

**FEDERAL ENVIRONMENTAL, INDUSTRIAL
AND NUCLEAR SUPERVISION SERVICE OF RUSSIA**

RESOLUTION

No. 10 of December 19, 2006

**ON APPROVAL AND ENACTMENT OF THE FEDERAL
CODES AND REGULATIONS IN THE FIELD OF ATOMIC ENERGY USE
"REQUIREMENTS FOR CONTENTS OF THE ACTION PLAN FOR
PROTECTION OF PERSONNEL IN CASE OF AN ACCIDENT AT NUCLEAR
RESEARCH INSTALLATIONS"**

The Federal Environmental, Industrial and Nuclear Supervision Service resolves:

To approve the attached federal codes and regulations on the "Requirements for Content of the Action Plan for Protection of Personnel in case of an Accident at Nuclear Research Installations" and put it into effect since March 1, 2007 ([NP-075-06](#)).

Chairman

K.B.Pulikovsky

Approved by:

Resolution of the
Federal Environmental, Industrial
and Nuclear Supervision Service

No. 10 of December 19, 2006

Put into Effect
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**FEDERAL CODES AND REGULATIONS
IN THE FIELD OF ATOMIC ENERGY USE**

**REQUIREMENTS
FOR CONTENTS OF THE ACTION PLAN FOR PROTECTION OF
PERSONNEL
IN CASE OF AN ACCIDENT AT NUCLEAR RESEARCH
INSTALLATIONS**

NP-075-06

The present regulatory document sets forth the requirements for the contents of the Action Plan for Protection of Personnel in Case of an Accident at Nuclear Research Installations being developed by the Operator, as well as specifies the organizational measures to ensure implementation of the Plan.

This is the initial release of the document <*>.

<*> The regulatory document was developed in the Scientific and Engineering Center for Nuclear and Radiation Safety with participation of Mr. V.Kovalev, Mr. M.Maklakov, Mr. V.Ostapchuk, Mr. V.Paramonov (SEC NRS), Mr. M.Grachev, Mr. O.Kochetkov (FMBA of Russia), Mr. N.Trofimov (Rosatom). The proposals made by the specialists of FSE RSC "Kurchatov Institute", FSUE LSC RF-PPI, FSUE LSC RF NIAR, PNPI of RAS were considered in development of this document.

It was developed in compliance with the legislation of the Russian Federation taking into account the requirements of the federal atomic codes and regulations as well as recommendations provided in the IAEA document on "Preparedness and response for a nuclear or radiological emergency" (GS-R-2).

The regulatory document was subjected to the legal review of the Ministry of Justice of Russia (letter of the Ministry of Justice of Russia No. 01/1103-AB dated February 12, 2007).

TERMS AND DEFINITIONS

The following terms and their definitions are used in the present document.

1. Local accident - An accident, the consequences of which are confined to one room (building).

2. In-house accident - An accident, the consequences of which are confined to the territory of the control area.

3. General average (accident) - An accident, the consequences of which spread beyond the control area.

4. Necessity work - Emergency work aimed at rescuing and searching for people, rendering assistance to those injured (emergency rescue work) as well as work aimed at:

- clearing the damages that obstruct rescue operations;
- confinement and extinguishing of fires;
- restoration of damaged protective structures;
- elimination of causes promoting propagation of radioactive substances in the environment and repeated breakout of fires, explosions, etc.

5. Survey (general and radiation) - The measures conducted in the emergency area in order to determine the state and the breakdown rate of NRI rooms, buildings and equipment, detect fires, obstructions at the approaches and entrances of fire fighting and other machinery to the accident and fire sites (general survey) or to determine the boundaries of the territory radioactive contamination zones, radiation emission intensity, content of radionuclides, degree of radioactive contamination of rooms, buildings and equipment (radiation survey).

6. High availability mode (state "Emergency Preparedness") - The functioning mode of the NRI and the Operator on the whole in the situation formed after violation of the NRI normal operation and needing prompt intervention in order to prevent an accident.

