Federal Nuclear and Radiation Safety Authority of Russia
(RF Gosatomnadzor)

FEDERAL RULES AND REGULATIONS
IN THE FIELD OF ATOMIC ENERGY USE

APPROVED
by Statement of RF Gosatomnadzor
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STANDARD CONTENT OF ACTION PLAN ON PROTECTION OF PERSONNEL IN CASE OF ACCIDENT AT NUCLEAR POWER PLANT

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Action Plan
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STANDARD CONTENT OF MEASURES PLAN ON PROTECTION OF PERSONNEL IN CASE OF ACCIDENT AT NUCLEAR POWER PLANT

RF GOSATOMNADZOR
MOSCOW 2000

The Standard Content of the Action Plan on Protection of Personnel in case of Accident at Nuclear Power Plant establishes general requirements for producing corresponding Stationary Action Plans.

The Standard Content:

- Defines the procedure of notification of “Emergency preparedness” , “Emergency situation” at NPP and entering into force of Action Plan on Protection of Personnel in case of Accident at Nuclear Power Plant;
- Establishes immediate actions to be taken by Operating Personnel (staff) and NPP Management in case of Accident at Nuclear Power Plant;
- Defines arrangements on mitigation of consequences in case of Emergencies at NPP.

Requirements of Standard Content are extended to the NPP Personnel, the staff of Special Security and Fire Brigade of NPP, as well as the Personnel temporary assigned to ensure functioning and vital activity of NPP. Those requirements are mandatory at the NPP Site, within the Buffer Area and on the territory of NPP Town with regard to protection of NPP Personnel (staff) and their family members.

The present Standard Content replaces the Standard Content of the Action Plan on Protection of Personnel in case of Accident at Nuclear Power Plant, RD-EO-0030-94 (Moscow, 1994).

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LIST OF CONTENT

1. LIST OF ABBREVIATIONS

Russian abbreviation	Meaning	English abbreviation
АКРБ	Radiation Safety Monitoring Devices	RSMD
АСКРО	Automatic System of Radiation Monitoring	ASRM
АС	Nuclear Power Plant	NPP
АТС	Automatic Telephone Station	ATS
АТЦК	Emergency Response Center of "Rosenergoatom" Group	ERCG
АЭП	State Research & Development Design & Engineering Institute "Atomenergoproject"	AEP
БПУ (БЩУ)	Main Control Point (Main Control Room)	MCP (MCR)
ВВ	Interior Military Forces	IMF
ВЗПУПД	Temporary Protected Point of Emergency Actions Monitoring	TPPEAM
ВНИИАЭС	All Russian Scientific-Research Institute on NPP Operation	VNIIAES
ГО	Civil Defense	CD
Госгортехнадзор России	Federal Mining & Industrial Supervision Authority	FM&ISA
ГПС	State Fire Protection Service	SFPS
Группа ОПАС	NPP Immediate Help Group	NPP IHG
ГРХР	Radiation & Chemical Reconnaissance Group	RCRG
ГСМ	Combustive-lubricating materials	CLM
ГУГПС	Central Office of State Fire Protection Service	CO SFPS
Дка	Allowable level of volume activity of radionuclides in air of process room working zone for the staff of "A" Category	Dka
ЗН	Control Area	CA
ЗПУПД	Protected Emergency Actions Management Point	PEAMP
ЗПУПД АС	Protected Emergency Actions Management Point at NPP	PEAMP NPP
ЗПУПД Г	Protected Emergency Actions Management Point at NPP Town	PEAMP T
ЗПУПД РЭ	Protected Emergency Actions Management Point at NPP evacuation region	PEAMP ER
ЗРХР	Radiation & Chemical Reconnaissance Team	RCRT
ЗСР	NPP Restricted Area	NPP RA
ИБФ	Biophysics Institute	BPI
ИТМ ГО	Civil Defense Engineering & technical measures	CD ETM
$К_З$	Civil Defense Shield Coefficient of Protection	$К_Р$
КО	Disinfection Team	DT
КПП	Check-point	C-P
КТО	Engineering Division	ED
КЧСК	Emergency Response Commission of "Rosenergoatom" Group	ERCG
КЧСО	Emergency Response Commission of NPP	ERC NPP
ЛВД	External Dosimetry Laboratory	EDL
ЛСО	Local Notification System at NPP	LNS
МВД России	Russian Federation Ministry of Interior	RF MI
Минатом России	RF Minatom	
Минздрав России	RF Ministry of Health	
МПА	Maximum Design Basis Accident	MDBA
МСЧ	NPP Medical Division	NPP MD
МЧС России	RF Ministry of Civil Defense, Emergency & Mitigation of Act of God Consequences	RF MCD&E
НГО	Civil Defense Chief	CDC
НОРБ	Head of Radiation Safety Division	HRSD
НПФ	adverse natural factors	ANF
НРБ-99	Norms of Radiation Safety, 1999 Edition	NRS-99
НС	Shift Supervisor	SS
НСБ	Unit Shift Supervisor	USS
НСС	NPP Shift Supervisor	NPP SS
НФГО	Civil Defense Team Leader	CDTL
ОГ	Operational Group	OG
ОКЧС	Departmental Commission on Emergency, RF Minatom	DCE
ОМТС	Material Support Division	MSD
ООП	Public Order Guarding	POG

ОПМ	First Aid Brigade	FAB
ПАСС	Fire & Emergency Service	FES
ПВ	Deplaning Point	DP
ПДД	Permissible Dose Limit	PDL
ПП	Embarkation Point	EP
ППЭ	Interim Evacuation Point	IEP
ПР	Event at NPP operation	EV
ПРУ	Shelter	Sh
ПРХН	Post-Radiation-Chemical Survey	PRCS
ПТО	Processing-Technology Division	PTD
ПУСО	Special Processing Point	SPP
ПЧ	Fire Brigade	FB
ПЭП	Evacuation Center	EC
РАО "ЕЭС России"	Russian Joint Venture "Russian United Power Energy System"	EJV "UES of Russia"
РАР	Emergency Superintendent	ES
РВ	Radioactive Substances	RS
Росгидромет	Russian Federal Service on Hydrometeorology and Environmental Monitoring	RF SHEM
РПУ (РЩУ)	Reserve Control Point (Reserve Control Room)	RCP (RCR)
РУ	Reactor Installation	RI
РХБЗ Минобороны России	RF Ministry of Defense Military Forces on Radiation, Chemical & Biology Protection	RChBP MD RF
СВФ	Special Departmental Forces	SDF
СДЯВ (АХОВ)	Virulent Poisonous Substances (Emergency Chemical Hazardous Substances)	VPS (ECHS)
СЗЗ	Buffer Area	BA
СИЗ	Individual Protection Means	IPM
СКЦ Минатома России	Situation Crisis Center of RF Minatom	SCC RF Minatom
Служба АТР	Transport Service	TS
Служба МТО ГО	Material Support Service of NPP Civil Defense	MSS NPP CD
Служба РХЗ ГО	Radiation & Chemical Protection Service of NPP Civil Defense	RChPS NPP CD
СНР	Salvage Operations & Other Necessary Work	SNW
СОП	Hygiene-Washing Point	HWP
СОТ	Station of Machine Disinfection	SMD
СЦВ	Central Call Point	CCP
СЧСО	NPP Emergency Prevention & Mitigation System	EPMS
СЭП	Assembly Evacuation Place	AEP
УКС (ОКС)	Department (Division) of Civil Construction	DpCC (DvCC)
ФСБ России	RF Federal Security Service	RF FSS
ЧС	Emergency Situation	ES
ЩРК	Radiation Monitoring Room	RMR
ППБ АС-95	Fire Safety Rules in NPP Operation	FSR-95
НРБ-99	Norms of Radiation Safety, 1999 Edition	NRS-99
СНиП	Civil Construction Norms & Rules	CCN&R

2. GENERAL PROVISIONS

2.1. Standard Content of Action Plan on Protection of Personnel in case of Accident at Nuclear Power Plant (hereinafter referred as – Standard Content…) establishes General Requirements to produce Action Plan on Protection of Personnel in case of Accident at Nuclear Power Plant (hereinafter referred as Action Plan on Protection).

2.2. The present Standard Content is developed with taking into account requirements of Federal and actual Industrial Directive and Normative Documents

In producing the present Standard Content the following documents were considered:

Amendments to Standard Content of Action Plan on Protection of Personnel in case of Accident at Nuclear Power Plant (RD-EO-0030-94) agreed upon by RF MCD & E, RF Minatom, RF Ministry of Health and approved by RF Gosatomnadzor (RF Gosatomnadzor' Letter No 5-08/759 dated 03.10.97;

Requirements of the Statement on procedure of Announcing of Emergency, operative Information Transmission and organizing of Immediate Assistance to NPP in case of radiation Hazard Situations (hereinafter referred as Statement on Announcing of Emergency).

2.3. The EPMS is established to prevent Emergency Situations at NPP, and in case of emergency arising – to localize Emergency Situations and elimination of its consequences, to ensure safety and to protect the personnel (workers) and family members as well as to protect the environment and to mitigate NPP damage.

2.4. The ERC NPP is a Co-ordination Body of EPMS designated to organize and manage works on prevention of Emergencies at NPP as well as to manage process of mitigation consequences in case of Emergency.

Personal (staff) of ERC NPP is assigned upon the Order of NPP Director. The ERC NPP activity is governed by Statement approved by NPP Director.

2.5. A Working Body of ERC NPP is the Staff (Division) on the matter of Civil Defense and Emergencies at NPP. This Staff is responsible for organizing all actions on Civil Defense, for ensuring management of Forces & Meanings of EPMS, for preparedness of NPP Civil Defense and Emergency Forces, for co-ordination of activity between NPP Civil Defense and Group Commanders.

2.6. By the moment of physical start-up of the NPP First Unit (or upon results of upgrading of Units under operation) the requirements of Departmental Civil Construction Norms for Designing of NPP Engineering Civil Defense Measures shall be met with regard to:

2.6.1. Ensuring of:

- Full cover in shelters for the major NPP shift to be worked in peaceful time;
- Cover of NPP staff with their families within available and specially arranged shelters of NPP Town;
- Individual dose control for NPP staff;
- Arrangement of Industrial, Public and Residential Constructions at NPP territory and in the NPP Town (in case of luck of shelters) for first stage of covering for NPP staff and their families in case of emergency.

2.6.2. Establishing of:

- ASRM[2]
- NPP PEAMP, PEAMP T and PEAMP ER;
- LNS;
- Necessary number of itineraries for ensuring timely evacuation of NPP staff and their families.
- Storage facilities at NPP territory and in the NPP Town designated to store techniques, auto-transport, instruments and property of SDF and NPP Civil Defense forces which are stipulated to be available by the Equipping Tables.

2.6.3. Preparation of:

- Vicinity areas (evacuation regions) of NPP for acceptance of evacuated NPP staff and their families.

2.6.4. Development of measures for participation of NPP in:

- Providing auto-transport to residential houses within the NPP Town with the aim to reduce evacuation time;
- Preparation of communal public service points at the itineraries for hygienic treatment of people, for special IPM treatment, for treatment of clothes and auto-transport & railway transport treatment.

Paragraph 2.6 of Action Plan on Protection describes in detail all undertaken measures as well as the matter of holding outstanding measures which were not done within the time limits prescribed by Departmental requirements for amendment of schedules of NPP technical upgrading and backfitting.

2.7. Action Plan on Protection is developed by Operating Organization (Utility) on the base of considered by NPP Designer Beyond Design Basis Accident with the worst consequences for personnel and population with taking into account the phases of Accident propagation.

2.8. Action Plan on Protection is agreed upon by Managers of Major NPP Divisions and singed by NPP Director and by Head of Civil Defense & Emergency Staff.

2.9. Action Plan on Protection is agreed upon by Chief Engineer of NPP Designer, by Heads of Regional Body of Civil Defense & Emergency and Regional Office of Interior, by NPP Town Administration Head as well as by Head of NPP MD.

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[1] Members of the NPP employee's family: close relatives: spouse (registered marriage), parents, children living with the NPP employee**.**

[2] Hereinafter with regard to ASRM – from the moment of ASRM Working Project implementation

2.10. Action Plan on Protection is approved by Vice-President – Director Technical of "Rosenergoatom" Group upon submission of Department of Operation of corresponding Reactor type. It is entered into force by the Order of NPP Director one month before shipping of fresh fuel for physical start-up of the first (Head) Unit to the Storage Facility.

The Civil Defense & Emergency Staff makes Extracts from approved Action Plan on Protection for all Heads of Divisions and Services with regard to matters of their concern. Basing on those, they develop the major documents on Civil Defense in accordance with requirements defined by "Guidance on organizing and taking measures on Civil Defense, Prevention and Elimination of Emergencies at NPP. The aforementioned Extracts are signed by Head of NPP Civil Defense & Emergency Staff.

Besides, while producing those documents, the NPP Evacuation Commissions shall consider requirements of Recommendations on organizing and carrying out of evacuation of NPP personnel and those family members in case of Accident of other Emergencies (Ministry of Nuclear Power and Industry, AEP, 1992) and Recommendations on organizing and preparation of NPP Vicinity Zone (Evacuation Regions) for hosting evacuated personnel with their family members (Ministry of Nuclear Power and Industry, AEP, 1991)

2.11. Action Plan on Protection is simultaneously an Action Plan of NPP on Prevention and Elimination of Emergencies in peaceful time.

2.12. Action Plan on Protection shall content full information about all planned measures at NPP, its material support, the forces and means of NPP, completeness of personnel, equipping of IPM by property, instruments and techniques.

The most important documents of Action Plan on Protection for using in crisis situations are the Plan-schedule of NPP Director's actions (ES) and Calendar Plan-schedule of main measures for the case of Accident at NPP. Those documents shall be formed in well visible manner, using separate deployable plotboards.

The approved Action Plan on Protection is submitted to Gosatomnadzor of Russia within the Set of Documents justifying ensuring nuclear and radiation safety during NPP Unit operation.

2.13. Producing of new Action Plan on Protection, amendment of approved Action Plan on Protection is being done in case of:

- start-up of new Reactor Installations;
- upon results of re-construction of NPP Units under operation;
- basing on Prescriptions issued by State Regulatory Bodies;
- in case of implementation of new normative documents;
- upon results of training (Complex Exercises)

on the base of Notifications to be produced by NPP Administration and approved by Vice-President – Technical Director of "Rosenergoatom" Group.

The approved Notifications are registered and submitted to RF Gosatomnadzor by the Utility together with Application on amendment of Licensing Conditions for NPP operation.

2.14. Requirements of Action Plan on Protection are extended over the NPP personnel, Special Guard stall and Fire Brigade staff as well as over temporary attached for ensuring NPP functioning and activity. Those Requirements are mandatory at the NPP site, within the Buffer Area as well as within the territory of NPP Town in its part of protection of NPP personnel and those family members.

2.15. Action Plan on Protection of Workers and Servants of Civil Construction Companies of General Contractor and other organizations (enterprises) acting at the NPP site ang within the Buffer Area is produced by Administration of corresponding organizations (enterprises). Those Plans are based on Typical Content of Action Plan on Protection of Population in case of Accident at NPP to be produced by RF MCD&E and taking into account the present Typical Content. The aforementioned Plans are agreed upon by NPP Administration, by NPP Medical Division Head, by Regional Bodies on Civil Defense and Emergencies at NPP Town and at Region (Separate District) and approved by Principal Managers of those organizations.

2.16. Producing of Protection Plans for Population of NPP Town and other inhabited localities situated within 30-kilometres zone is being done by Administration of those inhabited localities with taking into consideration the Typical Content of Protection Plan for Population in case of Accident at NPP.

2.17. Those Plans on Protection of Personnel and Population shall be interrelated with regard to:

- timely notification on threat (fact) of Accident,
- scope and time period for transmission of current information,
- co-ordination of actions and mutual assistance in implementation of stipulated measures.

2.18. Depending on situation at the site, within the Buffer Area or in the NPP Town the three regimes of functioning are defined by "Rosenergoatom" Group Statement on System of Prevention and Elimination of Emergencies with regard to protection of NPP personnel and their family members:

1. Every-day Activity (NPP Normal Operation) – no deviation from NPP Design Safety Limits & Conditions.
2. Regime of Increased Preparedness ("Emergency Preparedness" condition) - disturbance of NPP Design Safety Limits & Conditions. No need to take special measures for protection of personnel.
3. Emergency Regime ("Emergency situation") – disturbance of Limits and/or Conditions of safe NPP operation. Special measures for protection of personnel and/or population are required.

2.19. The NPP Director (Chief Engineer) or his replacing person is empowered to take a decision to announce the Emergency situation, to enter into force and to implement statements of Action Plan on Protection and to carry out duties of Emergency Superintendent (ES).

2.20. Upon an "Emergency Situation" signal the Action Plan on Protection is entered into force.

3. STRUCTURE AND CONTENT OF ACTION PLAN ON PROTECTION OF PERSONNEL IN CASE OF ACCIDENT AT NUCLEAR POWER PLANT

Action Plan on Protection consists of four Sections and Appendices to them (schemes, plots, Tables and descriptions) which amend the text.

3.1. *Content of host data for planning Actions on Personnel Protection*

3.1.1. Brief description of NPP:

- type of NPP;
- Number of Units and its Power;
- date of commissioning;
- normal and reserve electricity supply for NPP Systems and Equipment;
- Main NPP Process Structures & Constructions with mentioning of personnel distribution during the day (maximum and minimum number) including Special Fire Brigade Staff as well as other organizations which ensure NPP functioning and activity;
- Water supply systems;
- Transport communications;
- Flow diagram of savage network within the NPP Site and outside network;
- Characteristics of ventilation chimney for elimination of gas and aerosol releases.

3.1.2. Brief description of NPP Town:

- Site area;
- Population;
- List of major enterprises, public organizations and cultural centers;
- Distance between NPP Site and NPP Town;
- Possibilities for notification;
- Possibilities for covering and evacuation of NPP Personnel and family members;
- Road network;
- Water supply;
- Transport communications between NPP Site and NPP Town

3.1.3. Natural and climate specifics of NPP Site:

- Landscape characteristics;
- Ground and underground water flow diagram, i.e. depth of occurrence and speed;
- Meteorological conditions, i.e. speed & direction of wind, wind repetition, air temperature depending on a season basing on Design data or the data of last year operation;
- Seismic and geo-dynamic characteristics of NPP Site.

3.1.4. Brief description of ecologically hazard substances monitoring at the points of its release (discharge)at NPP Site, within the Buffer Area and within the 30-kilometres zone; arrangement (location) of Control Points for Environment objects and ASRM.

3.1.5. The main signs of NPP Accident are: breach of limits and (or) conditions of safe operation established by Process Description for Unit operation accompanied by exceeding of Radiation Conditions performances defined by the present Typical Content.

3.1.6. The “Emergency Preparedness” condition and (or) “Emergency situation” at the early stage of Accident is notified at NPP depending on actual radiation situation in case when the effective dose rate and (or) activity concentration of J -131 in the air of NPP Rooms with permanent staying of staff has reached the values given in Table 1. It relates also to NPP Site, Buffer Area and Control Area.

The meanings of main limit of effective dose (Table 3.1 NRS-99) and allowable concentrations of radionuclides in atmospheric air (Table P-1, P-2, NRS-99) for areas where they are at the natural radiation level during normal operation are adopted as criteria for notification of “Emergency Preparedness” condition at NPP.

The meanings corresponding to “Lowermost” level of dose criteria defined by NRS-99 (Table 6.3) are adopted as criteria for notification of “Emergency situation”.

3.1.7. In case of radiation environment degradation within periodically attended and unattended rooms of NPP RA the actions of personnel are carried out without entering the Action Plan on Protection into force.

Table 1

Criteria for notification of “Emergency Preparedness” and/or “Emergency Situation” at NPP

No	Controlled parameter, point of control	Condition	
		“Emergency Preparedness”	**“Emergency Situation”**
	1. Equivqlent Dose Rate, мкSv/h		
1.1.	Room of permanent attendance of personnel (NPP RA)	> 10,0	> 600

1.2.	Territory of NPP Site and Buffer Area	> 2,5	> 200
1.3.	Territory of Control Area	> 0,1*	> 20
2. Volume activity of J-131 in air, Bk/м ^{3}			
2.1.	Room of permanent attendance of personnel (NPP RA)	> 1100	> $2{,}9 \cdot 10^4$
2.2.	Territory of NPP Site and Buffer Area	> 275	> $9{,}7 \cdot 10^3$
2.3.	Territory of Control Area	> 7	> 670 **
* Exceeding of natural background. ** Defined for critical group (children of 1-2 years old).			

