivity and specific laboratory measurements.
- (3) The licensee in EPC I and II shall provide the field monitoring and sampling teams with the PPE, individual dose monitoring devices.
- (4) The licensee in EPC I and II shall have, at all time, adequately equipped at least one mobile laboratory for monitoring and sampling.
- (5) Field monitoring teams should be equipped with communication devices in order to transmit the results of the measurements to the decision makers.
- (6) The field monitoring teams shall have clear instructions regarding communication with the public.

## **Section 8. Terminating a nuclear or radiological emergency**

**Art.51** The licensee shall have in place procedures for returning to normal operation mode or for transition to decommissioning of the facility when the emergency will be terminated in accordance with decision of the regulatory body/CNCAN.

## **Section 9. Keeping records during the emergency**

**Art.52** (1) The licensee in EPC I and II, shall have in place the procedures and material resources for recording all important information related to the emergency, during the emergency.

(2) The licensee in EPC I and II shall have in place specific recording formats and conditions for recording, reporting and evaluation of data recorded during the emergency.

## **Section 10. Licensee actions for search and rescue operations**

**Art.53** (1) LERP shall include a description of actions taken by the licensee in search and rescue operations on-site and assigning responsibilities for these operations on-site; all shall be detailed in emergency response procedures.

(3) The licensee shall designate qualified personnel in the areas of radiation protection and physical protection to assist the specialized rescue services to conduct specific operations on-site.

# **CHAPTER VI. PREPAREDNESS**

## **Section 1. Emergency Response Organization**

**Art.54** (1) In order to fulfill specific tasks for emergency preparedness and response, the licensee shall designate adequate qualified personnel.

(2) The number of persons assigned to each type of action must be sufficient to perform specific actions in the emergency response.

**Art.55** The role and responsibilities of facility personnel participating in emergency response, including responsibilities of management positions for each of the groups and work teams of the structure of emergency have to be described in LERP and detailed in emergency response procedures.

**Art.56** (1) The licensee in EPC I and II shall define the management position in Emergency Response Organization responsible for emergency preparedness called Response Manager.

(2) The licensee in EPC I and II shall define the position in Response Organization for coordinating the emergency preparedness on- site and off-site, and collaborating with public authorities in the emergency preparedness.

(3) The licensee in EPC III shall nominate the position responsible for coordinating the emergency preparedness and response and collaborating with public authorities in the emergency preparedness and response.

**Art.57** (1) The response manager is responsible for: command and coordination of ERO and maintaining permanent communication with the public authorities; the coordination and implementation of off-site response; declaring the termination of emergency.

(2) The position of response manager can be transferred to other positions involved in emergency management when emergency situation requires so, providing that the person in that position is qualified and adequately prepared for acting as response manager.

(3) The positions in ERO, responsible for the performance of specific response actions and for assessing the emergency situation, the circumstances and manner in which the delegation or transfer of responsibilities at different levels of decision and the implications of the act of decision and response, have to be described in LERP and detailed in emergency response procedures.

## **Section 2. Plans and procedures**

**Art.58** The positions and functions in ERO as well as the specific response actions shall be described in general terms in the emergency plan of the licensee and detailed in the emergency procedures.

**Art.59** The licensee shall develop, in the preparedness phase, the emergency procedures, programs, databases and other tools to be used in emergency, necessary for the prompt and effective response to radiation emergency.

**Art.60** (1) The on-site emergency plan shall be reviewed every three years based on hazard assessment unless major changes at facility occur that require revision of the plan.

(2) The revision of the on-site emergency plan shall address issues and problems identified in hazard assessment as erroneous, incomplete or unsatisfactory and shall consider the current legislative requirements, standards and recommendations and changes in operating conditions of the facility.

**Art.61** (1) The emergency procedures and computer programs shall be reviewed every 3 years or whenever necessary.

(2) When reviewing the documents, the lessons learned from actual response and exercises shall be considered.

(3) The lists of contacts contained in the notification procedures should be reviewed every 6 months or sooner if significant changes occur.

## **Section 3. Material resources and logistical support**

**Art.62** (1) The licensee shall define in LERP material resources and logistical support designated for emergency preparedness and response.

(2) The licensee shall have at all time in place the material resources needed to timely support emergency response, including, but not limited to, working areas, equipment and facilities, equipment, tools, alarm and communications systems, supplies, documentation.