7. Emergency situation mode (state "Emergency Situation") - The functioning mode of the NRI and the Operator on the whole in the situation formed after occurrence of an accident at the NRI and needing implementation of personnel and (or) population and environment protection measures.

1. PURPOSE AND APPLICATION SCOPE

1.1. The present regulatory document sets forth the requirements for the contents of the Action Plan for Protection of Personnel in Case of an Accident at Nuclear Research Installations (NRI), as well as specifies the organizational measures aimed at ensuring implementation thereof.

1.2. The present regulatory document is applied to the NRI of any type and any category of potential radiation hazard, which are being constructed, operated and decommissioned.

2. GENERAL REQUIREMENTS FOR THE ACTION PLAN FOR PROTECTION OF PERSONNEL IN CASE OF AN ACCIDENT AT NRIs

2.1. The Action Plan for protection of personnel in case of an accident at nuclear research installations (hereinafter referred to as the Action Plan) shall be developed by the Operator and approved by its head after it has been agreed with all organizations, participation of which may be needed during accident consequences elimination operations at NRIs namely:

- for NRIs having potential radiation hazards of categories I and II - with the Regional Department of the Federal Medical and Biological Agency (RD of FMBA of Russia), with standing control bodies of the unified state system for prevention and elimination of emergency situations at the municipal level;

- for NRIs of potential radiation hazard categories III and IV - with the RD of FMBA of Russia.

2.2. The Action Plan shall be developed based on the reviewed possible design and beyond design basis accidents at NRIs characterized by most severe radiation consequences and taking into account the specifics of the forthcoming stage of the NRI life cycle.

2.3. The Action Plan for the NRIs being constructed shall be developed and put into effect prior to the NRI commissioning.

2.4. An operating organization having several NRIs shall provide for development of the specific (facilities-related) personnel protection action plan for every NRI being a component part of the Action Plan and containing the information specified in subsections 3.2.1 - 3.2.3, 3.2.5, 3.3.1, 3.3.4, 3.3.5, 3.3.7, 3.3.9 - 3.3.11 of the present regulatory document.

2.5. The action plan shall be revised at least once in five years.

2.6. If new NRIs are being commissioned after reconstruction of the currently operating NRIs or if new regulatory documents are put into effect as well as taking into account the results of the inspection of the Operator's preparedness for emergency response during training drills and exercises, the current Action Plan shall be revised and amended as necessary.

2.7. The Action Plan shall be mutually agreed with the Action Plan for protection of population in case of an accident at nuclear research installations in terms of timely announcement of the accident hazard (occurrence), scope and frequency of the current information transmission and coordination of activities.

3. REQUIREMENTS FOR CONTENTS OF THE ACTION PLAN FOR PROTECTION OF PERSONNEL IN CASE OF AN ACCIDENT AT NRIs

3.1. General Provisions

3.1.1. It is necessary to provide a brief description of nuclear- and radiation-hazardous activities carried out in the operating organization, provide a list of research reactors, critical and subcritical assemblies as well as storage facilities for nuclear materials, radioactive

substances and radioactive waste, and other nuclear- and radiation-hazardous areas located on the Operator's NRI sites.

3.1.2. It should be demonstrated that according to the current legislation and other regulatory legal acts a system has been established in the operating organization for prevention and elimination of emergency situations; this system shall be a subsystem of the unified state system for prevention and elimination of emergency situations at a facility's level; the following being established at that:

- the competence and authorities of the commission for prevention and elimination of emergency situations and ensuring fire safety in the operating organization (hereinafter referred to as the OCES) shall be specified by the relevant provision, which would ensure arranging and managing execution of activities related to prevention of accidents and elimination of consequences thereof;

- the OCES members and the emergency work supervisor shall be established by the Order of the Operator's head;

- the competence and authorities of the Operator's special divisions or employees authorized to resolve the tasks related to protection of personnel against emergencies and civil defense shall be specified by the relevant provision;

- a duty dispatching department exercising day-to-day control of the Operators' emergencies' prevention and elimination system shall be established;

- a communication and annunciation system shall be established.