3.1.8. The following non-radiation factors making impact to the NPP safety shall be considered while notifying the "Emergency Preparedness" or "Emergency Situation" at NPP:

- Fire accidents and a capability of its elimination by means of RF MI COSFPS;
- State of case with equipment during the adverse natural factors impact and afterward;
- Volley discharge (release) of VPS as a result of rupture of maximum number of process tanks at NPP Site and/or in case of impact of potentially hazardous objects (storage facilities for CLM, VPS) located within the Buffer Area

Attachments to the Section:

Attachment 1.	Layout of NPP Site
Attachment 2.	Layout of NPP Buffer Area
Attachment 3.	Layout of NPP Town
Attachment 4.	Layout of NPP 30-kilometres Surrounding Area.
Attachment 5.	Calculation-justification of Affected Area in case of Beyond Design Basis Accident ("Reference Accident") accompanied by gas-aerosol radioactive substances release, as well as in case of rupture (destroy) of VPS Tanks
Attachment 6.	Calculations of Affected Areas in case of Radiation & Chemical Accidents at _____NPP

3.2. Notification Procedure for "Emergency Preparedness" , "Emergency Situation" conditions at NPP and entering into force of Action Plan on Protection of Personnel in case of Accident at Nuclear Power Plant. Actions of Operating Personnel (staff) and NPP Management

The aforementioned Procedure establishes the actions of Operating Personnel and NPP Administration in case of deviation from NPP normal operation

3.2.1. Upon revealing deviations from limits and/or conditions of NPP safe operation, when the Equivalent Dose Power Rate or J-131 Volume Activity in air has been reached the level of "Emergency Situation" (the criteria for notification of "Emergency Preparedness" and/or "Emergency Situation" at NPP are given in Table 1), as well as in case of threat to NPP safety caused by fire accident of Act of God, or in case of disturbance of process regime, or in case of NPP System or Component failure which might lead to Radiation Accident, the Staff shall immediately take the following actions:

- Inform the corresponding duty person upon subordination, up to the NPP Shift Supervisor, about the conditions occurred;
- Take necessary and available measures, i.e. relief action in case of accident, threat to life or overirradiation of personnel;
- Take necessary and available measures for elimination of revealed deviation or mitigation of consequences.

3.2.2. Upon receiving information with regard to possible development of radiation hazardous situation or accident as well as in case of deviations to be reported in accordance with Statement on Procedure of Investigation and Accounting for Events during NPP Operation, PNAE G-12-005-97 (NP-004-97, p.2.1) the NPP Shift Supervisor shall identify the situation and make notification according to List of Events during NPP Operation to be reported to NPP Administration immediately (Table 2).

To reduce the time of notification and timely organize the work on minimization and elimination of Emergencies, the NPP Shift Supervisor shall:

- Report personally to NPP Director and NPP Chief Engineer to Duty Controller of "Rosenergoatom" Group, to Regional Control Bodies on Civil Defense & Emergencies of NPP Town and Region (Autonomy Region)
- At the same time – make order to the person duly authorized in advance by the NPP Director's Order, to report to the Head of Inspection Division of RF Gosatomnadzor at the present NPP and to inform other subscribers according to Table 2.

- Besides, the NPP Shift Supervisor shall submit the information to the Regional Control Bodies on Civil Defense & Emergencies of NPP Town and Region and to the Duty Controller of "Rosenergoatom" Group, in accordance to established procedure;
- Organize, in case of necessity, the radiation reconnaissance and examination of equipment, rooms & communications by means of operating personnel, aiming to reveal causes, sources and scope of Event.

In case of Events to be reported according to Appendix 7 the Duty Controller of Utility shall simultaneously inform the SCC RF Minatom in accordance with established procedure.

Table 2

List of Events (Violations) during NPP operation to be reported by NPP Management immediately

Type of Events (Violations)	Where and to whom the all type of violations at NPP shall be reported
Notification of "Emergency Preparedness"	Duty Controller of "Rosenergoatom" Group (Crisis Center of "Rosenergoatom" Group) SCC RF Minatom
Notification of "Emergency Situation"	Regional Control Bodies on Civil Defense & Emergencies of NPP Town and Region (Autonomy Region) Head of Inspection Division of RF Gosatomnadzor at NPP Regional Committee on Environment Protection
Fire Event which might lead to Radiation Accident	Duty person of corresponding FM&ISA Regional office (in case of damage of NPP component(s) registered in FM&ISA Bodies)
Act of God (earthquake, tornado, flooding, etc) which might lead to Radiation Accident	Administration Heads of NPP Town and District (Autonomy Region) Grid Controller of corresponding department of EJV "UES if Russia" in cases stipulated by actual Statement on interaction between the NPP and Electricity Grid NPP Medical Division Sub-division o SFRS at NPP and Regional Fire Brigade office
Attempt of intruders to take unlawful acts which might lead to Radiation Accident	Military Unit of RF Ministry of Interior Forces ensuring NPP safeguard duty officer, Head of Guard) Ministry of Interior Bodies & Federal Security Service Bodies serving the NPP Regional office of RF SHEM serving the NPP Bodies of other Ministries & Departments within the NPP Site and Buffer Area Local Administration of inhabited localities within 5-kilometres surrounding NPP zone RF Minatom Departmental Commission on Emergency (to be informed by NPP Management)

3.2.3. Upon receiving initial information from NPP Shift Supervisor regarding the Violation occurred, the NPP Director (NPP Chief Engineer), after evaluation and forecast of Event expanding and/or after examination of situation at place (in case of necessity), shall take a decision to notify the "Emergency Preparedness" and/or "Emergency Situation" at NPP and to activate the Actions Plan on Protection. He gives corresponding orders to Chairman of NPP Emergency Response Commission (ERC NPP), to NPP Shift Supervisor and to Chief of Headquarters on the matters of Civil Defense and Emergencies (or to the replacing person).

A decision taken is brought to attention of all NPP staff by means of available communication (speakerphone, direct and Automatic Telephone Station) and notification tools.

3.2.4. In case of notification of "Emergency Preparedness" at NPP the NPP Shift Supervisor immediately informs the NPP Top Level for leading personnel and equipment to prepared conditions with the aim to eliminate Violation as well as to localize violation and to eliminate its consequences. At the same time, notification according to Appendix 8 and 9 is cleared up.

3.2.5. In case of absence of NPP Director (NPP Chief Engineer) a decision to notify the "Emergency Preparedness" and/or "Emergency Situation" at NPP and to activate the Actions Plan on Protection is being taken by NPP Shift Supervisor.

3.2.6. Activation of Actions Plan on Protection is put into effect by means of consecutive performing of Calendar Plan-schedule of carrying out Main Measures of Civil Defense in case of Accident at NPP (Appendix 10)

3.2.7. The situation arising from Accident (upon information of Control Posts and all types of reconnaissance as well as upon results of Probe Laboratory Control) is shown at the topographic map (prepared in advance) with the 1:200 000.scale.

3.2.8. In case of revealing the fact of violation the Operating Personnel (staff) of Workshops, Shift Supervisor of Radiation Safety Division and NPP Director shall follow directions listed in Appendices 11, 12, 13, 14, 15, correspondingly, from the moment of "Emergency Preparedness" and/or "Emergency Situation" notification at NPP.

Attachments to the Section.

Attachment 7.	Categories of Events (Violations) during NPP Operation
Attachment 8.	Scheme of Notification with regard to announcement of "Emergency Preparedness" and/or "Emergency Situation" conditions at NPP.
Attachment 9.	List of Subscribers for Notification of "Emergency Preparedness" and\or "Emergency Situation" conditions at NPP
Attachment 10.	Time Schedule of Emergency Exercises to be held by Civil Defense Forces for the case of Accident at NPP
Attachment 11.	Main actions of Operating Personnel (staff) of NPP Workshops (Divisions, Laboratories)
Attachment 12.	Main actions of NPP Radiation Safety Division Shift Supervisor
Attachment 13.	Main actions of NPP Shift Supervisor (before arrival of NPP Director)
Attachment 14.	Main actions of NPP Structural Sub-divisions Leaders
Attachment 15.	Time Schedule of NPP Director's actions (Emergency Superintendent actions)

3.3. Main actions on Protection of Personnel

Each sub-section contents detailed description of organizing measures mentioned in those sub-sections at each NPP, with involvement of necessary tools and forces, completeness of specialists, equipping by Individual Protecting Means (IPM), by devices for radiation and chemical reconnaissance & radiation monitoring, by property, tools & techniques.

3.3.1. Organizing of Notification and Communication

It stipulates detailed description of organization and procedure for:

- Transfer of information and notification for the case of Accident or Radiation Hazardous Situation from the moment of announcement of "Emergency Preparedness" and/or "Emergency Situation" at NPP in accordance with p.p. 6.3 and 6.4 of Statement on procedure of Emergency notification.
- Ensuring functioning of Data Transfer System regarding operation of Units of each NPP;
- Management of forces and means of NPP as well as of involved NPP forces & tools at NPP and within Buffer Area Salvage Operations & Other Necessary Work (SNW) during elimination consequences of Accidents, disasters and Acts of God; communication with Federal and Regional Emergency Bodies, with Local Authorities and Military Command; exchange information between Protected Emergency Actions Management Point (PEAMP) (at the NPP Site, in the NPP Town and within the NPP evacuation region) and other subscribers according to Action Plan on Protection.

3.3.1.1. For information transmission and transfer of Notification Signals the available main & redundant channels (lines) are used; the Local Notification System (LNS) is actuated; the radio-communication is used for interaction with mobile teams (during reconnaissance, entering the Forces & Means into the Emergency Zone, carrying out of Salvage Operations & Other Necessary Works).

3.3.1.2. While organizing external communication channels designated to transfer data among Protected Emergency Actions Management Points (PEAMP) (PEAMP NPP, PEANP at NPP Town, PEAMP at NPP Evacuation Region) as well as between them and the Crisis Center of "Rosenergoatom" Group the communication channels via cable, radio-relay lines and Satellite systems shall be used. A number of communication channels coming from each NPP via different geographical tracks shall be not less than three.

3.3.1.3. The main communication channels permanently operable in normal and emergency conditions shall be wire and radio-relay trunk circuits. Satellite communication channels are used as a redundant one and actuated for transfer data to Crisis Center of "Rosenergoatom" Group and to the Situation Crisis Center of RF Minatom in case of failure of wire and radio-relay communication lines.

3.3.1.4. All communication facilities of NPP shall ensure around-the clock acceptance and transfer of necessary information via designated and dial-up communication channels.

3.3.1.5. To ensure notification and communication under the regime of increased preparedness ("Emergency Preparedness" conditions) and in case of emergency ("Emergency Situation" regime) the communication units of PEAMP NPP, PEANP at NPP Town, PEAMP at NPP Evacuation Region are actuated.

3.3.1.6. Reliability and stability of communication shall be ensured by means of complex usage of all types of communication and all communication units.

3.3.1.7. Notification in case of Accident or Radiation Hazardous Situation shall content brief recommendations on protection measures against negative impact of emergency consequences.

3.3.1.8. The following time limits for information transfer are defined:

- Immediately upon revealing, independently form the time of the day – notification in case of Accident or Radiation Hazardous Situation
- Not later than one hour after beginning of Accident the following shall be provided:

- Name of NPP and Number of the Unit;
- Date and time of Accident occurrence;
- Unit conditions before the Accident;
- Radiation environment at NPP rooms and surrounded territory;
- Assuming causes of Accident
- Brief characteristic of Accident
- Summary amount of radioactive substances released to environment upon the Accident;
- Approximate isotope composition of release;
- Unit conditions at the moment of information transmission;
- Brief description of meteorological conditions at the moment and after the Accident occurrence within the NPP Region (air temperature, nebulosity, wind speed at different heights);

- Not later than 2 hours after Notification, an subsequently, every day by 6 a.m.(Moscow time) the following information shall be provided:

- Protection measures for population and territory, holding of Salvage Operations & Other Necessary Work ;
- Forces & means involved for elimination of Emergency;
- Clarified and addition information with regard to Emergency Release, situation at NPP, Reactor Core condition, radioactive contamination of at Buffer Area (BA) and at surrounding zone, levels of radiation (to be sent to "Rosenergoatom" Group Controller on Duty upon his demand).

Attachment to the Section.

16. Organizational Chart of Notification and Communication at NPP.

3.3.2. Preparedness of NPP Control Bodies

This Charter defines organizational measures, terms of bringing into readiness of NPP Prevention & Mitigation System (EPMS) and interaction of NPP Emergency Response Commission (NPP ERC) with involved forces in case of announcement of "Emergency Preparedness" and / or "Emergency situation" at NPP.

3.3.2.1. In case of announcement of "Emergency Preparedness" and / or "Emergency situation" at NPP the NPP Emergency Response Commission (NPP ERC) and the Emergency Response Commission of the "Rosenergoatom" Group (ERCG) become the Management Bodies at NPP. They perform their duties in accordance with their Statements approved by corresponding Leaders.

3.3.2.2. Personal staff composition of NPP ERC and ERCG is assigned by Orders of corresponding Leaders.

3.3.2.3. Activity of ERC NPP includes planning, preparation and carrying our measures on prevention and elimination of Emergencies in interaction with NPP IH Group, with Crisis Center and Emergency Center of "Rosenergoatom" Group, with Centers of Technical Support of Crisis Center and NPP IH Group, with NPP Town & Region (autonomy Region) Civil Defense and Emergencies Regional Management Bodies and with other forces & means of another Ministries & Departments of Russian Federation. The organizing of carrying out of aforementioned measures is conducted by Acting Body of ERC NPP, i.e. the NPP Headquarters Staff on the matter of Civil Defense & Emergency

The present Chapter describes in details all measures to be conducted by NPP Administration and by NPP Headquarters Staff on the matter of Civil Defense & Emergency for each NPP with the aim to bring the Managing Bodies of NPP into readiness (preparedness) condition.

3.3.2.4. Before arrival of NPP Director (Chief Engineer) and gathering of ERC NPP members the running of all Emergency localization & mitigation work is done by NPP Shift Supervisor.

3.3.2.5. Management of Forces & Means for localization of NPP Event (Failure) and mitigation of consequences is carried out by:

- NPP Shift Supervisor from Main Control Point (or from Reserve Control Point) depending of situation) at the Unit in Emergency;

- Emergency Superintendent and Chairman of NPP ERC located at NPP PEAMP. In case of occurrence of high level of radiation at the NPP Site the management of Forces & Means is conducted from the PEAMP. Located at NPP Town. Auxiliary management operations are conducted form the PEAMP located at NPP Evacuation Zone.

Attachments to the SectionПриложения к разделу.

Attachment 17.	Time schedule of NPP Control Bodies and Civil Defense & Emergency Service activation
Attachment 18.	Organizational Structure of Emergency Prevention & Mitigation System at NPP
Attachment 19.	Composition and equipping of NPP Civil Defense Forces
Attachment 20.	Arrangement of Interaction between NPP Management and NPP Immediate Help Group

3.3.3. Radiation, Chemical and General Reconnaissance

The Radiation, Chemical and General Reconnaissance is being arranged by means of Radiation Safety Division and NPP Laboratory of External Dosimetry (NPP Laboratory of Radiometric Control) and is conducted in complex, together with other types of Reconnaissance. Arrangement of Radiation Reconnaissance is a primary duty of all Heads of Service, Commanders of non-military Reconnaissance Teams and NPP Headquarters Staff on Civil Defense & Emergency.

The NPP Radiation Safety Divisions together with NPP Headquarters Staff on Civil Defense & Emergency are responsible for;

- planning of radiation reconnaissance,
- informing the executors about their tasks,
- preparation of Reconnaissance Teams, management of their actions,
- gathering, analysis & synthesizing of data,
- preparation of corresponding reports to the Civil Defense Top Level and higher Headquarters Staff on Civil Defense & Emergency.

3.3.3.1. Radiation Reconnaissance is carried out with the aim of timely providing the NPP Administration and NPP Headquarters Staff on Civil Defense & Emergency with the information regarding radioactive contamination and degree of contamination at the NPP Site, within the Buffer Area & Control Area and at the NPP Town.

Chemical Reconnaissance is conducted with the aim to reveal boundaries of source of chemical damage by Virulent Poisonous Substances (VPS) and area of contamination, estimation of discharged (spilled) amount of VPS.

Basing on results of Radiation and Chemical Reconnaissance the measures are taken for protection of NPP Staff and family members.

General Reconnaissance is carried out with the aim to:

- clear up the Reactor Core conditions and degree of its destroy,
- revealing the fire zones, their localization and degree of hazardous of their expanding,
- define probability of repeated explosions or radioactive releases caused by fire,
- find damaged, of smoke generation and gas-laden buildings &constructions for detection of victims,
- availability and degree of severity of failures at public power supply grids & systems,
- availability of obstructions on the paths of Fire and other Technique to the Accident source and fire locations, etc.

Basing on General Reconnaissance data the amount of Forces & Means to be involved for Accident localization and mitigation of its consequences is defined.

3.3.3.2. The Radiation Reconnaissance at the NPP Site and within the Buffer Area is being carried out permanently. Within the Surveyed Zone the Radiation Reconnaissance is conducted at the location of Constant Control Points and Radiation Monitoring Automatic System Detectors (firstly, toward the direction of emergency release expansion), at motor roads and in inhabited localities on the path between the NPP Site and NPP Town, on the paths of evacuation (if such a case arises).

3.3.3.3. In carrying out the Radiation Reconnaissance the following is performed:

- measuring of X-ray dose rate upon J-131 radio-nuclide bulk activity in the atmospheric air;
- sampling for spectra-metric analysis (in case of necessity) and marking of controlled points by warning characters (with mentioning the dose rate and time of measuring);
- positioning of Protection Measures Planning Zones and Measures on Obligatory Evacuation of Population;
- measuring of radiation level on place, on itineraries, in places of salvage operations & other necessary work;
- search of roundabout ways or direction for overcoming contaminated surfaces;
- meteorological surveillance for radioactive releases & control of their dissemination, etc.

3.3.3.4. Radiation Reconnaissance results are transferred on-the-fly (immediately after measuring – in case of availability of radio-communication) to PEAMP for summarizing and analysis.

3.3.3.5. The NPP Radiation Safety Division is responsible for arrangement of interaction and connection with involved teams of Radiation and other types of Reconnaissance, designation of unified Office for collection, processing and transfer of data received from all reconnaissance team.

Attachments to the Section.

Attachment 21.	Forces & Means for carrying out Radiation (Chemical) Reconnaissance at Affected Unit, at the NPP Site, in the Buffer Area and Control Area
Attachment 22.	Reconnaissance arrangement to be carried out by NPP own means
Attachment 23.	Scheme of gathering, processing and transfer of data collected by means of all types of Reconnaissance

3.3.4. Radiation Protection

Radiation protection is organized by means of NPP Radiation Safety Division with the aim to prevent or mitigate radiation damage caused by radioactive exposure of person. It includes:

3.3.4.1. Data evaluation of all types of reconnaissance and radiation conditions at the NPP Site, within the Buffer Area and Control Area and providing recommendations to NPP Administration with regard to protective measures at aforementioned territories.

3.3.4.2. Evaluation of radiation conditions, control & accounting for individual exposure doses of personnel and persons involved in localization of emergency and mitigation of consequences.

3.3.4.3. Organizing of Survey for radiation conditions

3.3.4.4. Limitation of NPP personnel attendance at the NPP Site contaminated by radioactive substances and establishment of radiation protection practice for NPP personnel depending on current situation according to Attachment 24.

3.3.4.5. Selection of main protection measures for personnel (Shelter, Iodine precautions, evacuation)upon gamma-irradiation dose rate and/or upon activity concentration of Iodine-131 (performed according to Attachment 25)

3.3.4.6. Sanitization of personnel.

3.3.4.7. Contamination control of overalls and skin at the entrance of Restricted Area as well as the personal clothes contamination control in case of evacuation from NPP territory.

3.3.4.8. Repeated control of body contamination (after decontamination) and registration of dose rate in the area of stomach, lungs and thyroid gland (persons with local performances of 5 mcSv/h and more shall be examined with regard to man irradiation at spectrometer).

3.3.4.9. Exception or restriction of water and food consumption.

3.3.4.10. Location of Storage and number of emergency margin of Individual Protection Means (IPM), dosimetric devices & individual dosimeters as well as a procedure of its issue and usage.

3.3.4.11. Defining of Special Processing Points deployment within the Buffer Area and its training, upon agreement with NPP designated military forces of RF Ministry of Defense on Radiation. Chemical & Biology Protection.

3.3.4.12. Mitigation consequences of radioactive contamination by means of NPP.

Attachments to the Section.

Attachment 24.	NPP Personnel & Family Members radiation protection regimes depending on Equivalent Dose Rate
Attachment 25.	Schedules of protection measures for staff members at early stage of Accident (upon gamma-irradiation dose rate and I –131 activity concentration)
Attachment 26.	Methodic of immediate assessment of thyroid gland irradiation upon results of direct measurement
Attachment 27.	List of Control Dosimeters allocation points (with note of procedure for replacement, processing and usage of measurement results)

3.3.5. Engineering Protection

Engineering Protection assumes arrangement of shelter in Civil Defense (CD) Protective Constructions of NPP Personnel at the NPP Site, cover of NPP personnel & family members in the NPP Town and in the NPP Evacuation Region.

3.3.5.1. The NPP Personnel, Workers & Office Workers of enterprises and organizations (including military & fire divisions staff) that ensure functioning and vital activity of NPP are the subject of covering in Shelters located at the NPP territory.

The Shelters shall:

- ensure protection of people from radioactive products arising from Nuclear Installation destroy and vital activity of covered people during 5 days;
- withstand the loading of 2 kgF/sq.cm in the front of air-blast;
- have got the Civil Defense Shied Coefficient of Protection K_P=5 000.

3.3.5.2. The NPP Town Resident Personnel & their family members are subject of covering in the NPP Town Shelter.

Shelters shall:

- ensure protection of covered people against Nuclear Installation destroy radioactive products & vital activity of covered people during 5 days;
- withstand the loading of 0.2 kgF/sq.cm in the front of air-blast;
- have got the K_P= 1 000.

3.3.5.3. At the Evacuation Region the NPP personnel & family members shall be covered in Shelters with K_P of not less than 200.