**Art.63** (1) The licensee in EPC I and II shall have in place a secure Emergency Control Center, and all other working places designated for ERO.

(2) Access routes between spaces shall be safe and properly labeled.

(3) Emergency Control Center on-site must be provided with ventilation and air filtration systems to be operational in extreme conditions.

(4) The licensee shall ensure the Emergency Control Center with power backup system.

(5) The licensee in EPC III shall establish the secured working area for performing the duties of ERO.

**Art.64** (1) For emergency workers on-site and response field teams off-site, the licensee in EPC I and II shall provide emergency communications equipment, personal protective equipment, respiratory protective equipment iodine potassium, personal dosimeters and equipment for measuring radiation in sufficient numbers to conduct response actions.

(2) Communications equipment, personal protective equipment, respiratory protective equipment, potassium iodine, personal dosimeters and equipment for measuring radiation shall be maintained in working state by routine procedures in order to be available and ready for use at any time.

(3) The storage facilities shall be dedicated for storage only and easily accessible in an emergency situation.

(4) For decontamination of emergency response personnel and equipment, specially designated areas shall be available/provided.

**Art.65** Information on the location, operating capacity and operating condition of the premises, systems, equipment, tools needed to be used during emergency response shall be stored in databases and hard copies shall be available. That information shall be up to day.

**Art.66** Arrangements and agreements made and organizational structure responsible for providing logistical support on site in an emergency, fast procurement of supplies needed to support response and performing administrative services throughout the emergency situation shall be described in LERP and detailed in the emergency response procedures.

**Art.67** Arrangements made and organizational structure responsible to operate alarm systems and communication systems for emergency situations shall be described in LERP and detailed in the emergency response procedures.

**Art.68** (1) For facilities in EPC I and II the arrangements and capabilities for automatic transfer of data from facility to regulatory body/CNCAN shall be established in LERP.

(2) The content and format of data specified in paragraph (1), transmission routes used and the conditions to initiate and run the transfer of data from the nuclear plant control systems to the CNCAN shall be defined in LERP and detailed in the emergency response procedures.

(3) The data transmitted to the regulatory body/CNCAN in emergency situations shall include, but shall not be limited to:

- a) nuclear safety critical parameters;
- b) the main parameters that describe the state of the plant;
- c) the main parameters on the atmosphere in the building;
- d) the main parameters that describe the state of the primary circuit;
- e) the main parameters that describe the state of the secondary circuit;
- f) the main parameters that describe the state of emergency cooling systems, water supply and raw water system backup;
- g) parameters that describe the state of the cooling system to stop;
- h) state of the special safety systems;

- i) parameters that describe the state of the most important electrical systems including power generators fixed or mobile;
- j) the radiological situation on site;
- k) individual dissymmetry data of emergency workers;
- l) the radiological situation in the vicinity of the plant site;
- m) weather conditions on site;
- n) dose calculation results and prognosis;
- o) other parameters and data established by the competent authority.

**Art.69** (1) The material resources available to support off-site response must be declared in the off-site emergency plan.

(2) The limitations in terms of material resources, concluded arrangements and conditions, material and logistical support from public authorities or other organizations involved in response shall be declared in LERP and detailed in the emergency response procedures.

**Art.70** (1) The spaces, their location on-site, alarm systems, the communication systems on-site, communication systems with competent authorities and public authorities or/and other organizations involved in response with special services teams, monitoring teams and material resources available to support response shall be described in LERP and detailed in the emergency response procedures.

(2) Facilities and equipment provided on-site to support response actions shall include equipment, tools and other material resources required for carrying out management actions response for:

- a) assessment of emergency,
- b) alert,
- c) communication,
- d) data transfer and registration,
- e) exchange information,
- f) fire,
- g) gathering,
- h) reviewing,
- i) evacuation and decontamination of personnel,
- j) first aid,
- k) personnel monitoring,
- l) analysis and measurement of radioactivity in the laboratory and in the field.

(3) The Access control in designated areas, in order to conduct response actions shall be described in general terms in the LERP and detailed in the emergency response procedures.

#### **Section 4. Personnel Training**

**Art.71** (1) The licensee shall properly train the designated personnel participating in response as part of the emergency preparedness.

(2) Personnel training shall be performed before assigning responsibilities for specific function.