3.1.3. The members, authorities and competence of the review and analysis group consisting of the Operator's experts with involvement (when necessary) of the specialists of the atomic energy use control body and other organizations providing support to the OCES during its functioning in the "Emergency Preparedness" and "Emergency Situation" states, making operational analysis of the information received and preparing proposals and recommendations on elimination of the accident consequences shall be specified.

3.1.4. It shall be demonstrated how they plan special exposure of personnel who may be involved in the necessity work and to what medical institution the persons who obtained excessive radiation doses will be sent.

3.1.5. The procedure for providing the mass media with timely information on the accident and the progress of activities to eliminate consequences thereof shall be established.

3.2. Input data for planning of personnel protection measures

3.2.1. General information about the NRI.

The subsection shall include the following:

- geographical and administrative characteristics of the NRI location;
- the information about the NRI site location concerning the administrative division boundaries, as well as water bodies and rivers, the layout plan of the NRI site and the control area (the recommendations on preparation of the layout plans are provided in [Appendices 1 and 2](#));
- the information on possible radiation exposure of people and environment in case of an accident at the NRI;
- description of the building, in which the NRI is located; layout of its main process rooms;
- main parameters and modes of the NRI operation;
- the category of the NRI potential radiation hazard.

3.2.2. Radiation situation monitoring.

The subsection shall include the following:

- brief description of the radiation monitoring system at the NRI;
- information on the composition, capabilities and functioning modes of the automated radiation monitoring system (ARMS) and the engineered features for transmission of information through the ARMS channels;
- data on the personnel monitoring group (service), procedure of its functioning in the conditions of the NRI normal operations and accidents at NRI, as well as the information confirming the possibility of urgent estimates of the individual radiation doses of NRI personnel and persons involved in elimination of the accident consequences.

3.2.3. Radiation situation.

The subsection shall include the following:

1) radiation situation in the NRI main process rooms and in the control area determined based on the results of calculated estimates or measurements in the NRI normal operating conditions;

2) the results of the estimated forecast of the eventual accidents' consequences;

3) brief description of the eventual accident scenarios including:

- expected levels of radioactive surface contaminations of rooms and equipment;

- expected levels of radioactive contamination of the NRI site and the territory of the control area;

- possible individual effective (equivalent) radiation doses of personnel during an accident;

- possible number of exposed persons needing medical assistance;

4) estimate of the expected radiation situation in case of variation of possible weather conditions including inversion and convection in cases when there is no atmospheric precipitation and when atmospheric precipitation occurs for beyond design basis accidents, the consequences of which may result in the necessity of implementing the personnel protection measures.

3.2.4. Organizations, with which the Operator should have interfaces in case of an accident at the NRI.

The subsection shall contain a list of organizations, with which the Operator should have interfaces while conducting necessity work in case of an accident at the NRI. The stated list shall consider the severity of the eventual accidents' consequences.

3.2.5. Criteria for announcement of the "Emergency preparedness" and "Emergency situation" conditions.

The subsection shall establish:

- the values of the effective dose rate and (or) activity concentration of iodine-131 in the rooms, in the NRI site in the control area and radiation control area, exceeding of which entails taking a decision on initiating functioning of the NRI and the Operator on the whole in the "Emergency Preparedness" and "Emergency Situation" states. [The criteria](#) for

announcement of the "Emergency preparedness" and "Emergency situation" states are specified in Appendix 3;

- specific violations of limits and (or) conditions of the NRI safe operation, occurrence of which entails taking a decision on initiating functioning of the NRI and the Operator on the whole in the "Emergency Preparedness" and "Emergency Situation" states;

- the list of officials entitled to take a decision on announcing the "Emergency Preparedness" and the "Emergency Situation" states at the NRI and at the Operator's on the whole.