3.3.5.4. Civil Defense (CD) Protective Constructions shall be permanently prepared to accept covered NPP personnel & family members.

For practical settlement of the matter of Protective Constructions maintaining in permanently prepared conditions, each NPP establishes special NPP CD Shelter & Cover Service, This Service is guided by Manual on operation of Civil Defense (CD) Protective Constructions in wartime as well as by Civil Construction Norms & Rules (CCN&R) 3.01.09-84 “Acceptance of Protective Constructions and its keeping in peaceful time”.

Operation of Protective Constructions is organized in accordance with requirements of:

- Typical Manual on operation of Protected Points of Emergency Actions Management allocated at the territory of NPP with Shelter;
- Typical Manual on operation of Civil Defense Shelters at the NPP territory; and
- Typical Manual on operation of Anti-radiation Covers at the NPP territory, at NPP Dormitory (Town) and in the NPP Evacuation Region.

3.3.5.5. Covering of the personnel at the NPP territory that is not ensured by Shelters is assumed in the industrial buildings & structures considering its corresponding sealing-in and selection of apartments with the most K_P as well as availability of filtrating ventilation.

Covering of NPP personnel & family members that are not provided with the Shelters within the NPP Town is assumed to be done, mainly, in the residential constructions considering its sealing-in and selection of apartments with the most K_P.

3.3.5.6. Simultaneously, at each NPP, the Plan of Protective Constructions Fund Collection is produced. This Plan contents the following:

- Scope of work on construction of new Shelters & Covers; on preparedness of available Shelters & Covers with consideration of ensuring coverage against radioactive products arising from destroy of Nuclear Installations; on adjustment of basements and other buried apartments for protection of personnel at the territory of NPP as well as the NPP personnel & family members in the NPP Town (number, capability of Protective Constructions, term of erection);
- Procedure of development of necessary design estimates, forces & means for such development, term of development;
- Procedure of material support for aforementioned work;
- Financing procedure for aforementioned work;
- Acceptance procedure for newly constructed, upgraded and adjusted Shelters & Covers;
- Procedure of control for permanent preparedness of newly accepted Shelters & Covers to host the NPP personnel & family members.

The aforementioned Planes shall be kept together with the set other documents on Civil Defense available at the NPP Shelters & Covers Service.

3.3.5.7. At each NPP all information about Points of Covering, itineraries to Cover Facilities from routine working places to Shelter and from Shelter to Embarkation Point (EP) with the auto-transport for sequent evacuation from NPP Site shall be precisely mentioned in advance and provided to all personnel.

3.3.5.8. At NPP the List of Duty Persons (i.e. post, number, working place) staying at their working places from the moment of emergency arising, up to special notification of Emergency Superintendent (ES) shall be defined.

Attachments to the Section:

Attachment 28.	Calculation of cover for NPP Staff and Attached Persons at NPP Site
Attachment 29.	Calculation of cover for NPP Staff and Family Members at their places of residence
Attachment 30.	List of Officials (Duty Persons staying at their working places up to special notification of Emergency Superintendent (ES)

3.3.6. Medical Protection

Medical Protection assumes organizing of NPP Medical Division preparedness to act in Emergency Conditions and to render medical aid for NPP personnel & family members iif such a situation arises.

Organizing of Medical Protection is carried out in accordance with Plan of Protection Measures Medical Ensuring provided for NPP Workers & Office Workers and Population in case of Emergency at NPP. It is developed by Civil Defense Medical Service at NPP.

The Section shall provide the following information:

3.3.6.1. Arrangement of Collection Points for rendering first aid to suffered personnel.

3.3.6.2. Creation of Storage Places and ensuring proper storage of medical means, medications and property including Individual Anti-radiation First-aid Packages, medications of stable Iodine & anti-radiation medications.

3.3.6.3. Iodine prophylactic and application of anti-radiation medications. Organizing of control for proper storage of stable Iodine medications at NPP Health Point, NPP Medical Division, NPP Town and just at working places of NPP personnel.

3.3.6.4. Rendering the First Aid and sorting of victims.

3.3.6.5. Evacuation of victims from Blast Area to Patient Care Institutions.

3.3.6.6. Rendering special aid to victims.

3.3.6.7. Urgent hospitalization of victims with obtained irradiation dose exceeding 1 Sv.

3.3.6.8. Medical examination of persons obtaining the radiation dose exceeding 5 Permissible Dose Limits (PDL).

3.3.6.9. Medical ensuring of persons covered in Shelters, Covers and another well prepared Cover Points.

3.3.6.10. Medical ensuring of evacuated NPP personnel & family members.

3.3.6.11. Calculation and preparation of forces & means for rendering medical aid, etc.

Attachments to Section:

Attachment 31. Calculation of Forces & Means for rendering medical aid, etc.
Attachment 32. Recommendations for application of anti-radiation medications.

3.3.7. Physical Protection of NPP (Safeguard)

Physical Protection / Safeguard of NPP assumes partial re-organization of immediate guarding of NPP and procedure of involvement of reserve special military forces with the aim to:

3.3.7.1. Ensure operative controlled access of Emergency Brigades to secured area of NPP.

3.3.7.2. Facilitate unhampered evacuation of personnel from the NPP territory & constructions through all Check-points (C-P) and points with passage functions.

3.3.7.3. Ensure protection of External Guard Points' staff.

3.3.7.4. Create mobile reserve for enforcement or shift system of guard..

3.3.7.5. Ensure stable monitoring of NPP Guard from Protected Point.

3.3.7.6. Prevent unauthorized access.

3.3.7.7. Timely reveal unauthorized actions.

3.3.7.8. Delay (slowing down) of intruder entering.

3.3.7.9. Restraint of unauthorized actions.

3.3.7.10. Detention of persons accessorial to preparation or accomplishment of diversion or theft of Nuclear Material.

3.3.8. Protection of Public Order

It stipulates the Public Order support at the NPP territory, within the Buffer Area and on evacuation routes with the aim of:

3.3.8.1. Termination of moving of all transport means and people at NPP Site and (or) within the Buffer Area (depending on Emergency scope) besides those participating in process of mitigation consequences.

3.3.8.2. Traffic control for covered people at NPP Site.

3.3.8.3. Blocking of Emergency Area together with RF Ministry of Interior and involved Emergency Commissions of NPP Town (Region).

3.3.8.4. Patrol of NPP territory and hydraulic engineering structures out of NPP Site.

3.3.8.5. Traffic control at itineraries of personnel evacuation.

3.3.8.6. Settling the matter of organizing the Public Order Guarding (Решения вопросов организации ООП (the NPP CD Public Order Guarding is in charge)

3.3.9. Material Support (MS)

It stipulates providing necessary Material Support, food, water, Combustive-lubricating materials, transport in case of taking measures because of Emergency; taking measures on preparedness of Civil Defense MS Service; integration & systematic renewal of Nomenclature of Emergency Sets for localization of Emergency and mitigation of its consequences (with mentioning points of storage and persons responsible for its issue according to approved Nomenclature). The MS includes:

3.3.9.1. List of Individual Protection Means (IPM) Emergency Margin for respiratory apparatuses & skin and radiation-monitoring instruments for working places of operative personnel (to be produced by structural sub-divisions and approved by its Administrator).

3.3.9.2. List of IPM emergency margin, radiation-monitoring instruments, equipment and materials for NPP brigades (to be produced by Brigade Chief together with NPP CD & E Staff and approved by Deputy NPP Director responsible for Material Support).

3.3.9.3. Forming of Emergency Sets out of NPP territory, according to actual statements and approved Nomenclature. The following is foreseen: fitting out of Special Departmental Forces (SDF) & special CD divisions by uniform; equipping by IPM, by radiation reconnaissance instruments & radiation-monitoring instruments, by necessary instruments, communication means & technique in the NPP Town from NPP Storage Facilities in case of hazard radiation conditions at NPP in night time & during weekend.

3.3.9.4. Allocation of NPP IH Group Members at NPP, as well as providing them with meal, transport, property & documentation (in accordance with Attachment 6 & 7 to Statement on Procedure of Emergency Situation Announcement).

3.3.9.5. Supplying of personnel and NPP CD brigades with food during performance works in the NPP emergency zone as well as ensuring vital activity of personnel & family members in NPP Evacuation Regions. The measures are described (upon preliminary agreement with Local Administration, Regional Bodies of Civil Defense in Emergency) with regard to food supply, and with corresponding bodies – on food supply for personnel & family members in Evacuation Regions in case of Emergency.

3.3.9.6. Forces & Means involved for organizing Material Support at NPP.

Attachments to Section:

Attachment 33. Calculation of Forces & Means for Material Support of Special Military Forces and Non-Military Groups of NPP Civil Defense

3.3.10. Evacuation Measures

This foresees organizing and carrying out NPP Personnel evacuation to places of residence or, by-passing NPP Town, directly to the Evacuation Region as well as evacuation of personnel & family members to assigned Evacuation Regions by means of all possible transport.

3.3.10.1. The following persons have the right to take a decision on Evacuation:

- NPP Director (Emergency Superintendent – ES) – with regard to evacuation of personnel from permanent working places and NPP Site as a whole;
- Chief Managers of Enterprises operating within the Buffer Area – with regard to subordinate people upon information of NPP Administration (NPP Emergency Response Commission – NPP ERC);
- Head of Regional Administration – with regard to evacuation of population (including Personnel & family members) from places of residence to Evacuation Points designated in advance.

3.3.10.2. Evacuation measures include:

- Assigning and preparation of Points of assembling and embarkation to transport means for people to be evacuated from the NPP territory during routine working day and in night time (weekend), separately;
- Calculation of travel facilities for ensuring evacuation and persons & organizations responsible for its rendering;
- Preparation of evacuations routes and ensuring communication with transport columns, preparation of Evacuation Points;
- Arrangement of Evacuation Regions for hosting and life support of evacuated personnel & family members;
- Selection procedure for personnel & family members to be used at Interim Evacuation Point and their delivery to designated Evacuation Region;
- Control for carrying out evacuation measures.

Attachments [3] to the Section.

[3] Additionally produced documents on evacuation of personnel & family members are not included into Plan of Protective Measures and are kept in the NPP Evacuation Commission files.

Attachment 34. Planned schedule of taking measures on NPP Personnel & Family Members Evacuation to the NPP Evacuation Region

Attachment 35. Calculation of Travel Facilities necessary for evacuation of NPP Staff from the NPP Site, as well as the Personnel and these Family Members from the NPP Town

3.3.11. Forces & Means attracted

This foresees organizing of attraction of Military Forces & Regional CD Means designated for this NPP for rendering assistance during localization of emergency and mitigation its consequences.

The NPP ERC establishes a procedure of interaction between Military Forces focused on NPP and territorial Civil Defense Subdivision that shall foresee the following:

3.3.11.1. Specific duty persons responsible for organizing interaction with attracted forces according to their destination. The Head of NPP Emergency Situation & Civil Defense Subdivision is responsible for organizing interaction with Military Forces focused on NPP and territorial Civil Defense Subdivision.

3.3.11.2. Permanent posts, travelling time to NPP, defining of dislocation regions, travel routes for attracted forces & means and its conditions (carrying capacity of bridges, height of overpasses at the approach to the NPP and on the NPP territory, etc.), frontiers and term of its entering into action (at the border of Control Area, Buffer Area & at the NPP territory), tasks for performance of specific type of work, organizing communication with them, allocation, supplying by food & water, CLM, financing of works performed.

3.3.11.3. Matters of interaction with Military Forces focused on NPP and territorial Civil Defense Subdivision that are clarified by means of:

- Private communication of NPP Administration, NPP ERC members and Staff (Division) on NPP CD & ES with Command of aforementioned Military Forces and CD Subdivisions;
- Familiarization of Command (representatives) of aforementioned Divisions & Subdivisions with NPP;
- Producing the annual Plan on holding joint Emergency Exercises and Training;
- Holding joint study, training and exercises on the matter of Accident localization and mitigation consequences;
- Documenting of interactions in case of Emergency at NPP by means of maps, schemes and plans.

3.3.11.4. In necessary cases, upon decision taken by Emergency Response Commission of "Rosenergoatom" Group (ERCG) (management of NPP RA Group) the Emergency Response Center of "Rosenergoatom" Group is recruited.

Attachments to the Section

Attachment 36. Composition and equipping of Forces & Means for Military Forces and Regional Civil Defense Sub-divisions focused on the NPP

3.3.12. Organizing measures for mitigation consequences in case of Emergency at NPP

3.3.12.1. Management of work on mitigation Emergency Consequences at NPP

3.3.12.1.1. General management and co-ordination of all works on prophylactics, prevention & mitigation consequences of Radiation Accidents and Radiation Hazard Events at NPP on Federal Level is carried out by Inter-departmental Commission of Prevention & Elimination of Emergencies and by Departmental Commissions on Emergencies within the Federal Executive Bodies via Russian System on Prevention & Elimination of Emergencies.

3.3.12.1.2. Within the RF Minatom the Departmental Commission on Emergency (DCE) organizes work on Emergency prevention & elimination consequences, if any, as well as ensures stability and safety of Industry functioning in Emergency Conditions, The DCE acts via Industrial System on Prevention & Elimination of Emergencies.

3.3.12.1.3. Management of work on prevention of Accidents & mitigation of its consequences at NPPs of "Rosenergoatom" Group is carried out by Emergency Response Commission of "Rosenergoatom" Group (ERCG) via "Rosenergoatom" Group System on Prevention & Elimination of Emergencies.

3.3.12.1.4. The Emergency Response Commission of NPP (ERC NPP) organizes and carries out the works at NPP on prevention & elimination Emergencies, on ensuring safety of personnel & family members, on environment protection and decrease of damage as well as increase of stability of NPP operation in Emergency conditions.

3.3.12.1.5. The direct management of works on Emergency elimination (ES) at the NPP territory is carried out by NPP Director (Chief Engineer).

3.3.12.2. Organizing assistance to NPP in case of Emergency

3.3.12.2.1. In such a case when the NPP ERC is unable to cope with the Emergency, they can address to ERCG and, if necessary, to Emergency Commissions of Town (District), Region of NPP allocation.

3.3.12.2.2. In case of such an Emergency when the ERCG is unable to settle all the matters of its localization & elimination consequences fully, the ERCG addresses to DCE that attracts forces & means of another Objects of Atomic Energy, Enterprises & Organizations of Industry for rendering assistance in holding aforementioned works.

3.3.12.2.3. In case of such a scale of Emergency as the DCE is unable to cope with its localization & elimination of consequences, it seeks for help of Inter-departmental Commission of Prevention & Elimination of Emergencies.

3.3.12.2.4. The centralized help in case of Emergency at NPP is carried out in the frame of Industrial System of Emergency Assistance to NPPs in case of Emergency that is, in its turn, the functional sub-system of Russian System on Prevention & Elimination of Emergencies via Situation Crisis Center of RF Minatom (SCC RF Minatom) and NPP IH Group.

3.3.12.2.5. General management of NPP IH Group' activity is carried out by DCE RF Minatom.

3.3.12.2.6. The NPP IH Group is organized by RF Minatom. It is an Inter-departmental Body.

3.3.12.2.7. The NPP IH Group Leader is appointed by the Order of RF Minatom Minister upon submission of DCE & management of "Rosenergoatom" Group.

3.3.12.2.8. In case of appointment of Governmental (State) Commission on establishing reasons of Emergency and elimination consequences the NPP IH Group works in collaboration with aforementioned Commission.

3.3.12.2.9. The scope of activity of NPP IH Group is the NPP territory, the Buffer Area and NPP Town (with regard to protection of personnel & family members).

3.3.12.2.10. Decisions to be taken by NPP IH Group are mandatory in case of those taken together with ES. In all other cases they are guidance.

3.3.12.2.11. The NPP IH Group Leader has the right to solicit the DCE & RF Minatom Minister for removal of Emergency Superintendent at the NPP territory and in the Buffer Area if his action were found as semiskilled, not well-timed and well technically sounded.

3.3.12.2.12. The main tasks of NPP IH Group, its actions in case of Emergency announcement at NPP are defined by Statement on Procedure of Announcement of Emergency Conditions.

3.3.12.2.13. The Emergency Response Center of "Rosenergoatom" Group (ERCG) is attracted to render immediate assistance to NPP during localization of Events connected with Radiation Accidents as well as with transportation of TK-10, TK-13 containers (casks) filled by spent fuel.

3.3.12.3. Carrying out of Salvage Operations & Other Necessity Works in case of Accident, Disasters, Acts of God and application of up-to-date meanings of lesions that are one of the most important problems of work organization in Emergency and during elimination its consequences

3.3.12.3.1. Salvage Operations & Other Necessity Works are carried out with the aim of:

- Life-saving and rendering aid to victims;
- Elimination damage hindering fulfillment of Salvage Operations;
- Arrangement of conditions for holding necessary work;
- Elimination or decrease of Secondary Emergency Factors impact.

3.3.12.3.2. The following relate to Salvage Operations:

- Performance of Engineering & Radiation Reconnaissance at routs of units and allotted works;
- Search of victims and removing them from damaged buildings, falling-homes, gas-laden & smoked apartments;
- Opening-out of destroyed, damaged & blockade protection constructions and salvage of people allocated there;
- Air supply to blockage protection constructions with damaged ventilation system and swap-out of water in case of flooding;
- First aid & first medical aid to victims and their evacuation to medical institutions (hospitals);
- Withdrawal (removal) of population to safe Regions;
- Sanitization of people and disinfecting of clothes;

3.3.12.3.3. The Necessity Works are:

- actions of NPP Management Bodies;
- localization of injuring factors;

- elimination of Accident;
- localization and fire extinguishing in lesion focuses;
- arrangement of thoroughfares in falling-homes and in contaminated zones;
- decontamination & degassing of technique, transport & protection means (disinfecting of territory & constructions);
- accident localization in gas, electric, water-supply and sewage grids;
- reinforcement or caving of building constructions that hinder to perform Salvage Operations;
- repair & recovery of damaged Protective Constructions;
- elimination of causes that facilitate arising of repeated contaminated areas, fires, explosions, flooding, etc.

3.3.12.3.4. Holding of Salvage Operations & Necessity Works is planned by NPP CD & ES Staff (Division) well in advance and is organized according to actual situation in case of Emergency.

3.3.12.3.5. Decision to hold SNW is being prepared by the Staff (Division) on the matters of NPP Civil Defense & Emergency Situation (NPP CD & ES) together with corresponding NPP CD Services and being taken by Head of NPP CD.

It defines:

- scope of SNW, sequent of its performance;
- NPP CD Forces & Means attracted for performing SNW;
- Tasks for reconnaissance units;
- Tasks for units (sub-divisions) of 1st, 2nd and subsequent shifts;
- Procedure of interaction;
- Organizing of management, procedure of ensuring communication and submission of reports;
- Measures on material & other types of support for actions of units during SNW;
- Commitment and duration of shift work, protection measures for staff, allowed dose level as well as procedure of exposure control;
- Deployment points for aid-posts, First Aid Brigades (FAB), Points of special treatment and routes of victims evacuation.

3.3.12.3.6. The Decision taken by Civil Defense Chief (CDC) is being formed as an Order where the following is provided:

3.3.12.3.6.1. Brief conclusions with regard to evaluation of conditions at the NPP territory.

3.3.12.3.6.2. Composition of attracted Forces & Means of the Plant as well as a procedure of their actions during Salvage Works.

3.3.12.3.6.3. Tasks of CD units and NPP sub-divisions:

- Units & sub-divisions of the 1st shift;
- Units & sub-divisions of 2nd and subsequent shifts (to be mentioned what, where, in which scope and by which date it shall be fulfilled).

3.3.12.3.6.4. Place and terms of First Aid Brigade (FAB) deployment; procedure & routes of victims evacuation.

3.3.12.3.6.5. Procedure of documenting for planned extra irradiation of personal staff.

3.3.12.3.6.6. Commitment time & duration of Salvage Work.

3.3.12.3.6.7. Procedure of material. Transport & other types of support for Forces & Means actions.

3.3.12.3.6.8. Place & time of Control Points deployment.

3.3.12.3.6.9. Self-location (itinerary).

3.3.12.3.6.10. Deputies.

3.3.12.3.7. The NPP CD & ES Staff (Division) together with corresponding NPP CD Services basing of Civil Defense Chief (CDC) Directive arranges the reconnaissance, makes preparation of Forces & Means for settling their tasks, makes clear the calculations, ensures communication, management & notification.