(3) Staff training shall be done for the specific function which have to be performed in emergency.

**Art.72** The specific training for emergency response shall be included in the licensee' annually training plan.



**Art.73** The licensee in EPC I and II shall regularly conduct the emergency response training, exercising and testing its own personnel as well as the contractor's personnel.

(2) Actions for training of personnel should be directed in solving aspects of tasks performed inappropriate, observed in the exercises, drills and other emergency situations; and developing and improving individual response to fulfilling specific response action.

(3) The execution and management personnel from the emergency organization shall attend the training courses.

**Art.74** (1) The licensee in EPC I have to support public authorities in organizing training courses, training in radiation protection and emergency preparedness for external workers, members of special response services, the county and local administration and other organizations dealing with emergency situations.

(2) The arrangements necessary to fulfill the requirements in paragraph (1) shall be included in the annual training plan of the licensee.

## **Section 5. Exercises**

**Art.75** (1) The licensee is required to periodically test LERP, or components (part) of the LERP and response personnel assigned to participate to the intervention as part of the training process.

(2) The licensee must keep records of personnel participating in exercises and must ensure that all emergency personnel are tested periodically.

(3) The test of LERP shall be performed at least once a year.

**Art.76** (1) The licensee belonging to EPC I and II must describe the organizational structure responsible for organizing emergency exercises in LERP.

(2) The licensee in EPC I and II shall draw up an annual list of exercises to be held on site in the next 12 months and to submit it to regulatory body/CNCAN, for information, in the last month of the previous year.

(3) The exercises shall target specific functions and activities to be performed during the emergency, testing equipment, tools and zones for response, test instructions, procedures, guidelines and codes of calculation for response, testing capability of the organization to identify deficiencies in the planning, preparation and conduct of the response as well as the need for correction / modification / improvement.

(4) Each exercise shall be organized according to a prior developed plan.

(5) The exercise plan shall include the purpose and intended objectives, participants, script, performance evaluation techniques and exercise sheets or forms of observation / assessment.

**Art.77** (1) The licensee in EPC I and II shall organize an annual emergency exercise on-site with activation of the entire emergency structure.

(2) The annual exercises should cover the testing of the major response functions and specific response activities.

(3) In the annual on-site exercises, the licensee shall include the participation of the special emergency services, public authorities and competent authorities as players, depending on the specifics of the exercise as well as observers; their participation will be in accordance with the protocols and arrangements established in advance.

**Art.78** The licensee in EPC I shall organize at least quarterly on-site emergency drills with the activation of one or more components of the ERO.



**Art.79** (1) At every 3-5 years, the licensee in EPC I and II shall participate in a national full scale exercise, along with local, regional and national authorities.

(2) The licensee shall support the public authorities in the preparation of the exercise.

**Art.80** The licensee in EPC I and II shall organize at least monthly communication and notification tests with the public authorities and the competent authority/CNCAN.

**Art.81** (1) For each exercise conducted, the licensee shall prepare an evaluation report.

(2) The evaluation report shall be prepared based on:

- a) the assessment forms,
- b) the assessment received from other organizations participating in the exercise and
- c) the observations and comments received from observers.

(3) The evaluation report must contain all deficiencies, anomalies and problems identified in carrying out the functions and specific response activities tested.

(4) All issues identified in the evaluation report must be solved accordingly to the seriousness of the findings.

(5) Experience and suggestions of the participants must be collected in sessions and post-exercise analysis should be considered in the revision of the emergency procedures and when appropriate, the revision of the on-site emergency plan.

## **Section 6. Integrated Management System**

**Art. 82** (1) In preparedness process, the licensee shall establish an appropriate integrated management system in line with national regulations and international standards.

(2) The integrated management system shall cover:

- a) acquisition of systems, equipment, tools, communication systems with good performance in operation;
- b) maintenance of systems, equipment and instruments in very good working order, test and calibrate them regularly;
- c) repair / quick calibration of equipment, systems and tools in emergency;
- d) the purchase of good quality consumables and check their warranty period before use;
- e) develop quality materials and accessories spaces for emergency response activities;
- f) providing a control program analysis and measurement methods for monitoring teams in the field and laboratory teams, participating in national and international intercomparison of different types of analysis and different types of measurements;
- g) periodic review of the emergency plans and procedures;
- h) revision of procedures and work instructions for emergency situations and their regular testing;
- i) the correction, within a month, of the serious deficiencies identified in emergency procedures;
- j) review and improvement of the less significant deficiencies, within 12 months from their identification;
- k) control of the records referred to in art. 52;
- l) lessons learned from the experience of previous exercises and the experience of other licensees.