3.3. Main personnel protection measures

3.3.1. Logistical support.

The subsection shall include the following:

- the information on the protective structures available at the Operator's (shelters, basements and other in-ground rooms, above-ground buildings and structures) providing for the possibility of emergency sheltering of the Operator's employees;

- the nomenclature of the emergency stock of individual protection means, dose meters, radiation survey devices, decontamination facilities, communication means, tooling, medicines, equipment and materials laid in in the operating organization to equip the services and divisions involved for execution of accident consequences elimination activities. It is necessary to provide for the dose meters and radiometers, the operating ranges of which correspond to the maximum radiation consequences of eventual accidents;

- the nomenclature of the emergency stock stored directly at the NRI;

- the established procedure (when necessary) for providing foodstuffs and water to the participants of accident consequences elimination activities including those involved from external organizations as well as evacuated personnel.

3.3.2. Arrangement of annunciation and communications.

The subsection shall include the following:

- the procedure established in the operating organization for notification (annunciation) of the NRI personnel and other employees of the Operator as well as the

officials of the organizations, with which it shall interact during elimination of the accident consequences, by means of communication means about announcement of the "Emergency Preparedness" and the "Emergency Situation" states;

- the annunciation scheme and the list of the annunciation subscribers including working and home phone numbers, mobile phone numbers of all OCES members and the emergency work supervisor;

- the list and the procedure of functioning of the Operator's duty dispatching service;

- the data on the available communication lines (main and standby) ensuring emergency notification of the NRI personnel and the Operator's officials as well as providing a firm link with the local government bodies and the atomic energy use managerial body.

3.3.3. The procedure for bringing the Operator's services and structural units involved in accident consequences elimination activities into a state of readiness.

The subsection shall include the following:

- staffing of the services and structural units involved in accident consequences elimination activities, schedules of their bringing into a state of readiness;

- the intended involved (when necessary) structural units of other organizations and the atomic energy use managerial body in case when they participate in the accident consequences elimination activities, the scope of equipping the aforementioned units with the individual protection means and individual dose meters, radiation survey devices, motor vehicles and other engineering facilities.

3.3.4. Protection of the accident consequences elimination activities' participants.

The subsection shall include the following:

- the procedure for granting access to the personnel and other persons for radiation hazardous activities in the accident area;

- storage locations of the emergency stock of individual protection means, dose metering devices and individual dose meters, procedure for their distribution and usage;

- arrangement and technical support of radiation environment monitoring in the area of the accident consequences elimination activities;

- procedure of accounting and control of effective (equivalent) radiation doses of persons involved for the accident consequences elimination activities;

- locations and procedure of sanitization of the emergency work areas, special sanitation when integrity of skin and mucous membranes is affected;
- express methods for preliminary assessment of internal intake of radionuclides and procedure for identifying the persons subject to additional examination by biophysical methods and body spectrometry;
- procedure and methods for examination of the special clothing and skin contamination at the exit from the contaminated area, as well as of personal clothing during evacuation from the NRI site affected by the accident (hereinafter referred to as the affected NRI);
- measures taken to protect the staff of the external guarding posts and their equipping with the individual dosimetry monitoring facilities.

3.3.5. Radiological and general survey.

The subsection shall identify the following:

- members of the radiological and general survey groups and equipping thereof;
- procedure of collection, analysis and generalization of data obtained by the radiological and general survey groups;
- procedure for providing information to the Operator's management as well as (when necessary) to managers of organizations, with which the Operator is interacting while executing the accident consequences elimination activities.