NPP CD & ES Staff (Division) organizes the following:

- Providing the Emergency Superintendent (ES) with systematic information regarding the NPP Units conditions;
- Control & ensuring operative communication and announcement in case of Emergency, reliable functioning of Local Notification System at NPP (NPP LNS);
- Control & ensuring timely deployment of Radiation & Chemical Reconnaissance Forces as well as radiation monitoring;
- Control & ensuring well-timed preparedness of CD Protection Constructions and its reliable operation;
- Providing NPP Personnel with IPM and control of equipping units by basic property of CD;
- Ensuring well-timed deployment of Protected Emergency Actions Management Point at NPP (PEAMP NPP), PEAMP at NPP Town & PEAMP at NPP Evacuation Region and their active involvement into localization of NPP Accident & mitigation consequences;
- Participation in preparation of ES Arrangements & Orders and execution monitoring;
- Operational duty at PEAMP at all stages of localization of NPP Accident & mitigation consequences;
- Radiation-chemical Monitoring at NPP Site and within Buffer Area considering this at PEAMP of NPP Town;

- Participation in evaluation of conditions with regard to Personnel Protection, Radiation & Chemical Reconnaissance and Radiation Monitoring, Sanitization of Personnel;
- Decontamination Control of NPP Site, buildings & constructions as well as the Buffer Area, with attracting of Forces & Means of exterior organizations upon the Action Plan on Protection;
- Participation in interaction with Military Units focused on NPP and District CD Units;
- Periodical report of ES on the state-of-case with:
- notification & communication system,
- fulfillment of Protection Plan for Personnel Covering in CD Shelters,
- status of people covered in Shelters,
- supply of personnel by basic property,
- radiation-chemical conditions at the NPP territory, in the Buffer Area and in the NPP Town,
- state-of-case with NPP CD Forces & Means;
- Control for planning, organizing and holding the work on NPP Accident localization & mitigation consequences;
- Participation in Personnel evacuation from NPP Site (ensuring their protection during movement to NPP Evacuation Region and clarification of variable schedule of Shift delivery to NPP, etc., with consideration of NPP specifics).

3.3.12.3.8. Unit Commanders preside the personal staff at places of SNW performance. In goal-setting for subordinate people the following shall be mentioned:

- conditions at the section;
- place & scope of work;
- term for fulfillment of work;
- radiation dose;
- interaction procedure;
- monitoring signals;
- personal staff protective & safety measures.

3.3.12.3.9. Chief of CD & ES NPP Staff and Chiefs of NPP CS Service check the order run given by NPP Civil Defense Chief (NPP CDC) and the SNW performance. Results of separate stages pf SNW are reported to NPP CD Chief in form of Dispatches with mentioning:

- situation at the "Ch-time" + h;
- scope of work fulfilled;
- number of victims extracted from obstructions, evacuated people, etc.
- additional needs of material support;
- status of personal staff of Units (radiation dose, operability);
- requests & proposals.

3.4. Emergencies not related to radioactivity

It consists of major measures on creation of conditions for safe NPP functioning and ensuring safety of personnel during localization of Accident & mitigation its consequences arising as a result of the events listed below.

3.4.1. Arising of Fire Accident

In case of Fire Accident the NPP Personnel and Sub-divisions of Central Office of State Fire Protection Service (CO SFPS), Ministry of Interior, that is in charge of NPP security, shall act in conformity with Section 9 of Fire Safety Rules in NPP Operation (FSR NPP-95), Plan of Fire Extinguishing and Operative Action Cards of Personnel.

Attachment to the Section:

Attachment 37. Composition of Principal and Attached Forces & Means for Fire Extinguishing

3.4.2. Release (discharge) of Virulent Poisonous Substances (VPS)

In case of rupture (destroy) of VPS Tanks the whole number of Tanks available at NPP is considered in case of its joint allocation, the most isolated Tank is considered in case of their separated allocation. Calculation of Affected Zones is performed upon the Prediction Method for Scope of Contamination by Virulent Poisonous Substances (VPS) in case of Accidents (Destroys) at Chemically Hazard Objects and Transport upon the most quantity of VPS reduced to 1 t of Chlorine.

3.4.2.1. The main goal of elimination consequences of Chemically Hazard Accident is to render assistance to victims, prevention of sequent losses, recovery of normal vital activity and functioning of NPP in Emergency.

Complex of Measures on elimination consequences of Chemically Hazard Accident includes:

- Applying of IPM;
- Taking guard & organizing measures;
- Prediction, revealing and evaluation consequences of Chemical Accident;
- Localization of Chemical Accident Centers;
- Sanitization of people, disinfecting of clothes & transport means, completeness control;
- Elimination of chemical contamination at locality;
- Rendering comprehensive help to victims;
- Observance of safety measures during performance of work on elimination consequences of Chemical Accident

Effectiveness of these measures depends on its timeliness and quality.

At each NPP the Action Plan in case of Chemical Accident at NPP shall be developed. This Plan is kept among the Set of Documents on CD at the disposal of Chief of NPP CD Radiation & Chemical Protection Service. The Plan is produced with taking into account Requirements of Guidance on Elimination Consequences of Radiation & Chemical Accidents at Potentially Hazard Industrial Enterprises (RF Minatom, 1996).

Attachment to the Section:

Attachment 38. Table of Virulent Poisonous Substances to be used at NPP conditions

3.4.3. Interaction of Adverse Natural Factors (earthquake, tornado, flooding and other Adverse Natural Factors (ANF) to be considered in the NPP Design by Reactor Installation & NPP Project' Authors

On the base of obtained forecast the NPP Shift Supervisor notifies the NPP Administration and NPP Personnel. During the period of Adverse Natural Factors (ANF) impact the Personnel intensifies work control of systems related to NPP safety. On completion of ANF impact the NPP Staff undertakes a walk-down and examination of status of fixed Equipment (buildings & constructions) and reports the results to the NPP Shift Supervisor (NPP SS). The NPP SS provides the NPP Administration with the results of ANF impact.

Upon receiving information of NPP Town CD & ES Regional Body Operative Duty Person about Accident at potentially hazard Object allocated within the 30-kilometres NPP zone the NPP Shift Supervision clarifies the weather conditions (wind direction & speed) at the moment of receiving message and provides his conclusions to NPP Director (Chief Engineer). Further, the NPP SS acts upon directions of NPP Administration.

4. ORGANIZATIONAL & LEGAL ASPECTS of IMPLEMENTATION of ACTION PLAN on PROTECTION of PERSONNEL in case of ACCIDENT AT NUCLEAR POWER PLANT

The present Section foresees the following:

4.1. Familiarization of each NPP employee (within his competence) with provisions of Action Plan on Protection.

4.2. Including of requirements of approved Action Plan on Protection into Statements on structural sub-divisions and Duty Descriptions of NPP Personnel.

4.3. Allocation of Memory on actions in case of Emergency or radiation hazard situation at each working place, with the following content:

- List of prearranged signals in different types of Emergency;
- Main actions in case of Emergency;
- Storage places and procedure of application of IPM, stable Iodine medications & anti-radiation medications;
- Covering places and route of moving (to Shelter, to the Embarkation Point in case of evacuation from NPP Site) upon permission of direct Leader (or upon command of CD & ES Staff).

4.4. Exercises upon Action Plan on Protection while holding periodical training, classes or Staff Exercises in accordance with NPP Plan of General Measures on the matters of Civil Defense, Prevention & Elimination of Emergencies for Current Year.

4.5. Quarterly checking of Notification System for Personnel & Organizations allocated at NPP Site and in Buffer Area, as well as channels of communication with superior bodies by means of its actuation in full scope.

Checking of technical preparedness of Notification Means and Communication Channels (Lines) & Monitoring are held every day.

4.6. Holding of Staff Exercises with involvement of CD Forces & Means of Town (Region) and Immediate Help Group (IHG) members within the terms agreed with Management of "Rosenergoatom" Group. Period of aforementioned Exercises is defined by the Utility.

Financial and Material Support of preparation and holding of periodical training (Staff Exercises) with participation of Forces & Means are settled on the base of Contracts (Agreements) to be prepared upon initiative of NPP.

4.7. Annual refinement of Action Plan on Protection with regard to conformity with content of Information-Inquire System of IH Group.

4.8. Planned extra exposure of NPP Personnel attracted to Accident Elimination up to 200 mSv according to Requirements of NRS-99.

4.9. Immediate withdrawal of persons (NPP Staff or personal staff of attracted units) from the irradiation zone and sending them to medical examination in case of external exposure over 200 mSv.

4.10. Responsibility of Emergency Superintendent for correctness of decision taken.

Attachment 1
(Mandatory)

Layout of NPP Site
(scale model 1:2000)

NPP Site Layout shall show:

- Buildings & Constructions (the Explication shall be given);
- engineering communications;
- Protected Management Point for Emergency Actions (overpressure in the front of air-blast ΔR_f, protection coefficient of Protection Construction, K_z, numbers of management personnel), Shelters (ΔR_f, K_z, capacity);
- basement and other deepened apartments for cover of Personnel ((ΔR_f, K_z, capacity);
- ground Buildings & Constructions designated to cover the Personnel (K_z, capacity),
- Medical Point for rendering First Aid and evacuation of victims;
- NPP Site perimeter and allocation of Check-point;
- Embarkation Points and evacuation itineraries from NPP Site;
- routes and borders of entering attracted forces for elimination of Accident consequences;
- allocation of Environmental Control Points & ASRM Detectors;
- allocation of Electro-sirens (banshee) and loud-speakers,
- Points of NPP Personnel Individual Dosimetric Control Devices distribution;
- allocation of Tanks with explosive, highly inflammable and combustible substances;
- wind rose, average speed of ground wind, average air temperature;
- notation conventions;
- water sources and its flow rate.

Chief of NPP CD & ES Staff

Attachment 2
(Mandatory)

Layout of NPP Buffer Area
(scale model 1:10 000)

Layout of NPP Buffer Area shall show:

- Buffer Area Borders;
- allocation of NPP, boundaries of NPP Site fence, hydraulic work, Organizations carrying out production activity within the Buffer Area, protection constructions (Shelters, Covers), deepened & ground buildings and constructions for protection of NPP Staff (ΔR_f, K_z, capacity);
- motor roads and railways;
- allocation of Electro-sirens (banshee) and loud-speakers;
- allocation of Environmental Control Points & ASRM Detectors;
- helipads or local points for helicopter landing;
- Check-points, Special Processing Points;
- Heat-supply pipelines from NPP to NPP Town;
- wind rose, average speed of ground wind, average air temperature;

Chief of NPP CD & ES Staff

Attachment 3
(Mandatory)

Layout of NPP Town
(scale model 1:2000)

Layout of NPP Buffer Area shall show:

- of Town designed building up borders;
- PEAMP (ΔR_f, K_z, number of management personnel);
- Shelters & Covers (ΔR_f, K_z, capacity);
- Marked (painted by yellow) public works, apartment houses & other apartments & constructions to be chosen for initial cover of NPP Personnel & family members;
- Medical departments;
- Electro-sirens (banshee) and Local Notification System (LNS) loud-speakers;

- Communication unit, radio relay center, television studio attracted to LNS;
- People Sanitization points, Special Processing Points for clothes and rolling-stocks;
- ASRM detectors;
- Central Control Point of ASRM, External Dosimetry Laboratory (EDL);
- NPP Town road network;
- Evacuation Routes ensuring transport feed and going out of motor transport from the NPP Town with simultaneous removal of all evacuated NPP Town population, regulatory points of feed & going out of technique from the NPP Town, Check-points, Assembly Evacuation Points, Points of Embarkation;
- Storage Facilities of Individual Protection Means (IPM) for population and Points of its distribution;
- Storage Facilities and stockpile sites of technique, motor transport, devices, tools & property of special departmental & non-military units of NPP CD and property of NPP IHG assumed upon Equipping Chart;
- Railway station, platform, levees & landing states, bus terminals, aerodromes & landing grounds;
- Water sources of NPP Town and its flow rate;
- Characteristic of thoroughfares between NPP Town and the Nuclear Power Plant;
- Industrial Objects, public & culture organizations;
- wind rose, average speed of ground wind, average air temperature;
- notation conventions.

Chief of NPP CD & ES Staff

Attachment 4
(Mandatory)

Layout of NPP 30-kilometres Surrounding Area.
(scale model 1:200 000)

Layout of NPP 30-kilometres Surrounding Zone shall show:

- administrative-territorial borders of NPP Town and inhabited localities involved in CD & ES measures; borders of Buffer Area, 5-kilometres zone and 30-kilometres Surrounding Zone;
- Emergency Action Protected Control Points at NPP, in NPP Town & NPP Evacuation Point as well as the CD & ES Regional Control Body Allocation Points of Town, District (Autonomous Region);
- Routs & allocation of RF Ministry of Defense, RF Ministry of Interior, Ministry of Health Forces (areas of concentration, initial areas, engagement frontiers at 30-kilometres zone borders & NPP Buffer Area borders);
- allocation of weather stations at the Town (District, Region);
- Evacuation Points (main & reserve) for Personnel & family members, evacuation routs from NPP and from NPP Town;
- Communication units & medical institutions;
- Allocation of Environmental Control Points & ASRM Detectors;
- Allocation of hard pavement roads within the 30-kilometres Surrounding Zone and outlet from them to NPP in all possible directions;
- Allocation of Evacuation Points & Points of People Sanitization, Special Processing Points, Protection Means Processing Points, Clothes & Rolling-stocks Processing Point, Motor Transport Processing Point;
- Monitoring points at the Evacuation Routes and at routes of entering Forces to NPP;
- wind rose, average speed of ground wind, average air temperature;
- notation conventions.

Chief of NPP CD & ES Staff

Attachment 5
(Mandatory)

Calculation-justification of Affected Area in case of Beyond Design Basis Accident ("Reference Accident") accompanied by gas-aerosol radioactive substances release, as well as in case of rupture (destroy) of VPS Tanks

1. **"Reference Accident"**

1.1. Upon selection of "Reference Accident" (to be defined by NPP Project Designers) the integral release of radio-nuclides from the moment of Accident start-up at its early stage (before localization of release source) shall be given.

1.2. Calculation of external & internal irradiation in case of "Reference Accident" is performed by using conservative approach for analysis of environmental radiation consequences.

1.3. Basing on calculations to be done in paragraphs 1.1 & 1.2 the necessary protection measures for NPP Personnel & Family Members and 30-kilomwtres Zone Population are defined.

2. ***Chemical Accident***

2.1. The basis for forecast of Affected Areas in case of Chemical Accident in the Directive of USSR Civil Defense Chief dated 04 December, 1990, No 3: "On Improvement of Population protection from VPS and Classification of Administrative-regional units & National Economy Objects upon Chemical Hazardous".

2.2. The following assumptions are made in calculations:

2.2.1. In case of Accident the Tanks listed below are destroyed:

- common Tank with VPS among all applied at NPP in case of its joint allocation, and
- the biggest single Tank in case of its separate allocation.

2.2.2. Spill of chemical substance on subjacent surface happens "free" (thickness of spilled substance layer is assumed as 0.05 m upon all surface).

2.2.3. Scope of contaminated area is calculated upon primary and secondary clouds.

2.2.4. Weather conditions at the moment of Accident are: inversion, wind speed of 2 m/sec, air temperature of 20^0C.

Just after the Accident the precise data on quantity of spilled substance and real weather conditions shall be used to clear up preliminary forecast.

2.3. Calculation is performed according to Methodic of Virulent Poisonous Substances (VPS) Contamination Scope Prediction in case of Accident (Destroy) at Chemically Hazard Objects and Transport (ShGO USSR, USSR Goskomgidromet, 1990). It stipulates defining of:

- equivalent quantity of substance (Q1) in the primary cloud;
- time (T) of substance evaporation;
- equivalent quantity of substance (Q2) in the secondary cloud;
- depth of contamination by primary (G1) and secondary (G2) clouds;
- whole depth (G) of Contaminated Zone and possible meanings of air mass transfer depth;
- duration of substance damaging action.

Calculation results of Affected Areas Dimension in case of Radiation & Chemical Accidents are mapped to the separate copy of NPP 30-kilometres Surrounding Area Layout according to Attachment 6.

Group Leader of NPP CD Radiation & Chemical Protection Service Group
Group Leader of Calculation-Analytical Group

Attachment 6
(Mandatory)

Calculations of Affected Areas in case of Radiation and Chemical Accidents at _____NPP

To be mapped to the separate copy of NPP 30-kilometres Surrounding Area Layout with 800x800 mm dimension мм (scale model 1:200 000). The following shall be mentioned:

- type of assumed Radiation & Chemical Accident;
- Radiation, Chemical Affected Area;
- Zones of Protection Measures Planning & Zones of Planning Measures on obligatory evacuation of population;
- Contamination levels at borders of these Zones;
- List of main protection measures for NPP Personnel & Family Members and 30-kilomwtres NPP Surrounding Zone Population;
- wind rose, average speed of ground wind, average air temperature;
- notation conventions.

Group Leader of NPP CD Radiation & Chemical Protection Service Group
Group Leader of Calculation-Analytical Group

Attachment 7
(Mandatory)

Categories of Events (Violations) during NPP Operation [4]

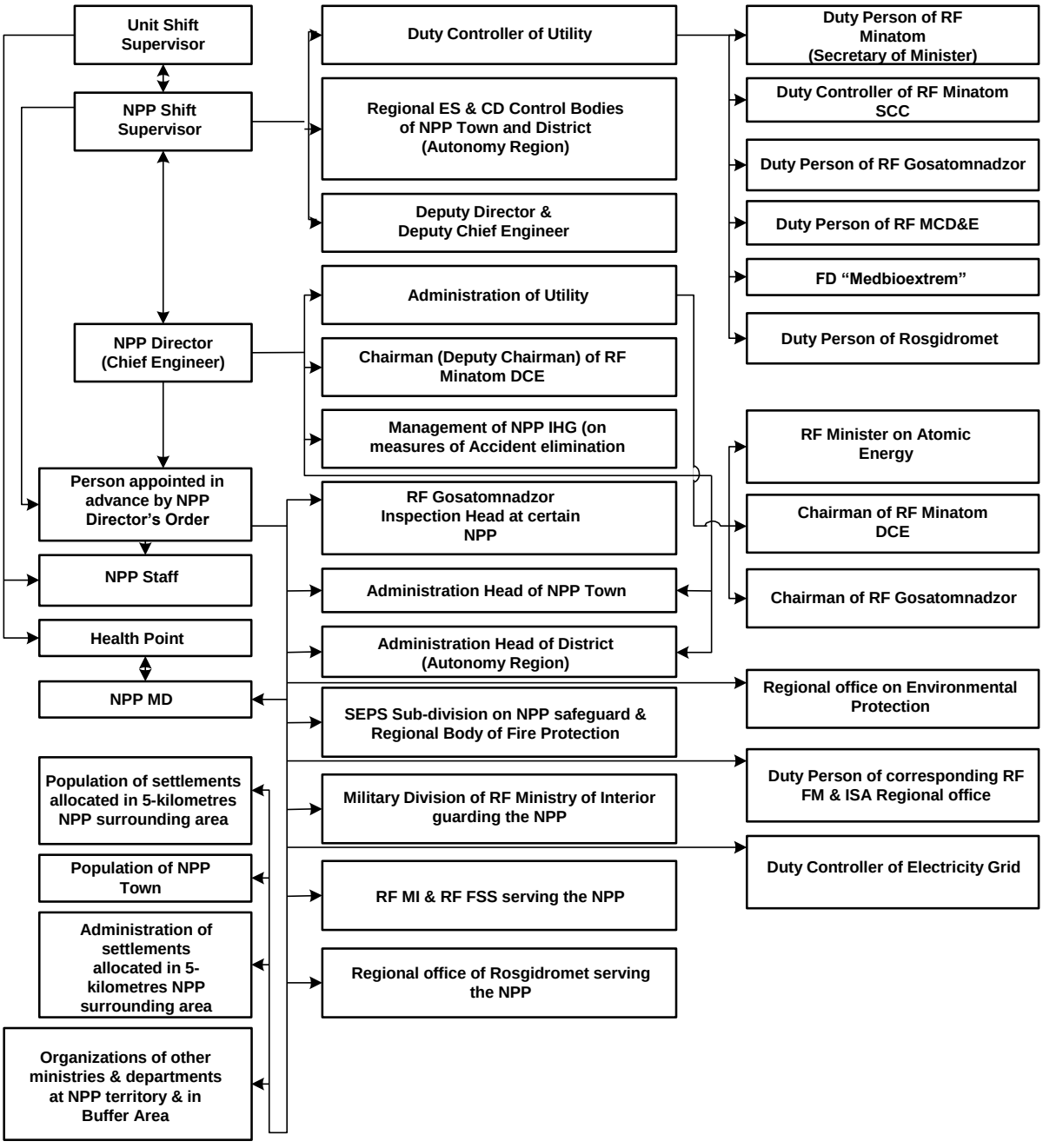
Graphical symbols of category	Showings & Consequences of Events (Violations)
ACCIDENT	
A01	Radioactive release to environment in case of Severe Accident as a result of which the sharp radiation injury of persons from NPP Personnel (Employee) and persons from population, health injury and contamination of large area are possible. The Trans-boundary transfer of radioactive substances is possible. Long-term impact to environment.
A02	Radioactive release to environment as a result of which the Level "B" of Criteria for taking urgent decisions at the early stage of Accident has reached or exceeded over the Buffer Area borders: the predicted exposure dose during the first 10 days is 500 mGr to whole body or 5000 mGr to thyroid gland, lungs, coverlet.
A03	Radioactive release to environment as a result of which the Level "A" of Criteria for taking urgent decisions at the early stage of Accident has reached or exceeded over the Buffer Area borders: the predicted exposure dose during the first 10 days is 50 mGr to whole body or 500 mGr to thyroid gland, lungs, coverlet. Notes: 1. Accidents of A01, A02, A03 Category are characterized by exceeding of maximum designed limit of fuel element damage. 2. Levels "A" and "B" of Criteria for taking urgent decisions at the early stage of Accident are in accordance with NRS-99.
A04	Radioactive release to environment as a result of which within the Buffer Area the main dose limit of exposure for persons among population has exceeded 1 mSv/year. Momentary external and/or internal exposure of individuals among NPP staff by dose exceeding potentially hazard level (200 mSv). Damage of fuel elements with exceeding the safe operation limits on number and scope of defects, but Maximum Design Limit is mot exceeded.
EVENT	
P01	Arrival of radioactive substances to Room (Rooms) of permanent residence of Personnel, to NPP Site or to environment arising because of failures of components (systems), deficiencies of operating procedures, incorrect actions of personnel, as a result of which: • Contamination of stall permanent residence room (rooms) has achieved: by beta-active nuclides - 10000 parts/(min cm^2) and/or alpha-active nuclides – 200 parts/(min cm^2); • Contamination of Buffer Area has led to creation of exposure dose that does not exceed 1 mSv/year. Momentary external and/or internal exposure of individuals among the staff by dose not exceeding main dose limit, but not more than potentially hazard (200 mSv).
P02	Violation of the safe operation limits (excepting radiation limits)
P03	Violation of the safe operation conditions
P04	Inoperability of one or several safety system channels, revealed by means of routine testing or examination during NPP operation.
P05	Safety system actuation connected with performance of safety function during NPP Unit operation accompanied by additional failures (comparing with those taken into account for the case of Design Basis Accident) of safety system components over the single failure and/or human error (incorrect actions of staff)
P06	Safety system actuation connected with necessity of safety function performance during

[4] Adopted according to PNAE G-12-005-97 "Statement on Procedure of Investigation & Accounting for Events during NPP Operation" and amended in accordance with NRS-99

Graphical symbols of category	Showings & Consequences of Events (Violations)
	NPP Unit operation but not accompanied by additional failures (comparing with those taken into account for the case of Design Basis Accident) of safety system components over the single failure and/or human error (incorrect actions of staff)
PO7	Safety system actuation or safety system channel actuation not connected with safety function performance, including those part of the Fire-Fighting System that ensures conditions for safety systems functioning
P08	Reactor trip or switching-off the Unit from Electricity Grid without Emergency Protection actuation during NPP Unit operation caused by failure of systems (components) and /or by incorrect actions of staff, or by external impact
P09	Unit power reduction by 25% or more from just previous power level caused by system (component) failure and/or by incorrect actions of staff, or by external impact (with exception of Events listed in p. 2.2 of Statement on procedure of investigation and accounting for disturbances in NPP operations /PNAE G-12-005-97/).
P10	Drop and/or damage of Fuel Assembly, fuel elements during any actions undertaken with fresh or spent nuclear fuel caused by failure of systems, components (including NPP hoisting apparatuses used in management of nuclear fuel) and/or by incorrect actions of staff.
P11	Damage or defects of NPP Components of 1st & 2nd Safety Classes to be happened or revealed during NPP Unit operation but not led to Initial Event

Attachment 8
(Mandatory)

SCHEME OF NOTIFICATION WITH REGARD TO ANNOUNCEMENT OF "EMERGENCY PREPAREDNESS" AND/OR "EMERGENCY SITUATION" CONDITIONS AT NPP



Note. Notification for population of NPP Town and settlements within 5-kilometres NPP Surrounding Area is made on the base of Statement on procedure of Emergency Situation Notification, p.p. 6.3 & 6.4.