## **CHAPTER VII. APPENDIX OF THE PLAN**

**Art.83** (1) The licensee in EPC I and II shall include in the Annexes to the on-site emergency plan at least:

- a) Emergency response structure: description of the Emergency structure - authority, responsibilities, capabilities and resources in emergency situations.
- b) Protocols: list of organizations with which the licensee has signed protocols and agreements.
- c) Maps and charts: maps of the emergency planning zones, assembly areas, sheltering areas, access ways and sampling points, other emergency locations, potential hazardous areas, etc.
- d) The classification system of emergency: emergency classification system description.
- e) Protective measures and actions: description of protective measures and actions to be implemented on-site and off-site.
- f) Resources: list of resources that are necessary to implement the intervention plan on site, including those which may be offered by local and national authorities or other external organizations.
- g) Support documentation: a list of all relevant documents for implementation of the on-site emergency plan.

(2) The licensee in EPC III shall specify in annex of the the on site response plan at least the following:

- a) Emergency response structure: description of the Emergency structure - authority, responsibilities, capabilities and resources in emergency situations;
- b) Protocols: list of organizations with which the licensee has signed protocols and agreements.
- c) The classification system of emergency: emergency classification system description.
- d) Protective measures and actions: description of protective measures and actions to be implemented on-site and off-site.
- e) Resources: list of resources that are necessary to implement the intervention plan on site, including those which may be offered by local and national authorities or other external organizations.

## **CHAPTER VIII. FINAL PROVISIONS**

**Art.84** Where the EPC is not specified the requirement is applicable for all three categories.

**Art.85** The support documentation for operating license for a nuclear installation shall demonstrate that the requirements of this regulation are implemented.

**Art.86** (1) LERP shall be submitted to CNCAN for approval.

(2) Emergency response procedures shall be send to CNCAN for information.

(3) After any review of the on-site emergency plan it will be submitted to CNCAN for approval.

(4) After any review of the emergency procedures they will be submitted to CNCAN for information.

**Art.87** This regulation will be implemented by the licensees in EPC I, II and III within 12 months after its publication in the Official Gazette.

## Annex 1. Descriptions of recommended emergency facilities and locations

Location	Functions	Characteristics
Assembly point	Locations where non-essential personnel at the facility are assembled; accounted for and sheltered or evacuated	Areas (one or more) within the facility security boundary with sufficient room for onsite non-essential (non-response) staff (including construction workers or other nonpermanent personnel). The location must be easily accessible, provide some protection from a release or exposure, and be continuously monitored. Activation time: within 15 minutes of declaration of an emergency.
Control room	Operational control of the facility, detection and classification of the emergency, and activation of response organization. Non-operational functions should be transferred to other facilities as soon as possible.	Access to data needed to detect and classify an emergency, and implement mitigation actions; remain habitable during severe emergencies; continuous monitoring of radiation levels; and security to prevent unauthorized access.
Facility medical service	Provide contaminated workers and public (if applicable) with the first aid at the facility and prepare them for transport to the designated hospital.	Available 24 hours a day. Only first aid and minimal provisions to prepare contaminated victims for transport (e.g. wrap in blankets) available.
On-site Incident command post (ICP)	Location of the incident commander and other members of the unified command and support staff	For EPC I or II facilities, it most likely will be located within the EOF. For other emergencies, it will most likely be located in an area that is secure, safe and convenient for directing operations. <b>Activation time:</b> within 1 hour of declaration of an emergency
Public information center of the licensee	Co-ordination of all information released to the media concerning the emergency by the facility.	Located in the vicinity of the emergency with space and infrastructure to support media and conduct media briefings. For EPC I, it is a pre-designated facility outside the UPZ. Activation time: within 4 hours of declaration of an emergency requiring the facility.
Radiological monitoring and assessment center of the licensee	Co-ordination of the radiological monitoring, sampling and assessment provided by all response organizations (facility, local governments, national governments).	Location to be determined at the time of emergency based on radiological and operational considerations. <b>Activation time:</b> within 24 hours of declaration of an emergency requiring the facility.