3.3.6. Rendering medical assistance to the injured.

The subsection shall include the following:

- 1) the information confirming that the Operator has a Plan of medical support to the measures aimed at protecting the personnel in case of an accident at nuclear research installations, which provides for:
 - rendering self- and mutual assistance with using first aid kits or individual kits of the personnel of nuclear power enterprises;
 - rendering first aid by the Operator's medical units (sanitary brigade, sanitary post) or a sanitary instructor;
 - pre-doctor care by the personnel of the aid post;

- rendering first medical aid by the medical staff of the emergency team in case of life-threatening injuries;

- rendering first medical aid in case of radiation injuries by the personnel of the specialized radiological brigade of the medical unit of the FMBA of Russia;

- rendering specialized medical aid in case of radiation injuries in the specialized clinic based on the pre-executed agreement on sending the injured to the clinic;

2) measures aimed at rendering medical assistance to the injured at the territory of the control area including:

- information on the gathering points of the injured;

- information on the stocks, storage and renewal of medical facilities, medicinal remedies and property;

- information on the procedure of iodine prophylaxis including determination of dose and situational criteria for starting taking stable iodine and other antiradiation medicinal remedies recommended by the FMBA of Russia;

- equipping of places and procedure of sanitary treatment of the injured;

3) measures aimed at rendering medical assistance to the evacuated staff including:

- procedure of identification, registration and medical examination of persons from the NRI personnel and participants of the accident consequences elimination activities, which were exposed to excessive radiation;

- the scope of the medical support to the personnel evacuated from the damaged NRI site and supervision thereof;

- general instructions (reports) on medical assistance;

- instructions (reports) on fulfillment of specific procedures of the specialized medical aid according to the radiation injury types;

4) estimation of manpower and facilities required for rendering medical aid.

3.3.7. NRI physical protection.

The subsection shall include the following:

1) organizational and technical measures aimed at strengthening of physical protection of the damaged NRI and other facilities within the territory of the operating organization, as well as activities of the reserve forces and guarding units aimed at:

- ensuring of the controlled access of the emergency units to the guarded rooms of the NRI;

- formation of the mobile reserve to strengthen the guard of the damaged NRI;

- ensuring of stable management of the NRI guard in the conditions of an accident;

- prevention of unauthorized access to the damaged NRI site, timely detection and prevention of unauthorized actions;

- detention of persons suspected in preparation of a diversion (terroristic act) and (or) theft of nuclear materials or radioactive substances;

2) conclusion on compliance of the measures planned for the case of an accident at the NRI with the requirements of the Rules on physical protection of nuclear materials, nuclear installations and nuclear material storage facilities.

3.3.8. Maintaining of public order.

The subsection shall include the following:

1) the information on the official who is assigned with maintaining public order in the Operator's territory, within the control area and in the personnel escape routes;

2) the Operator's units, other forces and facilities, which will be applied to ensure public order;

3) organizational measures, implementation of which shall ensure maintaining of public order in the Operator's territory, within the control area and in the personnel escape routes; The stated measures shall comprise:

- stopping traffic of all kinds of transport in the damaged NRI site except for the transport involved in elimination of the accident consequences;

- control of personnel movement to protective structures;

- restriction of access to the damaged NRI site;

- traffic control along personnel evacuation routes.

3.3.9. Personnel evacuation measures.

The subsection shall comprise the following information:

- on the officials entitled to take a decision on evacuation of personnel from the damaged NRI site and from the Operator's territory on the whole;

- on the persons responsible for arrangement and conducting of evacuation;

- on locations of gathering and boarding of evacuated persons on the transport vehicles;

- on organizations and particular persons responsible for allocation of motor vehicles for evacuated persons. It shall be demonstrated that all persons subject to evacuation from the control area shall be provided with motor vehicles for evacuation;

- on the evacuation routes and engineered features for communication with road convoys.

3.3.10. Activities of the NRI operating staff and the Operator's officials during elimination of the accident consequences.

The subsection shall specify the procedure of actions of the NRI operating staff and the Operator's officials after taking of a decision on announcing the "Emergency Preparedness" or the "Emergency Situation" states. The procedure of actions shall be developed taking into account the specific character of the particular NRI and the situation, which may occur during an accident. [Appendix 4](#) contains the recommendations on development of the procedure of actions of the NRI operating staff and the Operator's officials during elimination of the accident consequences.