Head of NPP CD Notification & Communication Service

Attachment 9
(Mandatory)

List of Subscribers for Notification of "Emergency Preparedness" and\or "Emergency Situation" conditions at NPP

№ In order	Post	Name	Note of including to Central Call Point (CCP)		Address in the NPP Town
			Official telephone	Home telephone	
1	2	3	4	5	6

Note. The aforementioned Attachment is not included into the Action Plan on Protection. It is available at NPP SS, at NPP CD & ES Staff and at the NPP CD Notification & Communication Service

Head of the NPP CD Notification & Communication Service

Attachment 10
(Mandatory)

Time Schedule of Emergency Exercises to be held by Civil Defense Forces for the case of Accident at NPP

№ n order	Title of Procedure	Executor	Time for execution		Term of execution		
			working	Non-working	min	h	day
1. In case of deviation from NPP Normal Operation accompanied by indication of "Emergency Preparedness" conditions							
1.1.	Ascertainment of deviation causes upon indications & instrumental data	NPP Staff under the direction of NPP Shift Supervisor	Immediately upon Deviation revealing				
1.2.	Examination of focused apartments, equipment & communication lines aiming to reveal the source & scope of deviation impact	The same	The same				
1.3.	Carrying out of radiation (chemical) reconnaissance & evaluation of expected consequences of deviation	- " -	- " -				
1.4.	Monitoring of conditions upon test indications at Control Panels	- " -	Permanently				
1.5.	Report to NPP Director (Chief Engineer) about the deviation (event)	Shift Supervisor (SS)	Upon revealing the fact of violation				
1.6.	Announcement of "Emergency Preparedness" conditions	SS upon decision of NPP Director or independently	SS upon decision of NPP Director or independently				
1.7.	Notification upon the Table 2	SS, Duty Telephone Operator	"Ch" + 5 min	Upon decision of NPP Director			
1.8.	Rendering the First Aid to victims (if necessary) and elimination of deviation from normal operation	SS, Health Point, Heads of sub-divisions	Permanently				
2. In ascertainment of "Emergency Situation"							
2.1.	Ascertainment of "Emergency Situation" and entering of Action Plan on Protection into force	SS upon decision of NPP Director or independently	SS upon decision of NPP Director or independently				
2.2.	Announcement to Personnel & population of NPP Town персонала АС и предприятий (организаций) СЗЗ;	SS, Duty Telephone Operator					

№ n order	Title of Procedure	Executor	Time for execution		Term of execution		
			working	Non-working	min	h	day
	• Primary announcement of Town & Inhabited Localities Population within the 5-kilometers NPP Surrounding Area subject to cloud track zone in case of radioactive (chemical) release		"Ch"+5 min	Upon decision of NPP Director			
2.3.	Unit shutdown with ensuring their emergency cooldown (depending on conditions)	Chief Engineer, NPP Staff	"Ch"+5 min	"Ch"+5 min			
2.4.	Providing Information about the Accident to: • "Rosenergoatom" Group Duty Controller, • RF Minatom Situation Crisis Center, • Regional CD & ES Control Bodies of NPP Town/District/Autonomy Region, • Head of RF Gosatomnadzor residential inspection office at the NPP, • Regional Environmental Committee, • Duty Controller of corresponding Regional Office of FM&ISA, • Administration Heads of NPP Town/District/Autonomy Region, • Duty Controller of corresponding Electricity Grid Control Body, • NPP Medical Division, • State Fire Protection Service sub-division on NPP safeguard & Regional Fire Protection Body, • IMF Military Division of RF Ministry of Interior guarding the NPP, • RF Ministry of Interior & RF Federal Security Service Bodies that render service to NPP, • Regional Body of SHEM that renders service to NPP, • Organizations of other Ministries & Departments at the territory of NPP and within the Buffer Area, • Administrations of Inhabited Localities within the 5-kilometers NPP Surrounding Area, • Notification to population of NPP Town & Inhabited Localities within the 5-kilometers NPP Surrounding Area.	SS, Duty Telephone Operator	"Ch"+10 min	"Ch"+10 min			

№ n order	Title of Procedure	Executor	Time for execution		Term of execution		
			working	Non-working	min	h	day
2.5.	Carrying out of Iodine prophylactics to: • NPP Staff; • Personnel of Service & Departmental units	SS, Heads of Workshop, NPP Staff Health Point, Heads of sub-divisions	Immediately If necessary	Upon arrival to NPP			
2.6.	Removal of Personnel not involved in Accident Consequences Mitigation from the Affected Zone and cover them in Shelters & Adjusted Process & Service Buildings	SS, Heads of sub-divisions	"Ch"+30 min	"Ch"+30 min			
2.7.	Emergency preparedness of: • Civil Defense Control Bodies; • Special Departmental Units, NPP CD Services	Chief of NPP CD & ES Staff Division Commanders, Heads of services	"Ch"+30 min "Ch"+1 h	"Ch"+1 hour (h) "Ch"+2 h			
2.8.	Distribution of IPM for NPP Personnel	Material support service, IPM ensuring service	Within 1 hour	Within 1 hour			
2.9.	Radiation reconnaissance at the NPP Site, in the Buffer Area and in the NPP Town	Radiation & Chemical Protection Service (RCP Service)	Permanently	Permanently			
2.10.	Individual dose control for persons directly involved in Accident Consequences Mitigation	RCP Service, Division Commanders, Heads of sub-divisions	Permanently	Permanently			
2.11.	First Aid to victims	Health Point, First Aid	Permanently	Permanently			
2.12.	Evaluation of character & scope of Accident, decision taking with regard to its localization & mitigation consequences	ERC NPP, Heads of CD service, Heads of sub-divisions	"Ch"+1 h	"Ch"+1 h			
2.13.	Carrying out the work on Protection of Personnel, Accident Localization, removal & transportation of victims	ERC NPP, Heads of CD service, Heads of sub-divisions	Permanently	Permanently			
2.14.	Defining & organizing of working regime & personnel protection, Special Departmental Forces (SDF), CDTL at the Accident Focus	ERC NPP	"Ch"+2 h	"Ch"+4 h			
2.15.	Settling the matter of diesel fuel supply for NPP operation to ensure cool-down of Reactor in case of Loss of External Electricity Supply.	Head of NPP CD Material Support Service	"Ch"+5 h	"Ch"+5 h			

№ n order	Title of Procedure	Executor	Time for execution		Term of execution		
			working	Non-working	min	h	day
2.16.	Organizing of medical service for Personnel & Family Members	NPP Medical Division	Permanently	Permanently			
2.17.	Medical Examination of persons exposed by radiation & chemical impact	NPP Medical Division	Upon medical evidence				
2.18.	Ensuring nutrition for personnel engaged with Accident elimination	Head of Food & Clothing Service	Permanently				
2.19.	Cordoning off the Radioactive Contamination Focuses by means of marking and arrangement of POG Service Posts	Heads of POG & NPP CD RChP Services	"Ch"+6 h	"Ch"+8 h			
2.20.	Organizing of special flow of traffic at the areas of radioactive contamination	Heads of POG & NPP CD RChP Services	Permanently	Permanently			
2.21.	Taking measures on decontamination of passages at the NPP Site & entrance passages to NPP	SDF	"Ch"+28 h	"Ch"+28 h			
2.22.	Providing works by materials & techniques	Heads of Material Support & ATR Services	Permanently	Permanently			
2.23.	Evacuation of personnel & family members (upon decision of Regional Administration Head)	Chairman of Evacuation Commission, Heads of sub-divisions	To be defined by decision of NPP Town Administration Head				
2.24.	Removal of actual & archive documents to Evacuation District	Material Support & ATR Services Departments (divisions) of NPP: PTD, ED, DpCC (DvCC), Special (1st) Dpt.	After evacuation of public				

Notes.
1. Time Schedule might include another measures also, considering specifics of each NPP.
2. Time at column 4 & 5 is provided as a recommendation (to be clarified during development of Action Plan on Protection for each certain NPP)

Director of _____NPP
Chief of NPP CD & ES Staff

Attachment 11
(reference-information)

Main actions of Operating Personnel (Staff) of NPP Workshops (Divisions, Laboratories)

Upon obtaining information about deviation from NPP safe operation regime (or in case of its revealing by themselves) the NPP Staff of Workshops (Divisions, Laboratories) shall immediately report to NPP SS (Unit Shift Supervisor) according to Duty Instructions & Operating Instructions. They also ensure:

- Emergency diagnosis upon instruments readings, instruments operation, signals and information from working places;
- On-site review of Accident location and evaluation of Emergency scope;
- Emergency localization & elimination of its consequences;
- Taking part of NPP Staff (in case of necessity and expediency) in shutdown & cool-down of Reactor
- Control of safe operation limits & conditions of Equipment & Units not affected by Emergency;
- Information recording in the Log Books with observance of chronology of Alarm & Emergency Protection System actuation, Equipment failures, accepted commands & directions of duty persons, operative actions taken and its results;
- Report to duty persons who issued commands & directions about its fulfillment;

Note. The aforementioned actions shall be included into Duty Instructions of NPP Staff of Workshops (Divisions, Laboratories)

NPP Chief Engineer

Attachment 12
(reference-information)

Main actions of NPP Radiation Safety Division Shift Supervisor

Shift Supervisor of NPP Radiation Safety Division is obliged:

- In case of Radiation Safety Monitoring Devices (RSMD) Emergency Signaling actuation – to inform the NPP Shift Supervisor (NPP SS) immediately about the device data and the list of affected apartments (with noting the Apartment Level);
- In case of NPP SS absence at his working place – to report immediately by telephone to Workshop Shift Supervisors about Emergency Signaling actuation at apartments under their control as well as about actual situation, to take measures on informing the NPP SS;
- To organize and ensure urgent evaluation of radiation situation in affected zone (first, at the places of personnel residence), clarification of radioactive contamination area borders;
- to lay down safe routes of removal from affected zone for personnel not involved into elimination of emergency;
- to ensure control and registering of overalls & coverlet contamination of removed personnel to be done at sanitary inspection rooms;
- to ensure permanent control and registration of radioactive release from ventilation systems & discharge water activity;
- basing on weather condition data at the moment of Accident (wind speed & direction, outside air temperature & humidity, ground atmospheric lay status, availability of precipitation) – to provide the NPP SS with forecast (for 4,8,and 24 hours after the Emergency arising) of Accident propagation at NPP Site, within the Buffer Area and out of Buffer Area borders.

Note. The aforementioned actions shall be included into Duty Instruction of NPP Radiation Safety Division Shift Supervisor

Head of NPP Radiation Safety Division

Attachment 13
(reference-information)

Main actions of NPP Shift Supervisor (before arrival of NPP Director)

NPP Shift Supervision is obliged:

- to arrive to Main Control Point (MCP) of affected Unit (in case of impossibility to perform his functions from MCP - to arrive to Reserve Control Point);

- to give command to Workshop Shift Supervisors on applying of Individual Protection Means (IPM) for respiratory apparatus (coverlet) and carrying out Iodine prophylactic (if necessary);
- to clarify the affected Unit status and to estimate the Accident propagation perspective at NPP Site, within the Buffer Area and out of Buffer Area borders.
- to organize Notification upon Table 2 of the present Typical Content;
- to organize (if necessary):
  removal of people not involved into prevention of emergency propagation & consequences localization from hazard zone by using safe routes;
  rendering self- and mutual help to victims, their evacuation to Medical Points, to which the First Aid Brigade can arrive upon call;
  search & save of missing personnel;
  call to Fire & Emergency Service (FES);
- to ensure safety of subordinate & attracted NPP personnel by means of managing of emergency localization & elimination of consequences at the Unit up to the moment of acceptance of Emergency Superintendent (ES) power by the NPP Director (Chief Engineer);
- to organize works on blocking of hazard zones, establishing disciplinary sanitary barriers (fences), decontamination of apartments of personnel permanent residence, on reduce of radioactive release to environment.

Note. The aforementioned actions shall be included into Duty Instruction of NPP SS.

NPP Chief Engineer

Attachment 14
(reference-information)

Main actions of NPP Structural Sub-division Leaders

Upon receiving information on notification of "Emergency Situation" the Managers of NPP Structural Sub-divisions shall arrive to Protected Emergency Actions Management Point. In such a case they are obliged:

- to control the fact of obtaining of Accident Notification Signals by sub-division personnel, of applying IPM & anti-radiation medical substances by personnel; to check the payroll & the whereabouts of sub-division personnel at the moment of Accident;
- to organize the first aid for victims and their bringing to Medical Point providing them with accompanying persons, if necessary;
- to control Iodine prophylactic to be held for subordinated personnel;
- upon agreement with NPP SS - to organize removal from operation of equipment designated at sub-division that does not impact the NPP safe status;
- to ensure removal of NPP Staff not involved in operative change-over & main Equipment service from affected zone and to control their cover (in case of necessity) in accordance with calculation;
- to make a List of subordinated personnel and attached persons with mentioning their whereabouts at the moment of Accident, time of staying in the affected area and exit route to the Cover Place;
- to organize timely exchange of personnel left at their working places for removal of equipment from operation, to ensure them by IPM and medical & radiation protection means;
- in case of necessity, to replace the personnel not able to perform their duties any more, by means of written notification, upon agreement with NPP SS;
- upon receiving the order of NPP CD Chief to transfer the sub-division personnel into CD units – to organize assemblage of personnel included into CD Units at set points.
- To check the assemblage and equipping of unit and to report to NPP CD & ES Staff about preparedness of his sub-division to perform tasks on Accident consequences elimination;
- To act in accordance with directions of NPP CD Chief – NPP Director, Chairman of NPP Emergency Response Commission (NPP ERC) and Chief of NPP CD & ES Staff
- To hold Salvage Operations & Other Urgent Emergency-recovering Works at their local area observing safety measures.

Note. The aforementioned actions shall be included into Duty Instruction of Managers of NPP Structural Sub-divisions.

NPP Chief Engineer

Attachment 15
(Mandatory)

Time Schedule of NPP Director's actions (Emergency Superintendent actions)

No in order	Information source	Numerical value (criteria) For decision taking	Action	Execution Time	
				working	Non-working
I. Breach of Unit (NPP) safe operation limits and/or conditions accompanied by showings of "Emergency Preparedness" status					
1.	Report of NPP SS about the breach of normal operation, evaluation & forecast of situation propagation	Meanings given upon Table 1 of the present Typical Content	1.1. Basing on report of the NPP SS the ES takes a decision to notify the "Emergency Preparedness" status at NPP and gives the following directions to: • NPP SS – to notify breach of normal operation (according to Attachment 8 of the present Typical Content); to prepare and send the urgent message to the "Rosenergoatom" Duty Controller; • Chief of NPP CD & ES Staff – to prepare all PEAMP; • NPP ERC Chairman – with regard to assembling point for all Commission members: The ES controls that all direction are followed.	Immediately (if possible – when the situation becomes clear)	
			1.2. ES takes over the management of all emergency actions within the NPP Site and Buffer Area	The moment of "Emergency Preparedness" status notification	Upon arrival to NPP Site
			1.3. ES accepts reports of Mangers of structural sub-divisions, puts them the task to localize (eliminate) the Emergency (Disturbance)	"Ch"+30 min	"Ch"+1.5 h

No in order	Information source	Numerical value (criteria) For decision taking	Action	Execution Time	
				working	Non-working
2.	NPP SS report about results of reconnaissance (examination) of equipment and propagation of situation at affected Unit and NPP Site, as well as about the status of non-affected Units		2.1. ES informs the following persons & bodies about the breach of NPP normal operation (i.e. Name of NPP, Number of affected Unit, date & time of Accident, status of Unit before the Emergency, assuming cause of Accident, brief description of Accident, summary amount of radioactive products released to environment during the Accident, approximate isotope composition, status of Unit at the moment of information transmission, brief description of weather conditions at the moment and after the Accident as well as in the NPP area (air temperature, nebulosity, wind speed & direction, situation progress out of NPP Site): • Top-level of "Rosenergoatom" Group; • Administration Head of NPP Town and District (Autonomy Region); • Manager of NPP Immediate Help Group (about measures on Accident elimination); • Chairman of RF Minatom Departmental Commission on Emergency (DCE)	Not later than 1 hour after Emergency arising	
			2.2. ES takes a decision (if necessary) to attract additional personnel to help the staff in localization (elimination) of Emergency	Upon clarifying the situation	
			2.3. ES controls the process and effectiveness of works on localization (elimination) of Emergency	Permanently	
			2.4. ES listens to DCE Chairman, Chief of NPP CD & ES Staff reports & proposals regarding the measures taken by their departments for organizing protection of personnel, as well as their information on the trend of situation at NPP	Not later than the second hour after the Emergency arising	
3.	Reports of Workshop & Division Leaders about physical status of subordinated personnel and technical condition of equipment designated to them		3.1. ES takes a decision with regard to immediate measures to be taken to ensure personnel safety and Equipment operation	"Ch"+1 h	"Ch"+2 h

No in order	Information source	Numerical value (criteria) For decision taking	Action	Execution Time	
				working	Non-working
4.	Report of Radiation Safety Division Head about results of situation control at NPP Site, in Buffer Area and NPP Control Area		4.1. ES clarifies the Emergency trend and situation out of the NPP Site	"Ch"+2 h	"Ch"+4 h
			4.2. ES provides more clear information about localization (elimination) of Violation to the Utility Top Level	"Ch"+2.5 h	"Ch"+7 h
			4.3. ES organizes interaction with Utility Crisis Center and NPP Immediate Help Group	Permanently from the moment of transfer of information about the violation	
5.	Reports of NPP SS, structural sub-division Leaders about the work performance on localization (elimination) of Violation		5.1. ES manages the works on localization (elimination) of Violation	Permanently up to elimination of violation	
			5.2. ES takes a decision to recover the NPP normal operation regime upon results of works fulfilled and provides the Utility Top Level with his decision	Upon elimination of violation	

II. Breach of Unit (NPP) safe operation limits and/or conditions subject to indicators and criteria of "Emergency Situation" status, p.p.1.5 & 1.6

No in order	Information source	Numerical value (criteria) For decision taking	Action	Execution Time	
				working	Non-working
1.	Report of NPP SS about violation in operation, evaluation & forecast of its affect out of NPP Site borders	Values given in Table 1 of the present Typical Content	1.1. Upon the data of Report of NPP SS the ES takes a decision to notify the "Emergency Situation" at NPP and entering of Action Plan on Protection into force. He gives corresponding directions to: • NPP SS – to make announcement according to Attachment 8 of the present Typical Content; • NPP SS – about the first announcement to population of NPP Town and inhabited localities within the NPP 5-kilometres surrounding zone that are affected by track of radioactive (chemical)substances release; • Chairman of ERC NPP and Chief of NPP CD & ES Staff – about assembling of Commission members at PEAMP: (to be controlled by him); • NPP Chief Engineer – about shutdown (if necessary) of Units under operation and ensuring of their cool-down (depending on the situation)	Immediately (in case of necessity and possibility – upon updating the situation)	
			1.2. ES arrives to the PEAMP and takes upon himself the management of all emergency actions within the NPP Site and Buffer Area	From the moment of "Emergency Situation" notification	Upon arrival to the NPP Site
			1.3. In case of radioactive (chemical) cloud trend toward the NPP Town the ES informs Administration Heads of NPP Town & Control Area Districts about approximate term of cloud approach as well as about the recommended measures to be taken with regard to protect population	"Ch"+15 min	To be executed by NPP SS considering the real situation

No in order	Information source	Numerical value (criteria) For decision taking	Action	Execution Time	
				working	Non-working
			1.4. ES controls: • Carrying out of Iodine prophylactic for the staff; • Carrying out of Iodine prophylactic (in case of necessity) to the personnel not participating in Accident elimination; • Removal from affected zone and cover (in case of necessity) of personnel not participating in Accident elimination within the Shelters (blockhouses, buildings, manufacturing facilities)	"Ch"+15 min "Ch"+15 min Immediately	"Ch"+15 min "Ch"+15 min Immediately
			1.5. ES informs the following duty persons & bodies about the causes to announce the "Emergency Situation" status and entering the Action Plan on Protection into force: • Top-level of "Rosenergoatom" Group; • Chairman (Deputy Chairman) of RF Minatom DCE; • Administration Heads of NPP Town and Region (Autonomy Region) with providing recommendations on measures to be taken with regard to protection of population at the early stage of Accident	"Ch"+20 min	"Ch"+1 h
			1.6. ES gives directions to the Head of NPP Civil Defense Radiation & Chemical Protection Service to hold the radiation and general reconnaissance	"Ch"+25 min	"Ch"+1 h
2.	Report of NPP SS and members of NPP DCE about the equipment reconnaissance (examination) results and propagation of situation at affected Unit and NPP Site, and the forecast of Accident impact to Buffer Area and Control Area		2.1. ES accepts the reports of NPP DCE members on main actions for Accident localization (elimination) 2.2. ES gives directions to the Head of Calculation-analytic Group to assess characteristics and possible consequences of Accident	"Ch"+30 min "Ch"+35 min	"Ch"+1.5 h "Ch"+1.5 h

No in order	Information source	Numerical value (criteria) For decision taking	Action	Execution Time	
				working	Non-working
			2.3. ES organizes: • Dose control for persons directly involved into Accident localization & mitigation of consequences; • Providing of NPP Staff with IPM for respiratory apparatus & coverlet; • Estimation of situation and defining of radiation protection regimes at NPP ,within the Buffer Area and NPP Town	"Ch"+40 min During the 1st hour "Ch"+1 h	"Ch"+2 h During the 1st hour "Ch"+1.5 h
			2.4. ES controls the Calendar Time-Schedule to be followed (fulfillment of CD main measures in case of Accident at NPP) and puts the tasks for Heads of NPP Services & Formations (upon their preparedness)	"Ch"+1 h	"Ch"+2 h
			2.5. ES prepares proposals to the NPP Immediate Help Group Manager with regard to involvement of Forces & Means of Military Units and territorial (regional) CD Formations focused on the NPP for rendering assistance to NPP; the ES reports to the NPP Immediate Help Group Manager about the already taken and planned measures	"Ch"+1.5 h	"Ch"+2.5 h
			2.6. ES organizes and performs interactions with Military Units and Territorial (Regional) CD Formations focused on the NPP during their re-deployment (with regard to organizing stable communication)	Upon receiving messages about providing Forces & Means	
3.	Reports of Head of Reconnaissance Service about the results of reconnaissance at the Buffer Area & NPP Control Area; Reports of NPP SS on the status of NPP Units; Reports of NPP ERC members about Accident trend & consequences		3.1. ES controls the situation arising as a result of Accident with paying special attention to the following: • Carrying out of salvage works and rendering the First Aid to victims; • Taking measures on Accident localization and mitigation of consequences;	Immediately and up to finalization of salvage works Immediately and up to finalization of works on Accident localization and mitigation of consequences.	
			• Evacuation to the place of residence of personnel & staff of CD formations not involved into Accident elimination;	"Ch"+2 h	"Ch"+4 h

No in order	Information source	Numerical value (criteria) For decision taking	Action	Execution Time	
				working	Non-working
			• Evacuation of personnel & family members from places of residence to NPP Evacuation Region • Organizing of working regime for NPP shift staff	Upon decision of Regional Administration Head "Ch" + 2 h	 "Ch" + 4 h
			3.2. ES presents the updated information on Accident, its consequences and measures taken (planned): • To the Top Level of "Rosenergoatom" Group and Management of NPP IHG; • To DCE Chairman (Deputy Chairman); • To Administration Heads of NPP Town and District (Autonomy Region)	"Ch"+2 h	"Ch"+3 h
			3.3. ES defines the status of Buffer Area; ES gives directions to Chairman of NPP Evacuation Commission and to Head of NPP Public Order Guarding Service to evacuate workers and Buffer Area residents as well as to guard its perimeter	"Ch"+2 h	"Ch" + 4 h
			3.4. ES gives directions to the NPP Chief Engineer to hold first measures on localization of affected Unit releases	"Ch"+3 h	"Ch"+6 h
			3.5. ES gives directions to the Head of NPP CD RChP Service to hold measures on decontamination of NPP territory and doorways to NPP	"Ch"+3.5 h	"Ch"+7 h
			3.6. ES gives the following directions to Head of NPP CD Material Support Service: • To ensure supplying of necessary diesel fuel for NPP to be used in emergency Reactor Cool-down in case of loss of external electricity supply; • To establish stable communication with suppliers of materials & equipment necessary for work on NPP Accident elimination as well as to produce and to submit Applications for materials & equipment according to established procedure	"Ch"+4 h "Ch"+4 h	"Ch"+8 h "Ch"+8 h
			3.7. ES gives direction to the Head of NPP CD Food & Clothing Supply Service to ensure NPP Staff with the food at their working & rest places as well as to provide meal for NPP personnel & family members at the NPP Evacuation Region	"Ch"+5 h	"Ch"+10 h
			3.8. ES defines (if necessary) the NPP representatives for working at the Group of Plan Development on Disposal of Affected Unit with participating of NPP & RI Designers, Work Executor, Suppliers of Ministries, Departments & other Organizations	"Ch"+6 h	"Ch"+12 h

No in order	Information source	Numerical value (criteria) For decision taking	Action	Execution Time	
				working	Non-working
			3.9. ES gives directions to NPP Chief Engineer together with the Chairman of NPP Evacuation Commission on producing and approval of Organizational & Technical Measures Plan on allocation of working shifts in the vicinity zone and organizing of their taking to work at the affected area	"Ch"+6.5 h	"Ch"+13 h
			3.10. ES gives directions to the Head of NPP CD RChP Service to carry out decontamination at the Units area as well as to take set of safety measures with the aim to start-up non-affected Units	"Ch"+7 h	"Ch"+14 h
			3.11. ES gives directions to Head of NPP CD Material Support Service to produce and to approve the Plan of Material Support of Works on Accident Localization, Mitigation of its Cinsequences and Disposal (if necessary) of the Affected Unit	"Ch"+8 h	"Ch"+16 h
			3.12. ES gives instruction to the NPP Chief Engineer to perform analysis of technical conditions for Units neighboring with affected one as well as to produce proposals regarding their following functioning	"Ch"+9 h	"Ch"+18 h
			3.13. ES gives directions to the Chief of NPP CD & ES Staff to produce the Plan of Complex Protection Measures for Personnel & Family Members	"Ch" + 10 h	"Ch"+20 h
4.	Reports of Service & Formation Heads regarding the partial progress on localization of Accident and mitigation of its consequences (each 2 hours)		4.1. ES controls the partial progress on localization of Accident and mitigation of its consequences	Constantly up to normalization of situation	
			4.2. ES controls advancing (location) of involved Forces & Means of Military Divisions & Territorial CD Formations focused on NPP toward the fixed frontiers of engagement	Upon receiving the information	
			4.3. ES organizes preparation and transfer of information on changes of situation to the territorial CD & ES Control Bodies of NPP Town & District (Autonomy Region) as well as to the Head of NPP IHG and to sub-divisions that arrive to mitigate consequences of Accident	During the first day – every 4 hours, later on - every day by 6 a.m. (Moscow local time) and immediately upon receiving data about deterioration of conditions	

No in order	Information source	Numerical value (criteria) For decision taking	Action	Execution Time	
				working	Non-working
			4.4. ES gives directions to the NPP Chief Engineer to take part in producing and approval of Time-schedule of Common Work on Mitigation Consequences of Accident at NPP by Wrecking Formation of Ministries, Departments and Emergency Response Center of "Rosenergoatom" Group (ERCG)	Upon taking the decision to involve attracted Forces & Means	
			4.5. ES poses tasks to arriving formations on mitigation of Accident consequences and ensuring interaction with Forces & Means acting in the affected area	Upon arrival to affected area	
			4.6. ES takes a decision (in case of improvement of situation) to cancel (mitigate) measures on protection of personnel & population and informs the following duty persons about this decision: • NPP IHG Manager; • Administration Heads of NPP Town & District (Autonomy Region)	Upon receiving the data	

Notes. 1. Time Schedule of NPP Director's actions is corrected and amended considering specifics of each NPP.

2.It is expedient to form the Time Schedule at the separate accordion map-case with marking additionally:

- Criteria for decision making;
- Reduction NPP Site layout & reduction scheme of NPP Buffer Area ;
- Reduction layout of NPP 30-kilometres surrounding zone with marking of NPP, NPP Town, evacuation routes, Evacuation Points, allocation of arriving Forces & Means, Evacuation Regions and other necessary data;
- Reduction Attachment 6, and
- Other pictorial materials, upon agreement with NPP Director.

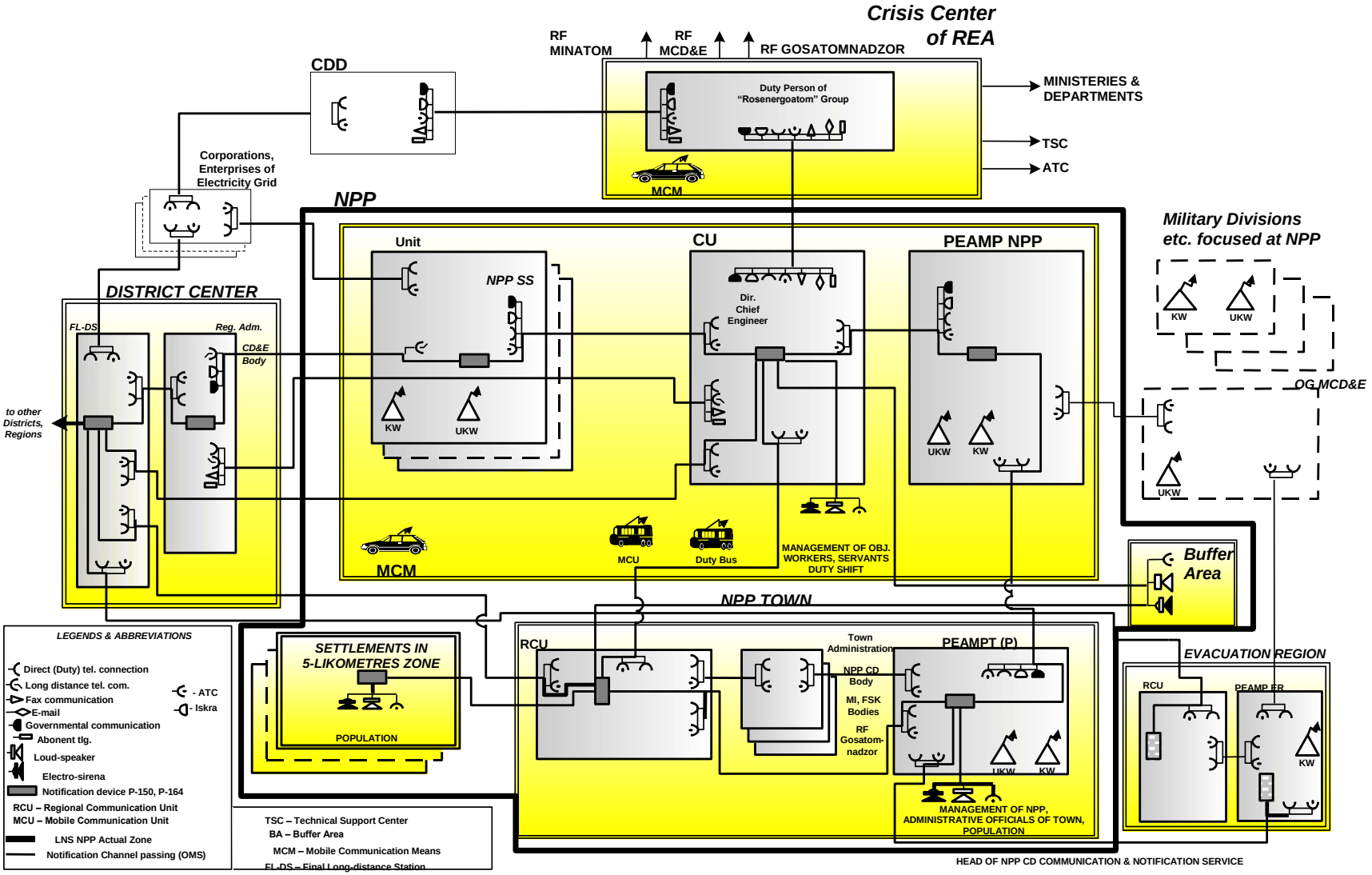
3. Basing on the present Time Schedule the Time Schedules for the Head of NPP CD Service and Heads of NPP CD sub-divisions are produces.

Director of _____NPP

Continued NP-015-2000

Attachment 16
(Mandatory)

Organizational Chart of Notification and Communication at NPP



Continued NP-015-2000

Attachment 17
(Mandatory)

Time Schedule of NPP Control Bodies and Civil Defense & Emergency Service Activation

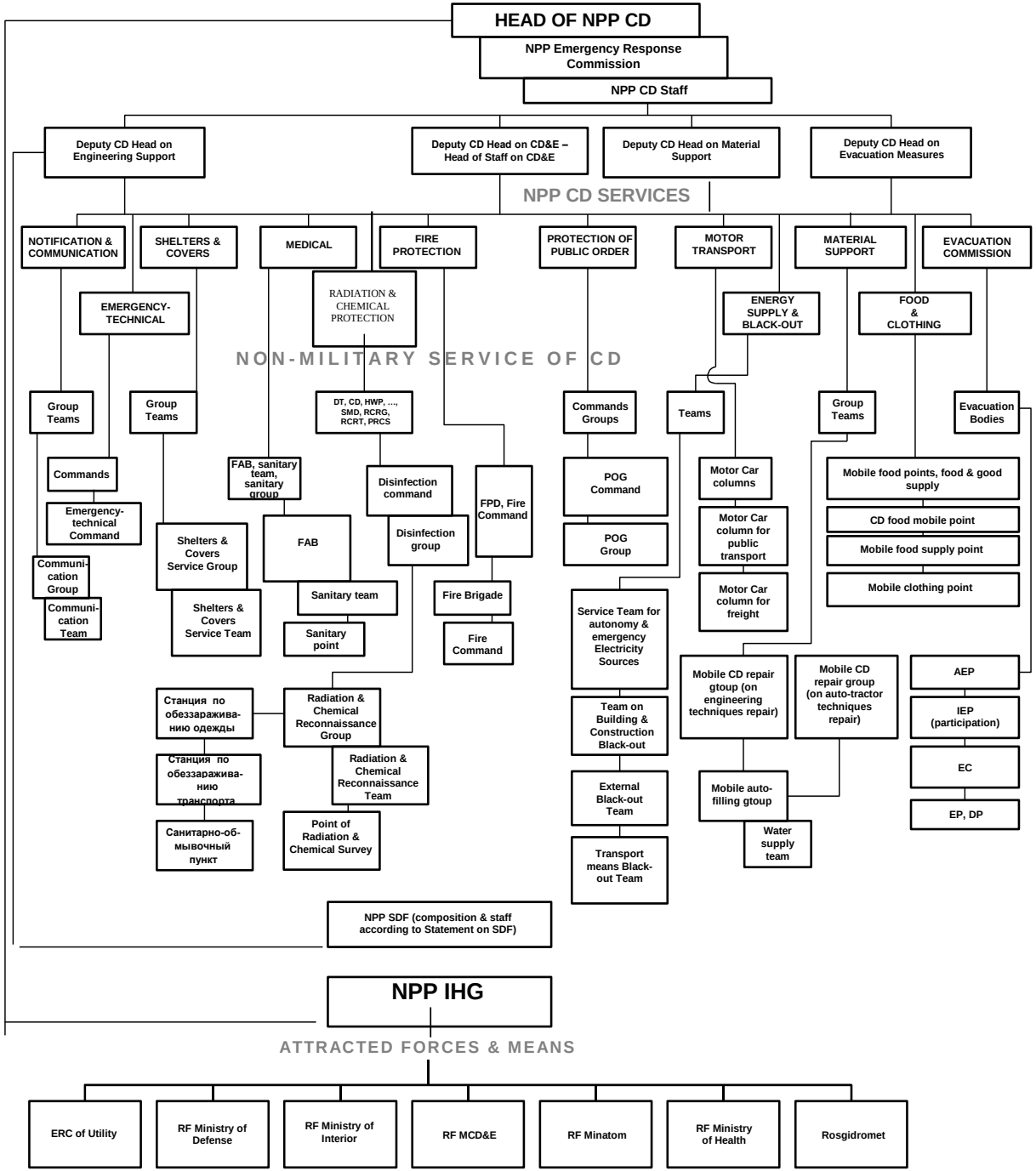
in order	Title of Body, Service< Formation	Notification and assembling of personnel on alarm					Bringing up to strength by property & material means				Time of preparedness Control Body, Service, Formation min	Point of assembling Route of arrival	District of advancing
		Time for aannounce-ment , min	Who makes announce-ment	Means for announce-ment	Point of assembling, Tel. No		Type of property & technique	Point of issuing (obtaining)	Time of issuing, min	Respon-sible recipient			
					Working time	Non-working time							
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Note. In the Column B for each Control Body, Service Unit and Formation the main types of property, instruments & technique shall be shown. техники.

Chief of NPP CD &ES Staff

Attachment 18
(Mandatory)

ORGANIZATIONAL STRUCTURE OF EMERGENCY PREVENTION & MITIGATION SYSTEM AT NPP



Note. Direct dependency of services & formations is defines by Order of Head of NPP CD & ES.

NPP Director
Head of NPP CD & ES Staff

Continued NP-015-2000

Attachment 19
(Mandatory)

Composition and equipping of NPP Civil Defense Forces

№	Title of Formation	Time for preparedness min		Number of persons, people			Equipping																				
							IPM, radiation & chemical reconnaissance instruments, pc.																				
							Gas-mask GP-7			Protecting suit			Radiation reconnaissance instrument			Dose control device			Chemical reconnaissance device			First-aid set, AP			Individual anti-chemical package IPP-10		
		During working time	In night time, weekend	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
1. 1.1.	Special Departmental Formation Total: including: Sub-divisions of general purpose, totally: Including: Salvage Command or Salvage Group, etc.																										
2.	Service Formations . Total including: Reconnaissance Group (team) Post of radiation & chemical survey, etc.																										
3.	Etc. upon all Service Formations																										

No	Title of Formation	Time for preparedness min		Number of persons, people			Equipping														
							Motor transport, pc.														
							total			including											
										Passenger car			Auto truck			special			bus		
		During working time	In night time, weekend	assumed	available	% of ensuring	assumed	available	% f ensuring	assumed	available	% f ensuring	assumed	available	% f ensuring	assumed	available	% f ensuring	assumed	available	% of ensuring
1	2	3	4	5	6	7	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
1.	Special Departmental Formation Total:																				
1.1.	including: Sub-divisions of general purpose, totally: Including: Salvage Command or Salvage Group, etc.																				
2.	Service Formations . Total including: Reconnaissance Group (team) Post of radiation & chemical survey, etc.																				
3.	Etc. upon all Service Formations																				

№	Title of Formation	Time for preparedness min		Number of persons, people			Equipping																							
							Engineering technique, pc.																							
							total			including																				
										special			Excavator			bulldozer			Truck crane			Mobile electric station			Mobile compressor			Dump-truck		
		During working time	In night time, weekend	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring	assumed	available	% of ensuring
1	2	3	4	5	6	7	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
1. 1.1.	Special Departmental Formation Total: including: Sub-divisions of general purpose, totally: Including: Salvage Command or Salvage Group, etc.																													
2.	Service Formations . Total including: Reconnaissance Group (team) Post of radiation & chemical survey, etc.																													
3.	Etc. upon all Service Formations																													

Note. Special Departmental Forces (SDF) are equipped upon table-chart of SDF;
the Civil Defense Team Leader is equipped upon table-chart of CD.