3.3.11. Arrangement of activities on elimination of radioactive contamination centers.

The subsection shall include the following:

- the input data for determination of the decontamination activities' priority;
- the engineered features intended for application for elimination of obstructions and providing access to the areas and equipment subject to decontamination;

- methods and engineered features for decontamination;

- methods of collection and removal, as well as disposals of radioactive waste of the damaged NRI;

- organizations and structural units, which may be involved in decontamination activities;

- measures aimed at preventing propagation of radioactive contamination;

- measures taken to minimize generation of liquid radioactive waste.

3.3.12. Fire prevention measures.

The subsection shall describe the organizational and technical measures on fire protection and nuclear and radiation safety assurance in case of a fire on the NRI site; they shall list the main and the involved forces and facilities to extinguish fires. It is necessary to justify that the available engineered fire extinguishing features and fire prevention measures planned by the Operator comply with the established fire safety requirements.

3.3.13. Accidents not related to the NRI abnormal operational occurrences.

The subsection shall list the measures related to emergencies caused by external natural and man-induced factors characteristic to the NRI location area, which may result in radiation consequences.

3.4. Ensuring preparedness of Operator for emergency response

The section should contain organizational and technical measures ensuring prompt emergency response of the NRI personnel and Operator's officials and providing for:

- familiarization of the officials (within their competence) involved in implementation of the Action Plan with its content acknowledged by signature;
- equipping the workplaces with the instructions and memos on the priority actions of personnel in case of an accident, storage places and procedure of using individual protection means, stable iodine and antirad medication, as well as shelter locations and routes leading to shelters, vehicles' boarding points during evacuation from the NRI site;
- availability of devices and instructions at the NRI control post personnel's for classification of eventual accidents basing on the state of the safety systems and physical barriers on the route of radioactive substances release to the NRI rooms and environment;
- development of a list of officials, who should stay at their workplaces until otherwise instructed by the emergency work supervisor;
- practicing in the personnel actions during training courses and drills, scientific and methodical sessions or command post exercises, as well as periodic inspection of the system for notification of employees of the Operator and organizations interfaced by the Operator during elimination of the accident consequences; the messages transmitted in the training

purposes having to contain the term "training exercise". Practicing in the NRI operating staff actions shall be conducted every year;

- periodical renewal of the emergency stock of stable iodine and antirad medications.

NRI SITE LAYOUT PLAN

The NRI site layout shall indicate the locations of:

- buildings, structures and main engineering communications;
- the protected post for controlling the actions related to elimination of the accident consequences (if available);
- protective structures (shelters, basements and other in-ground rooms, above-ground buildings and structures for providing shelter to the Operator's employees);
- medical station for rendering first pre-doctor aid and evacuation of the injured;
- check points;
- environment and ARMS sensors' monitoring stations;
- emergency annunciation sirens and loud speakers;
- points for distribution of dose meters, radiation survey devices, communication means, tooling, medicines, equipment and materials laid in in the operating organization to equip the services and divisions involved for execution of accident consequences elimination activities;
- reservoirs containing explosive, highly inflammable and combustible substances.

CONTROL AREA PLAN

The following shall be indicated in the control area territory plan:

- boundaries of the control area;
- NRI location site;
- boundaries of the NRI site;
- location points of protective structures (shelters, basements and other in-ground rooms, above-ground buildings and structures for providing shelter to the Operator's employees);
- motor roads and railway tracks;
- location points of emergency annunciation sirens and loud speakers;
- location points of environment and ARMS sensors' monitoring stations;
- location points of the personnel special decontamination centers;
- wind rose, average wind velocity and average air temperature.

**CRITERIA FOR ANNOUNCEMENT OF THE "EMERGENCY
PREPAREDNESS" AND "EMERGENCY SITUATION" STATES**

N pos	Monitored parameter, place of monitoring	State	
		"Emergency Preparedness"	"Emergency Situation"
1. Effective dose rate, $\mu\text{Sv/h}$			
1.1.	Room continuously attended by personnel	> 10.0	> 600
1.2.	NRI site and control area	> 2.5	> 200
1.3.	Radiation control area	> 0.1 <*>	> 20
2. Activity concentration of iodine-131 in the air, Bq/m^3			
2.1.	Room continuously attended by personnel	> 1100	> 2.9×10^4
2.2.	NRI site and control area	> 275	> 9.7×10^3
2.3.	Radiation control area	> 7	> 670 <***>
<*> Excess over natural background. <***> Set for the critical group (children of 1-2 years)			

**PROCEDURE OF ACTIONS
OF THE NRI OPERATING STAFF OF OPERATOR'S OFFICIALS
DURING ELIMINATION OF THE ACCIDENT CONSEQUENCES**

Pos No.	Action	Accident type			Who performs	When is it performed
		local	in-house	general		
First priority of actions						
1.	Identify availability of violations of the normal operation limits and (or) conditions for the NRI demonstrating the indications of an accident	+	+	+	NRI operating staff	Immediately if a violation takes place
2.	Switch the NRI into the temporary shutdown mode, make sure that the NRI is subcritical	+	+	+	-"	-"
3.	Take a decision on introduction of the "Emergency Preparedness" or "Emergency Situation" modes in	+	+	+	Shift supervisor	Immediately after an emergency condition of the equipment has been formed

	the NRI, actuate the emergency annunciation siren, inform the manager of the unit about the NRI state					and radiation situation in two or more independent monitoring channels has degraded
4.	Notify the personnel about introduction of the "Emergency Preparedness" and "Emergency Situation" states at the NRI	+	+	+	-"	Immediately after receiving of information confirming availability of pre-emergency situation or accident at the NRI
5.	Act according to the instruction on priority actions of personnel in case of an accident	+	+	+	NRI operating staff	Immediately after announcing the "Emergency Preparedness" or "Emergency Situation" states at the NRI
6.	Take measures to exclude opening of the control and protection system equipment and	+	+	+	Shift supervisor	-"

	changing of emergency protection setpoints					
7.	Take measures to limit the consequences of the operational disturbance at the NRI including actuation of the facilities for emergency confinement of radioactive releases	+	+	+	NRI operating staff	Immediately after detection of the NRI normal operation disturbance with indications of an accident
8.	Take measures to evacuate the staff to the rooms (buildings) with satisfactory radiation environment, provide the first aid to the injured	+	+	+	Shift supervisor	In case of unacceptable radiation environment in the continuously attended rooms of the NRI characterized by significant exceeding of the established reference levels

9.	Take a decision on introduction of the "Emergency Preparedness" or "Emergency Situation" states in the operating organization (when necessary) basing on the information obtained	+	+	+	Emergency work supervisor (head of the operating organization)	After confirmation of the information received by other channels of communication with the NRI
10.	Inform the emergency work supervisor(head of the operating organization) about the situation at the NRI	+	+	+	Head of the structural unit	Immediately after receiving of information confirming availability of pre-emergency situation or accident at the NRI
11.	Activate the activities of structural units and persons authorized to resolve the tasks on	+	+	+	Emergency work supervisor	Immediately after taking a decision on introduction of the "Emergency Preparedness" and

	protection of personnel against emergencies and civil defense					"Emergency Situation" modes in the operating organization
12.	Activate the activities of the OCES and the expert and analysis group	+	+	+	Chairman of the OCES	-"-
13.	Keep records in the operating logbook chronologically reflecting the cases of equipment failures, accepted commands and directions of the officials, performed operational actions and results thereof, as well as assuming authority for the NRI activities by the emergency work supervisor or head of a structural unit	+	+	+	A person from a shift upon direction of the shift supervisor	As soon as an NRI normal operational disturbance has been detected