NPP Chief Engineer

Chief of NPP CD &ES Staff

Continued NP-015-2000

Attachment 20
(mandatory)

Arrangement of Interaction between NPP Management and NPP Immediate Help Group (NPP IHG)

Interaction of NPP Management with NPP IHG is defined by Statement on Procedure of Announcement of Emergency Situation. It boils down to the following.

1. Upon notification of "Emergency Situation" status and entering into force of Action Plan on Protection the NPP Director (ES) shall inform the Manager of NPP IHG about the following:

- Reasons to notify the "Emergency Situation" status and entering into force of Action Plan on Protection;
- Measures being taken to localize the Accident, to evaluate the scope of Accident and forecast of its propagation (within the NPP Site, Buffer Area and Control Area);
- Necessity and scope of rendering assistance to NPP including the Forces & Means of Emergency Response Center of "Rosenergoatom" Group.

2. Upon receiving the information of "Rosenergoatom" Group Duty Controller about sending the IHG to NPP the ES is obliged to clarify the information about its composition, term & route of arrival to NPP as well as to ensure its bringing to NPP from the airport of arrival.

3. By the moment of NPP IHG arrival the ES ensures preparation of the following information:

- Status of affected Unit and its safety systems;
- Measures already taken (being taken) for Accident localization & mitigation of consequences;
- Radiation conditions at NPP, within the Buffer Area and Control Area;
- Fire conditions at NPP;
- Measures taken on protection of personnel during implementation of Action Plan on Protection, number of victims and their status;
- Status of Material Support & Transport ensuring of works performed;
- Attracted (being attracted) Forces & Means for Accident consequences mitigation;
- Results of notification about the Accident to corresponding Organizations & Departments;
- Scope of necessary additional support;
- Victims & losses.

4. NPP Management provides the NPP IHG members with life support conditions (settling, foodstuff & additional property ensuring, if necessary) and working conditions (focusing motor transport, providing with necessary working places & communication channels, providing with designing & normative documentation according to Attachments 6 and 7 of Statement on the Procedure of Emergency Situation Notification).

5. Decisions to be taken by the NPP IHG are mandatory while being taken jointly with ES (NPP Director). In all other cases these decisions bear a character of recommendation and consultations.

6. Scope of activity of NPP IHG is the territory of NPP, the Buffer Area and NPP Town (with regard to protection of personnel and their family members). The main tasks, rights, duties & responsibilities of NPP IHG members are defined by Sections 4.2 - 4.5 of the Statement on Procedure of Emergency Situation Notification.

7. Manager of NPP IHG has the right to solicit the RF Minatom Departmental Commission on Emergency and RF Minister on Atomic Energy with regard to removal of Manager of Work in the Buffer Area in such a case when his actions turned out as not well qualified, well-timed & technically based.

Director of NPP
Chief of NPP CD & ES Staff

Attachment 21
(mandatory)

Forces & Means for carrying out Radiation (Chemical) Reconnaissance at Affected Unit, at the NPP Site, in the Buffer Area and Control Area

№ n order	Reconnaissance Group (Reconnaissance Team)	Number of persons, man	Allocation point	Means for carrying out of reconnaissance				Route of carrying out reconnaissance (every route shall be mentioned)
				Individual Protection Means	By instruments, pc		By motor transport	
					Radiation (chemical) reconnaissance	Dosimetric control		
1	2	3	4	5	6	7	8	9
								At NPP Site, within the Buffer Area, Control Area, in the NPP Town

Note. Column 5 provides separately: filtering gas-masks, insulation gas-masks, respirators and number of peace.

Head of Radiation & Chemical Protection NPP CD Service

Attachment 22
(mandatory)

Reconnaissance arrangement to be carried out by NPP own means

The Schemes shall show routes & points of Radiation Reconnaissance, Environmental Control Points and ASRM Detectors (Automatic System of Radiation Monitoring):

22.1. At the territory of NPP Site (scale of 1:1000).

22.2. Within the NPP Buffer Area (scale of 1:10 000).

22.3. At the territory of NPP Town (scale 1:2000).

22.4. Within the NPP 30-kilometres surrounding zone (scale 1:200 000).

Each Scheme shall be mapped with:

- Tables of Reconnaissance Forces & Means calculation;
- Procedure of data transfer of all types of Reconnaissance;
- Tools for data transmission;
- Wind rose;
- Average speed of ground wind & average air temperature;
- Notation conventions.

Head of Radiation & Chemical Protection NPP CD Service

Attachment 23 (mandatory)

Scheme of gathering, processing and transfer of data collected by means of all types of Reconnaissance

1. Initial Data:

1.1. Performances of stationary devices (Main Control Room, Radiation Control Panel, Local Panels, etc.

1.2. Release (discharge) characteristics

1.3. Results of Engineering & Radistion (chemical) reconnaissance at affected Unit

1.4. Weather conditions at the moment of Emergency at present day

1.5. On-site Reconnaissance

1.6. Reconnaissance by forces of NPP Buffer Area formations

1.7. Reconnaissance by forces of NPP formations of NPP Town

1.8. Reconnaissance by NPP formations of NPP Control Area

1.9. Reconnaissance by forces of CD ERC NPP Town formations

1.10. Reconnaissance by ERC formations of 30-kilometres NPP surrounding area

1.11. Reconnaissance by military divisions focused at NPP performed on routes of redislocation

1.12. Air-gamma-photography (if necessary)

2. Initial Data processing results

2.1. Conditions forecast at the Unit & NPP Site, upon data of pp. 1.1, 1.2, 1.3, 1.4, 1.5

2.2. Conditions forecast at the Buffer Area & Control Area upon data of pp. 1.2, 1.4

2.3. Decision about Violation (Accident) basing on pp. 2.1 & 2.2

2.4. Decision (correction) on protection measures for NPP Personnel and Buffer Area Organizations basing on pp. 2.3 (2.6 & 2.7)

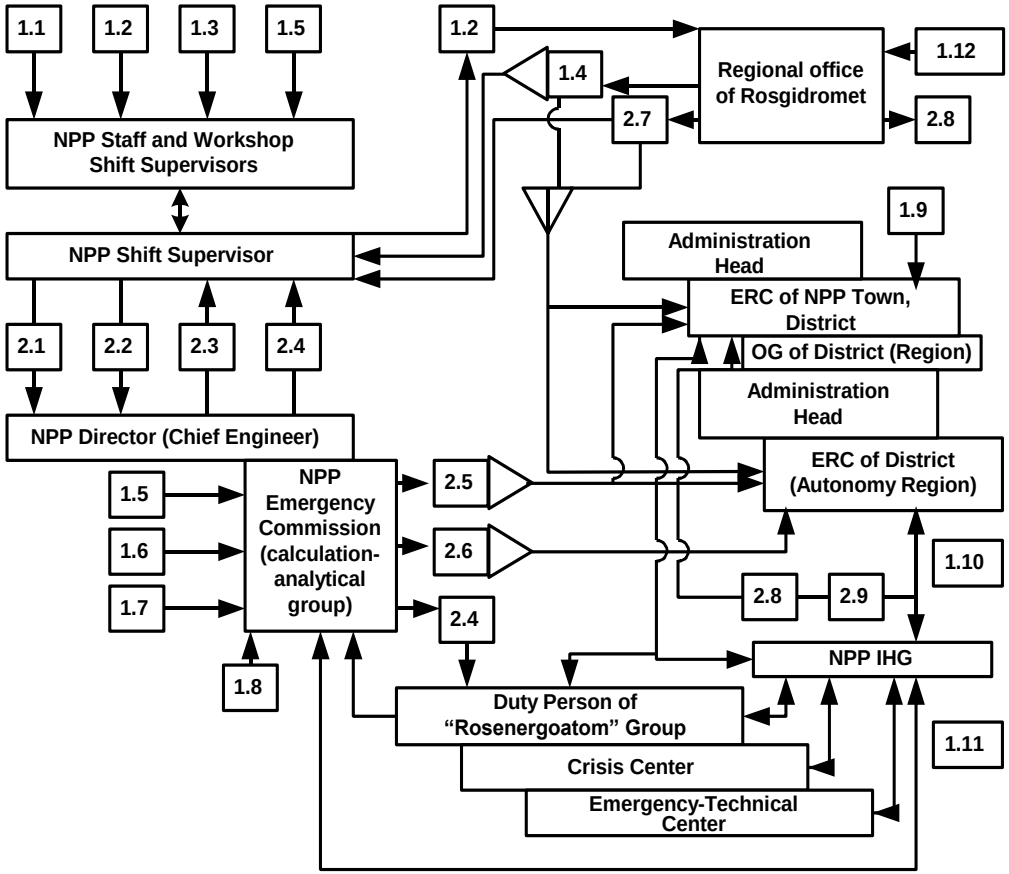
2.5. Recommendations on protection of public basing on p. 2.2

2.6. Defining (clarification) of boundaries & characteristics of affected zone upon data of pp. 1.5, 1.6, 1.7, 1.8

2.7. Weather forecast for the nearest 2 – 3 days

2.8. Defining (clarification) of boundaries & characteristics of affected zone upon data of pp. 1.9, 1.10, 1.11, 1.12

2.9. Decision (clarification) of protective measures for public, taking into account pp. 2.5, 2.7 & 2.8



Head of NPP CD Radiation & Chemical Protection Service

Head of NPP CD Staff

Attachment 24
(mandatory)

NPP Personnel & Family Members radiation protection regimes depending on Equivalent Dose Rate
1. For the PERSONNEL at the EARLY STAGE of ACCIDENT (duration up to 10 days)

<table>
<tr><th rowspan="2">No
In order</th><th rowspan="2">Conditional Number of regime</th><th rowspan="2">Equivalent dose rate mSv/h</th><th colspan="2">Protection measure</th></tr>
<tr><th>In accommodations of controlled zone</th><th>Out of controlled zone and at the NPP Site</th></tr>
<tr><td>1.1.</td><td>A1</td><td>2,5 – 30</td><td colspan="2">Application of IPM for respiratory apparatus

Removal of personnel not involved into Accident localization (elimination) from the affected area | Working rooms & ventilation apertures (openings) sealing-in. Installing of sanitary locks at the entrance of affected Unit</td></tr>
<tr><td>1.2.</td><td>A2</td><td>30 – 200</td><td>Application of IPM (respiratory apparatus & coverlet)

The same as in the A1 Regime
Carrying out the Iodine prophylactic for the staff (allowed in case of exceeding Dka for I -131 in working rooms)</td><td>Cover of personnel not involved into Accident localization (elimination)</td></tr>
<tr><td>1.3.</td><td>A3</td><td>200 - 1000</td><td>The same as for A1 & A2 regimes</td><td>Carrying out the Iodine prophylactic for the staff not involved into Accident localization (elimination) (allowed in case of exceeding Dka for I -131 in the atmospheric air)</td></tr>
<tr><td>1.4.</td><td>A4</td><td>>1000</td><td colspan="2">Shutdown of all Units | Evacuation of personnel not involved into Accident localization (elimination)

Setting of movement routes within the NPP Site and Buffer Area
Setting the regime of Staff & Survival personnel exchange
Duty and anti-damage works with obligatory using IPM (respiratory apparatus & coverlet) and application (depending on the conditions) of anti-radiation medical specimens
Movement through the territory with usage of protected transport means</td></tr>
</table>

2. For the PERSONNEL and their FAMILY MEMBERS at the MEDIUM STAGE of ACCIDENT (duration of about 1 year) *

№ In order	Name of the area (object) of Radioactive contamination	Number of persons, an	Исходные данные				Residence of people during the day, h				
			Coefficient C**	Coefficient Cs***	Allowed dose, Ad, cSv	Radiation Level , mSv/h	In protected constructions (covers, shelters), K_{mit} = 10 – 10000	In processing buildings K_{mit}=4–7	In quarters K_{mit}=10–100	In transport meanings K_{mit}=2	At open area K_{mit}=1
2.1.	NPP Territory • staff • formation personnel • ERC NPP members				For values of 0,5 5 10 25 50	For values of 1-3 5-10 30 200 1000 10000					
2.2.	NPP Town				0,5 50	1-3 10-20 30 100 1000 10000					

* Regimes are selected in accordance with requirements of Methodic of Setting Radiation Protection Regimes for NPP Personnel and General Public (MAEP USSR, AEP, m/u 52609, 1989)

** Coefficient of Protection shows how many times less the people exposure dose per day will be in case of observance of defined behavior regime rather than the dose they would collect while staying permanently at the open area during the same time period.

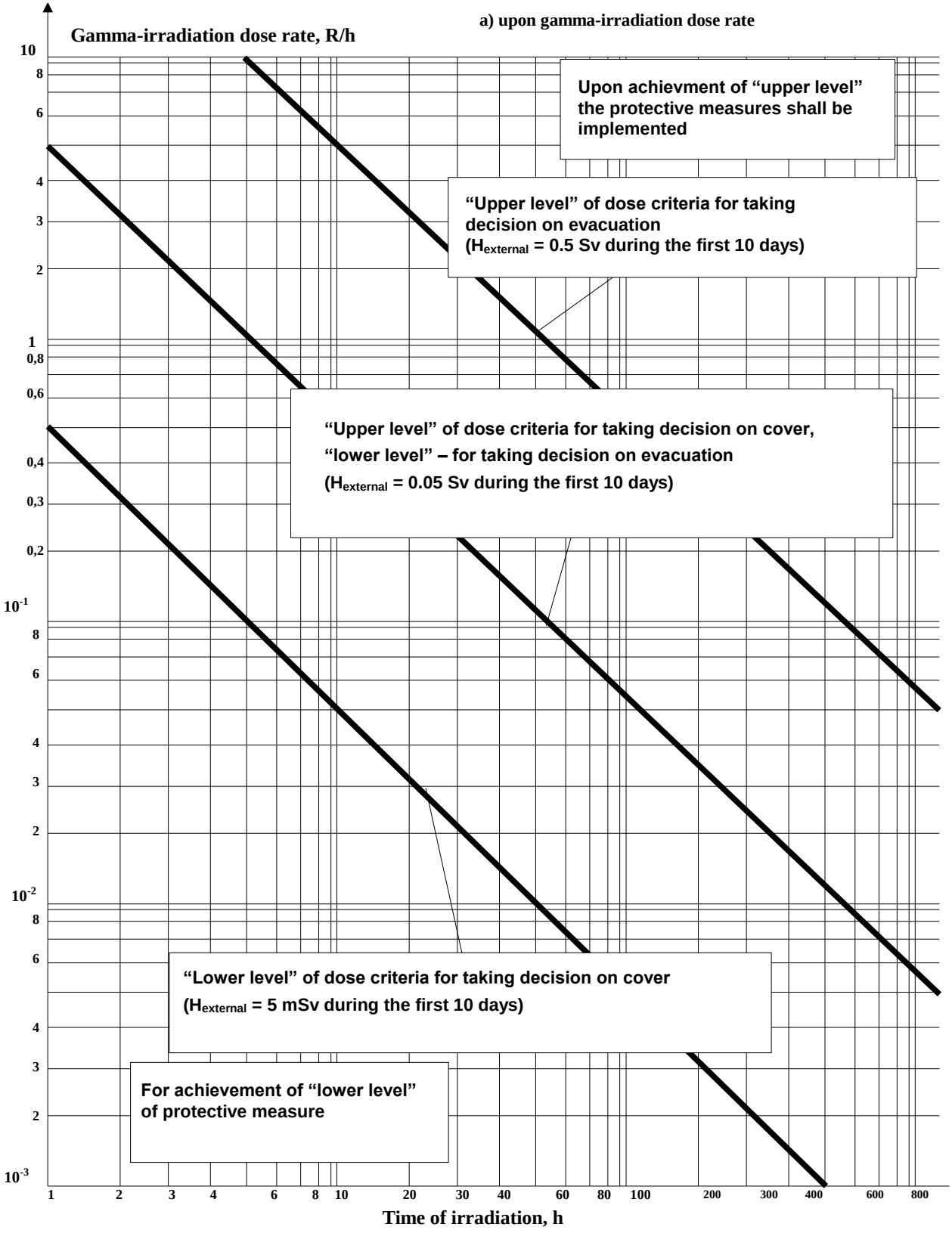
*** In conditions of radiation Accident the behavior regime of this type is selected when the condition of $C \geq Cs$ is observed В условиях радиационной аварии выбирается такой порядок поведения, при котором выполняется условие $C \geq Cs$ (Cs – coefficient of safe protectability).

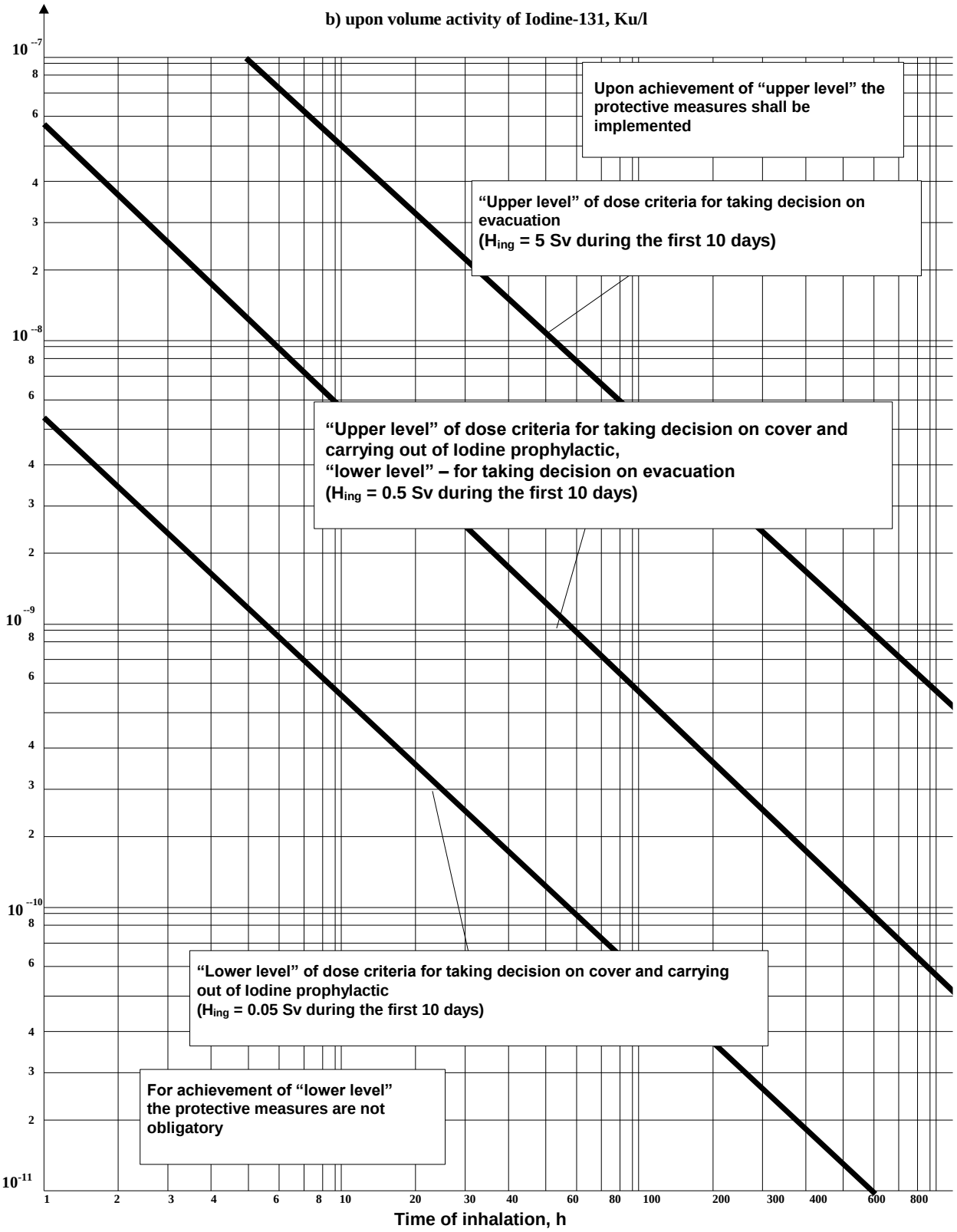
Head of Radiation & Chemical Protection NPP CD Service

Attachment 25
(mandatory)

Schedules of protection measures for staff members at early stage of Accident (upon gamma-irradiation dose rate and I –131 activity concentration)

a) upon gamma-irradiation dose rate





Head of Radiation & Chemical Protection NPP CD Service

Attachment 26
(reference-information)

Methodic of immediate assessment of thyroid gland irradiation upon results of direct measurement

1. Estimation of Iodine-131 content in the thyroid gland of examined person.

1.1. The indispensable condition of correctness for measurement of Iodine-131 content in the thyroid gland is the absence of body & clothes external radioactive contamination. To ensure this, it is necessary to make contamination control by means of gamma-radiometer (the values of is performances shall not exceed the background level).

1.2. Content of Iodine-131 in the thyroid gland (Bk /mcKu) at the moment of measurement is defined upon the formula:

$$Sh(t) = \frac{K\,[\,Pn(t) - Pf(t)]}{u}\,, \qquad (1.2)$$

where: t – time passed after the emergency release up to the moment of measurement, day;

K – re-calculating coefficient, Bk/(mSv/h) or Bk/(mSv/s);

Pп – maximum value of gamma-irradiation exposition dose rate to be measured in case of measurement by instrument adjusted right up to the neck base between the lobes of thyroid gland, mSv/h (mkSv/s);

Pf – gamma-irradiation exposition dose rate to be measured in case of measuring by device detector to be adjusted right up to the shoulder part of arm (method background), mSv/h (mkSv/s);

u – correction on Iodine-131 gamma-irradiation during the first days after the beginning of Accident (see Table 1.2).