Second priority of actions

1.	Specify the type (category) of an accident based on the radiation environment in the NRI rooms, control area and radiation control area	+	+	+	Shift supervisor (head of a structural unit)	Immediately after receiving the required input data
2.	Notify the organizations, with which the Operator interacts during elimination of the accident consequences	-	+	+	Chairman of the OCES	After classification of an accident
3.	Evaluate the radioactive release paths, the conditions, under which it took place, the state of the NRI core	-	+	+	Shift supervisor, expert and analysis group	Immediately after announcement of the "Emergency Preparedness" state at the NRI and in the course of conducting all emergency

						rescue activities up to establishing control over the NRI
4.	Analyze all changes of the NRI parameters and changes in the radiation environment to find out whether these changes result in changes of the type (category) of an accident	+	+	+	Shift supervisor (head of the structural unit), review and analysis group	In the course of all emergency rescue activities up to establishing control over the NRI
5.	Send a radiation survey group to evaluate the exposure dose rate at the NRI site	-	+	+	The head of department (laboratory) for radiation safety	Immediately after announcement of the "Emergency Situation" state in the operating organization
6.	Predict the radiation environment	-	+	+	Specialist on radiation prediction from the	Immediately after receiving

	outside the NRI site				expert and analysis group	the required input data
7.	Provide the local governments with recommendations on taking protective measures based on the information on the NRI state and results of radiation environment prediction outside the NRI site	-	+	+	Emergency work supervisor	Immediately after obtaining the results of the radiation environment prediction prepared by the expert and analysis group
8.	Inform the atomic energy use control body and (or) local governments about impossibility of eliminating (confining) the consequences of the accident by the Operator's personnel	+	+	+	Chairman of the OCES	Immediately after making sure that there is no possibility to eliminate the accident consequences (confine the consequences) by the Operator's personnel

9.	Provide the radiation protection equipment for all persons involved in elimination of the NRI accident consequences, including those arrived from other organizations	+	+	+	An individual responsible for logistical support of the necessity work	Prior to conducting of emergency rescue activities
10.	Provide a special shelter or ensure evacuation of personnel, presence of which at the site of the damaged NRI is not necessary	-	+	+	An individual responsible for conducting of evacuation of personnel	Immediately after identification of unsatisfactory radiation situation
11.	Conduct random monitoring of staff to identify the need in decontamination	+	+	+	The head of department (laboratory) for radiation safety	Prior to evacuation of personnel of the damaged NRI outside the control area
12.	Exclude(restrict) the access of persons not related to execution of	+	+	+	Operator's security officer	Immediately after announcement of the "Emergency

	emergency rescue activities to the Operator's territory					Situation" state in the operating organization
Third priority of actions						
1.	Make samples of radioactive fallout depositions and analyze them	-	+	+	The head of department (laboratory) for radiation safety	On completion of radioactive substances release or after passing of the radioactive cloud
2.	Give recommendations for local governments to establish an area, on the territory of which training for conducting of protective actions shall be arranged	-	-	+	Emergency work supervisor	Immediately after obtaining a prediction on radiation environment outside the control area
3.	Give recommendations on operation of the special ventilation, frequency and	-	-	+	Specialist on radiation prediction from the expert	Immediately after obtaining the release parameters

	restriction of releases based on the radionuclide composition and activity of releases from the damaged NRI				and analysis group	
4.	Arrange searching for the missing persons, use the facilities for monitoring and decontamination evacuated persons	+	+	+	Emergency work supervisor	Immediately after receiving the required input data
5.	Prepare proposals on protective measures in the field of agricultural production	-	-	+	Chairman of the OCES	Immediately after obtaining of information on contamination of agricultural purpose lands
6.	Provide for conditions for subsequent observation of the exposed personnel and persons involved in emergency rescue activities	+	+	+	Head of the Operator's medical unit	In the course of conducting medical and health-improvement measures

7.	Provide for accounting of doses received by the necessity work participants	+	+	+	The head of department (laboratory) for radiation safety	As far as the information is received
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Note. Sign "+" indicates the need in performing the action in case of an accident of a given type (category). Sign "-" indicates that there is no need in performing the action in case of an accident of a given type (category).