Table 1.2

Moment of measuring after the beginning of Accident t, day	1	2	3	4	5	≥ 6
u, rel. unit	3,1	1,8	1,3	1,2	1,1	1,0

1.3. For the devices of SRP-68 and DRG 3-01 types the re-calculation coefficient for the persons older than 18 years:

K = 3,7E+7 Bk(mkSv/s) = 1,0E+7 Bk/(mSv/h).

For the device of DP –5V type:

$K = 1{,}5 \cdot 10^7$ Bk/(mSv/h).

In case of horizontal layout of detector the measurement shall be done with closed detector window to be oriented to the neck.

Note. In case of measurement (upon any reasons) of gamma-irradiation dose rate of thyroid gland at some distance of detector end-wall from the neck the formula (1.2) shall be amended by additional multiplying factor (see Table 1.3).

Table 1.3

Distance from the detector end-wall to the neck surface, sm	1,0	1,5	2,0	2,5	3,0
Additional multiplying factor, rel. unit	2,0	2,6	3,3	4,0	4,8

2. Estimation of thyroid gland irradiation level in case of radioactive Iodine arrival by means of inhalation.

2.1. Level of thyroid gland irradiation stipulated by Iodine-131 from the moment of measurement up to full excretion of radionuclid from the body is determined upon the formula:

D1(t) = d Sh(t), (2.1)

где Sh(t) – content of Iodine-131, calculated by the formula (1.2);

d - for persons older than 18 it is 1,6 mkSv/Bk.

2.2. Value of expected equivalent dose stipulated by detected content of Iodine-131 in the thyroid gland during the time from the moment of arrival up to full excretion of radionuclid from the body is determined upon the formula:

D2(t) = C(t,T) D1, (2.2)

Where: C(t,T) – correction for time passed from the moment of arrival up to measurement, For persons older than 18, rel. unit (see Table 2.2);

T – time passed after the Accident beginning up to the moment of arrival, day;

t – time passed after the emergency release up to the moment of measuring, day;
D1 – expected equivalent dose upon the formula (2.1), Sv.

Table 2.2

Time interval t –T, day	1	2	3	4	5	6	7	8	9
Correction C (t,T), rel. unit	1,1	1,2	1,3	1,4	1,6	1,7	1,9	2,1	2,3

2.3. Summary expected equivalent dose in the thyroid gland stipulated by inhalation of all Iodine isotopes and their predecessors over the decay chains starting from the moment of inhalation up to full excretion of radionuclid from the body is determined by the formula:

D_{sum} = S D2, (2.3)

Where: D2 – is defined by formula (2.2);

S – correction to mixture composition that depends on the time after the Accident beginning, rel. units (see Table 2.3).

Table 2.3

Moment of inhalation after the beginning of Accident T, h	1	2	6	12	24	48	72	144	>144
S, rel. unit	1,9	1,8	1,7	1,6	1,4	1,3	1,2	1,1	1

Note. The aforementioned Appendix is not a part of Action Plan of Protection but is included into the set of CD documents of the Head of NPP CD Radiation & Chemical Protection Service.

Head of NPP CD Radiation & Chemical Protection Service

Attachment 27
(mandatory)

List of Control Dosimeter allocation points (with note of procedure for replacement, processing and usage of measurement results)

No In order	Allocation of devices	Procedure of		
		replacement	Measuring data processing	Usage of measurement results
1	2	3	4	5

Head of NPP CD Radiation & Chemical Protection Service

Attachment 28
(mandatory)

Calculation of Cover for NPP Staff and Attached Persons at NPP Site

No In order	Title of NPP sub-division Total: (among others, over the sub-divisions)	To be covered man (total)	Is being covered, man								Allocation of Shelter facility
			total	% Of ensuring	including						
					In shelters		In basements and other deepened apartments		In the ground buildings & structures		
					man	%	man	%	man	%	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**

Note. Upon the data of NPP protection structure inventory the following shall be mentioned in the Note to the present form (in Table):

- For every Shelter – its No, capacity, overpressure in the front of air-blast ΔPf and coefficient of protection, Kp;
- For every basements and other deepened apartments – Name of upstream structure, capacity, overpressure in the front of air-blast ΔPf and coefficient of protection, Kp;
- For every ground buildings & structures – its Name, capacity, coefficient of protection, Kp;
- For the Temporary Protected Emergency Actions Management Point (TPEAMP) – allocation, number of management personnel, overpressure in the front of air-blast ΔPf and coefficient of protection, Kp;

In case of TPEAMP allocation within one of the Shelters, the number of management personnel shall be pointed out besides the performances of Shelter.

Head of Cover & Shelter Service of NPP CD

Attachment 29
(mandatory)

Calculation of Cover for NPP Staff and Family Members at their places of residence

No In order	To be covered (NPP personnel & family members)	Subject for sheltering, Thousand of people	Is being covered, person							
			Total	% Of ensuring	Among others					
					In Shelter		In adjusted basements and other deepened apartments		In adjusted ground buildings & structures	
					person	%	person	%	person	%
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**

Note. Upon the data of NPP & NPP Town protection structure inventory the following shall be mentioned in the Note to the present form (in Table):

- For every Shelter provided by NPP and designated for cover of personnel & family members – its No, capacity, overpressure in the front of air-blast ΔPf and coefficient of protection, Kp;
- For TPEAMP – type of protecting structure (cover, shelter), place of allocation, number of management personnel, overpressure in the front of air-blast ΔPf and coefficient of protection, Kp;
- For adjusted basements and other deepened apartments – total quantity, total capacity, average coefficient of protection, Kp;
- For ground buildings – total number, total capacity, average coefficient of protection, Kp;

Head of Cover & Shelter Service of NPP

Attachment 30
(mandatory)

List of Officials (Duty Persons) staying at their working places up to special notification of Emergency Superintendent (ES)

No in order	Post	No of persons	Working place
1	2	3	4

Notes.

1. The rest of Staff leaves their working places and moves to the established places for sheltering upon direction of NPP SS.

2. NPP SS has the right to involve the personnel from shelter for carrying out urgent works in necessary cases.

Chief Engineer of NPP

Attachment 31
(mandatory)

Calculation of Forces & Means for Rendering Medical Aid, etc.

No in order	Action	Site	Attracted medical forces of Civil Defense *	Note **
1	2	3	4	5
1.	Carrying out of Iodine prophylactic and usage of anti-radiation medicines	Work places of personnel	Self-dependent	
2.	Rendering of first aid, assorting of victims	NPP Medical Point (shelter)	First Aid Teams, Special Quick Response Brigade	
3.	Evacuation of victims from the NPP Territory	Medical Point, First Aid, NPP Medical Division	Sanitary Activists Sanitary Team	
4.	Rendering of special assistance to victims	NPP Medical Division	Special Brigades of Regional Health Institutions, State Scientific Center “Institute of Biophysics”, Clinical Hospital No 6 of “Medbioextreme” Federal Department	
5.	Urgent hospitalization of victims	NPP Medical Division	Special divisions of territorial institutions. Clinical Hospital No 6 of “Medbioextreme” Federal Department	
6.	Medical examination of persons	NPP Medical Division	Special hospitals	
7.	Medial ensuring for covered people	In covers at the NPP Site. In adjusted basements and other deepened apartments, industrial buildings at the NPP territory. In the Shelter at NPP Town. In adjusted public and residential constructions in NPP Town	NPP Medical Division Medical aid post Medical aid post Medical aid post	
8.	Medial ensuring for evacuated personnel & family members	At evacuation routes In Evacuation Points At Evacuation Region	NPP Medical Division Medical aid post Hospitals, polyclinics	

* Column 4 shows an example of filling the blank. In producing the aforementioned Attachment the certain attracted Forces & Means with their exact Name shall be listed.

** Column 5 provides the number of served beds.

Head of NPP CD Medical Service

Attachment 32
(mandatory)

Recommendations for application of anti-radiation medications

1. The Individual Anti-radiation First-aid Set AP shall content:

1.1. B-190 medication - 0.15 g - 6 tabl.
1.2. Potassium iodide - 0.125 g - 1 tabl.
1.3. Ferrocyn – 1 g (package).
1.4. Latran - 0.004 g - 2 tabl.
1.5. "Zashita" ("Protection") Paste – 25 g.

2. The Individual Anti-radiation First-aid Set AP is designated for NPP personnel. It is applied for prophylactic in case of predicted irradiation dose of more than 0.25 Sv.

2.1. B-190 medication is a prophylactic radio-protection mean in case of large dose of irradiation. To be used in case when predicted dose of irradiation is able to cause development of acute radiation sickness. In usage, one shall masticate the tablets and wash down with water. Repeated application of 3 tablets 1 hour later than the first one is permitted under survey of Medical Point Man.

2.2. Potassium iodide – mean of thyroid gland iodine radio-nuclide accumulation prophylactic. To take one tablet of medication and wash down with water. Repeated taking of tablets shall be done 1 day later.

2.3. Ferrocyn – dark blue powder; to be prescribed as a remedy for intoxication by radioisotopes of Cesium and Rubidium as well as by Uranium fission products. The medication shall be taken in form of water suspension, 1 g per 1 water glass, 2 – 3 times a day.

2.4. Latran – remedy for prophylactic and knocking-over of irradiation first reaction (nausea & retching), in one-time dose of o.oo4 g (2 tablets) 1 hour before or just after the radiation impact.

2.5. "Zashita" ("Protection") Paste – decontamination mean for external use only, designated for removal of radionuclid from body coverlet. To be embrocated equally upon all contaminated body surface; resulting scum shall be washed down.

3. In carrying out Iodine prophylactic one shall be guided by Recommendations on Application of Stable Iodine Medications by Public for Protection of Thyroid Gland & Body against Radioactive Isotopes of Iodine (RF Ministry of Health, IBPh, 1993), with paying special attention to p.6.

Head of NPP CD Medical Service

Attachment 33
(mandatory)

Calculation of Forces & Means for Material Support of Special Military Forces and Non-Military Groups of ---------NPP Civil Defense

No in	Sub-division To be served	Type of ensuring												
		By meal		By drinking water		By outfit		IPM & Instruments		By entrenching tools		Combusting-lubricating materials		Etc.
		Place	Attracted forces	Place	Attracted forces	Place	Attracted forces	Place	Attracted forces	Place	Attracted forces	Place	Attracted forces	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**

Deputy NPP CD Chief on Material Support Service

Attachment 34
(mandatory)

Planned schedule of taking measures on NPP Personnel & Family Members Evacuation to the NPP Evacuation Region

No in order	Title of the Action (Measure)	Unit	Person in charge (Name, Telephone number: Official, Home)	Time of carrying out the measure																							
				1st hour				2nd hour				3rd hour				4th hour				hours							
				min				min				min				min				5	6	7	8	9	10	11	12
				15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1. IN CASE OF RADIATION ACCIDENT																											
1.1.	Preparedness of NPP Evacuation Point service personnel Evacuation Operative Team; Allocation Operative Team; Interim Evacuation Point (IEP)	person person person																									
1.2.	Availability & preparedness of communication tools & notification tools for NPP Protected Emergency Actions Management Point at the NPP territory – PEAMP NPP, At NPP Town – PEAMP T	pc. pc.																									
1.3.	Distribution of IPM: Civil gas-mask; Industrial gas-mask; Insulating gas-mask	pc. pc. pc.																									
1.4.	Evacuation Notification for NPP Personnel & family members: NPP Local Notification System (LNS); NPP Communication Unit	Pc. pc.																									
1.5.	Organizing of Evacuation for NPP personnel & family members to Evacuation Region																										

No in order	Title of the Action (Measure)	Unit	Person in charge (Name, Telephone number: Official, Home)	Time of carrying out the measure																							
				1st hour				2nd hour				3rd hour				4th hour				hours							
				min				min				min				min				5	6	7	8	9	10	11	12
				15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Clarification of evacuation procedure with Management & Evacuation Bodies of NPP Town Clarification (with Management & Evacuation Bodies of NPP Evacuation Region) of the acceptance & allocation procedure to be used for NPP personnel & family members																										
1.6.	On-site visit of Allocation Operative Team to the NPP Evacuation Region	man																									
1.7.	Preparedness of Protected Structures for immediate service of covered people at the NPP territory and in the NPP Town for …. Covers at the NPP territory for … Shelters in the NPP Town for …	person person person																									
1.8.	Specializing of general data on types of evacuation and number of persons among Personnel & Family Members to be evacuated from NPP to the NPP Town and, further, to																										

No in order	Title of the Action (Measure)	Unit	Person in charge (Name, Telephone number: Official, Home)	Time of carrying out the measure																							
				1st hour				2nd hour				3rd hour				4th hour				hours							
				min				min				min				min				5	6	7	8	9	10	11	12
				15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Evacuation Region, or, by-passing the NPP Town in case of radioactive cloud movement to it: Evacuation routes Evacuation Region NPP personnel Adult family members Childten	 item item perso npers onper son																									
1.9.	Distribution of NPP personnel at IEP for setting in NPP Evacuation Region settlements in workshops, divisions; Sanitization and change to “clean” transport: IEP Special Processing Point (SPP) Hygiene-Washing Point (HWP) Bus lorry	 pc. pc. Pc. Pc. pc.																									
1.10.	Control for engineering equipment of: Evacuating Center (EC) Deplaning Point (DP)	 pc. pc.																									
1.11.	Control for preparedness of protected structures (Shelters) to accept covered people in the NPP Evacuation Region, for:	person																									
1.12.	Leading to operable condition of telephone &																										

No in order	Title of the Action (Measure)	Unit	Person in charge (Name, Telephone number: Official, Home)	Time of carrying out the measure																							
				1st hour				2nd hour				3rd hour				4th hour				hours							
				min				min				min				min				5	6	7	8	9	10	11	12
				15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	radio grid of PEAMP at the NPP Evacuation Region - PEAMP ER	item																									
1.13.	Allocation of NPP Personnel & Family Members in the NPP Evacuation Region, medical & communal-general service: Settlement Hospital Polyclinic Medical Attendant-Obstetrical Point Baths Laundering, etc.	 Pc. pc. pc. Pc. Pc. pc.																									
1.14.	Accounting & registration for evacuated NPP Personnel & Family Members at the NPP Evacuation Region: Information bureau Military-registration board Acceptance-distribution point	 Pc. Pc. pc.																									
1.15.	Submission of reports regarding the evacuated NPP Personnel & Family Members Evacuation process	 pc.																									
2. IN CASE OF CHEMICAL ACCIDENT																											
2.1.	Notification and informing of NPP personnel and residents	 person																									

No in order	Title of the Action (Measure)	Unit	Person in charge (Name, Telephone number: Official, Home)	Time of carrying out the measure																							
				1st hour				2nd hour				3rd hour				4th hour				hours							
				min				min				min				min				5	6	7	8	9	10	11	12
				15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
2.2.	Carrying out chemical reconnaissance and assessment of conditions: Reconnaissance Group Reconnaissance Team Radiation & Chemical Reconnaissance Group Point of radiation & chemical control	 person person person person																									
2.3.	Leading to preparedness of Protection Structures with 3 times regime of working to accept covered people for: ……	person																									
2.4.	Distribution of IPM: Civil gas-mask; Industrial gas-mask; Insulating gas-mask	 Pc. Pc. pc.																									
2.5.	Evacuation of NPP Personnel from the NPP territory: By Эвакуация персонала АС с территории АС: By column of march By motor transport	 Person person																									
2.6.	Accounting & registration for evacuated NPP Personnel & Family Members at the NPP Evacuation Region: Information bureau	 Person																									

No in order	Title of the Action (Measure)	Unit	Person in charge (Name, Telephone number: Official, Home)	Time of carrying out the measure																							
				1st hour				2nd hour				3rd hour				4th hour				hours							
				min				min				min				min				5	6	7	8	9	10	11	12
				15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Military-registration board Acceptance-distribution point	Person Person .																									
2.7.	Submission of reports regarding the evacuation process of NPP Personnel & Family Members	pc.																									
3. IN CASE of ANOTHER EMERGENCIES THREAT																											
3.1.	Evacuation Notification for NPP Personnel & family members: NPP Local Notification System (LNS); NPP Communication Unit	Pc. pc.																									
3.2.	Preparedness of Evacuation Bodies: Evacuation Commission Embarkation Point (EP) Interim Evacuation Point Evacuation Center (EC) Deplaning Point (DP)	Person Person Person Person person																									
3.3.	Organizing & ensuring of Evacuation for NPP personnel & family members to NPP Evacuation Region																										
3.4.	Specializing of calculation for evacuation of NPP personnel & family members: Partial evacuation (to be listed upon categories: pregnant women																										

No in order	Title of the Action (Measure)	Unit	Person in charge (Name, Telephone number: Official, Home)	Time of carrying out the measure																							
				1st hour				2nd hour				3rd hour				4th hour				hours							
				min				min				min				min				5	6	7	8	9	10	11	12
				15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Children of 1 – 2 years old, etc.) General evacuation	Person person																									
3.5.	Specializing of calculation for evacuation of NPP personnel & family members by combination of: railway amotor transport * water transport air transport column of march	 Person Person Person Person person																									
3.6.	On-site visit of Allocation Operative Groups	item																									
3.7.	Distribution of NPP personnel at IEP for setting in NPP Evacuation Region settlements in workshops, divisions; IEP	 Pc.																									
3.8.	Allocation of NPP Personnel & Family Members in the NPP Evacuation Region, medical & communal-general service: Settlement Hospital Polyclinic Medical Attendant-Obstetrical Point	 Pc. pc. pc. Pc.																									

No in order	Title of the Action (Measure)	Unit	Person in charge (Name, Telephone number: Official, Home)	Time of carrying out the measure																							
				1st hour				2nd hour				3rd hour				4th hour				hours							
				min				min				min				min				5	6	7	8	9	10	11	12
				15	30	45	60	15	30	45	60	15	30	45	60	15	30	45	60								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Baths Laundering, etc	Pc. pc.																									
3.9.	Accounting & registration for evacuated NPP Personnel & Family Members at the NPP Evacuation Region: Information bureau Military-registration board Acceptance-distribution point	 Pc. Pc. Pc. .																									
3.10.	Submission of reports regarding the evacuation process of NPP Personnel & Family Members	 Pc.																									

* In calculation of variants for evacuation of NPP Personnel & Family members by motor transport the 100 % of persons to be evacuated shall be removed, the rest of transport id used as a redundancy.

Chairman of NPP Evacuation Commission
Chief of NPP CD & ES Staff

Attachment 35
(mandatory)

Calculation of Travel Facilities necessary for evacuation of NPP Staff from the NPP Site, as well as the Personnel and those Family Members from the NPP Town

No in order	Title of NPP Workshop, Division, Sub-division, District of NPP Town upon positions 1,2,& 3	To be evacuated, person			Attracted transport, pc.					Time of transport arrival h+___	Calculated Time for evacuation h	Point of allocation for evacuated Population in the vicinity NPP Evacuation Regions – main, redundant)
		Total	including		Motor transport		Rail way	water	air			
			Adult	Children	Bus	Lorry						
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1.	From the territory of NPP Site and Buffer Area to NPP Town											
2.	From the territory of NPP Site and Buffer Area by-passing the NPP Town to the NPP Evacuation Region											
3.	From the NPP Town to the NPP Evacuation Region											

Note. In calculation of variants for evacuation of NPP Personnel & Family members by motor transport the 100 % of persons to be evacuated shall be removed, the rest of transport id used as a redundancy.

Chairman of NPP Evacuation Commission

Attachment 36
(mandatory)

Composition and equipping of Forces & Means for Military Forces and Regional Civil Defense Sub-divisions focused on the NPP

No in order	Name of Forces & Means	Place of dislocation (tel.No)	Distance from dislocation point of territorial formations & military divisions to the NPP, Km	Time for leading to preparedness, h	Time of arrival to NPP, h	Title of the allocation region of formations & military forces (general and reserve); the settlements shall be mentioned as well as the distance to NPP and directions from the NPP (West, South, etc.)	Number of personnel, Person
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**

Technique												Need for fuel to return back, liter		
Motor transport, pc.					Engineering, pc.									
total	including				total	including						petrol		Diesel oil
	passenger	lorry	special	bus		special	excavator	Bulldozer	Auto-crane	Mobile electric station	Dump-truck	A-76	A-93	
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

Chief of NPP CD & ES Staff

Attachment 37
(mandatory)

Composition of Principal and Attached Forces & Means for Fire Extinguishing

No in order	Name of Forces & Means (general & attracted)	Place of dislocation (Tel. No)	Time for preparedness min	Time of arrival to NPP min	Number of personnel person	Fire technique, pc.			
						total	including		
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

Head of NPP CD Fire Brigade

Attachment 38
(mandatory)

Table of Virulent Poisonous Substances to be used at NPP conditions

No in order	Name of VPS, aggregate condition (gas, liquid)	Volume & number of Tanks (cub.m – N)	Threshold toxic dose, mg·min/l
1.	Ammonia (liquid)	70 – 1 25 – 1	15
2.	Nitric acid (liquid)	70 – 1 15 - 1	1,5
3.	Another VPS to be used (upon the data of last inventory)		

Head of NPP CD Radiation & Chemical Protection Service
Head of NPP Chemical Workshop