

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

**FEDERAL NORMS AND STANDARDS IN THE FIELD OF USE
OF ATOMIC ENERGY**

**Approved by
Order of Gosatomnadzor of Russia
No. 1 of 5 January 1998**

**PROVISIONS ON PROCEDURE FOR DECLARING AN
EMERGENCY, OPERATIVE COMMUNICATION OF
INFORMATION, AND PROMPT AID TO NUCLEAR POWER
PLANTS IN THE EVENT OF RADIATION HAZARD
NP - 005 - 98**

**Effective since
1 July 1998**

MOSCOW 1998

UDK: 621.039.58

Provisions On Procedure For Declaring An Emergency, Operative Communication Of Information, And Prompt Aid To Nuclear Power Plants In The Event Of Radiation Hazard. NP-005-98. Regulatory document. - M.: SEC NRS, 2000, p.

Provisions On Procedure For Declaring An Emergency, Operative Communication Of Information, And Prompt Aid To Nuclear Power Plants In The Event Of Radiation Hazard (hereinafter "Provisions") determines requirements for actions of the operating personnel and NPP administration in the event of a threat of emergency or in the event of emergency at NPP and procedure for declaring the states of "Alert" and "Emergency" at NPP.

The Provisions determine main tasks, authorities, duties and responsibilities of the NPP EAG as well as NPP personnel and NPP EAG members in radiation hazardous situations or accidents.

The Provisions' requirements cover the operating organizations and NPP and are mandatory for all ministries, agencies, enterprises and organizations constituting the NPP EAG.

The Provisions were developed taking account of changes in the Russian Federation state structure as well as the requirements of laws of the Russian Federation and substitute the Provisions On Procedure For Declaring An Emergency, Operative Communication Of Information, And Prompt Aid To Nuclear Power Plants In The Event Of Radiation Hazard of 1992.

The Provisions were approved by Minatom of Russia, MOE of Russia, MOD of Russia, MOC of Russia, Rosgidromet, Rosenergoatom Concern.

Table of Contents

TABLE OF CONTENTS	3
1. ABBREVIATIONS AND ACRONYMS	6
2. INTRODUCTION.....	10
3. GENERAL STRUCTURE OF SYSTEM FOR PREVENTION AND ELIMINATION OF EMERGENCIES AT NPPS	11
3.1. ORGANIZATIONAL STRUCTURE.....	11
3.2. EMERGENCY ACTIVITIES CONTROL.....	12
4. EMERGENCY ASSISTANCE GROUP IN CASE OF RADIATION SITUATIONS OR ACCIDENTS AT NPP	18
4.1. EAG PLACE WITHIN SYSTEM FOR PREVENTION AND ELIMINATION OF EMERGENCIES.....	18
4.2. EAG MAIN TASKS	20
4.3. RESPONSIBILITIES OF EAG MEMBERS	22
4.4. AUTHORITIES AND RIGHTS OF EAG MEMBERS.....	23
4.5. RESPONSIBILITIES OF EAG MEMBERS	25
4.6. EAG FINANCING	25
5. EAG TECHNIAL AND INFORMATION SUPPORT	26
5.1. CRISIS CENTER OF ROSENERGOATOM CONCERN (RCC)	26
5.1.1. <i>RCC Administration (RCCA)</i>	26
5.1.2. <i>RCC Engineering Section (RCCE)</i>	27
5.1.3. <i>Crisis Center modes of operation</i>	28
5.1.3.1. Daily routine operation.....	28
5.1.3.2. Alerted operation	29
5.1.3.3. Emergency operation.....	30
5.1.4. <i>All-Russia Research Institute for Nuclear Power Plant Operation (VNIIAES)</i>	32
5.2. TECHNICAL SUPPORT CENTERS OF THE CRISI CENTER AND EAG (VNIIAES, NIKIET, AEP, OKB GIDROPRESS, RRC KURCHATOV INSTITUTE, RSC IPPE, OKBM-NIZHNI NOVGOROD, IBRAE RAS, SPA TAIPHUN, VNIPIET).....	32
5.2.1. <i>Organizational structure of technical support centers</i>	32
5.2.1.1. TSC and RCC interaction.....	33
5.2.1.2. TSC Expert Group.....	33

5.2.2.	<i>TSC of chief designers of nuclear reactors (NIKIET, OKB Gidropress, OKBM) and Architect General (AEP, VNIPIET)</i>	35
5.2.3.	<i>TSC of RRC Kurchatov Institute and SRC IPPE</i>	36
5.2.4.	<i>TSC of IBRAE RAS</i>	36
5.2.5.	<i>TSC of SPA Taifun</i>	37
5.3.	EMERGENCY TECHNICAL CENTER (ETC).....	37
5.4.	EAG INTEGRATED COMMUNICATIONS SYSTEM.....	38
5.4.1.	<i>EAG notification procedure</i>	39
5.4.2.	<i>EAG communication provisions</i>	39
5.5.	EAG MEANS OF TRANSPORT.....	41
5.5.1.	<i>EAG means of transport (nomenclature)</i>	42
5.5.2.	<i>Use of EAG vehicles in normal operation of NPP and emergencies</i>	44
5.5.2.1.	Normal operation.....	44
5.5.2.2.	Emergency.....	44
6.	PROCEDURES FOR DECLARING STATE OF EMERGENCY AND PROMPT TRANSMISSION OF INFORMATION	44
6.1.	PROCEDURES FOR DECLARING “ALERT” AT NPP.....	44
6.2.	PROCEDURES FOR DECLARING “EMERGENCY” AT NPP.....	48
6.3.	NOTIFICATION PROCEDURE IN THE EVENT OF RADIATION HAZARDOUS SITUATIONS OR ACCIDENTS AT NPP.....	50
6.4.	PROCEDURES FOR PROMPT TRANSMISSION OF INFORMATION IN CASE OF RADIATION HAZARDOUS SITUATIONS OR ACCIDENTS AT NPP.....	51
7.	PROCEDURE OF RENDERING PROMPT ASSISTANCE TO NUCLEAR POWER PLANTS BY EAG IN THE EVENT OF RADIATION HAZARDOUS SITUATIONS OR ACCIDENTS AT THESE NPPS	58
7.1.	PROCEDURE OF NOTIFICATION, GATHERING AND DELIVERY OF EAG MEMBERS TO AFFECTED NPP.....	58
7.2.	EAG WORK PROCEDURE TO DEFINE NECESSITY AND SCOPE OF ASSISTANCE TO THE AFFECTED NPP.....	61
7.2.1.	<i>Before setting out to the affected NPP</i>	61
7.2.2.	<i>Upon arrival to the affected NPP</i>	62
7.3.	ACTIONS OF EAG MEMBERS WHEN THE STATE OF EMERGENCY IS DECLARED AT NPP.....	63
7.3.1.	<i>EAG Head actions</i>	63

7.3.2.	Actions of EAG members.....	64
7.3.2.1.	Actions of representatives of Minatom of Russia and its structural units.....	64
7.3.2.2.	Actions of representatives of Gosatomnadzor of Russia.....	68
7.3.2.3.	Actions of Rosgidromet representatives.....	69
7.3.2.4.	Actions of IBRAE RAS representatives.....	69
7.3.2.5.	Actions of MOE of Russia representatives.....	70
7.3.2.6.	Actions of MOD of Russia representatives.....	71
7.3.2.7.	Actions of MOI of Russia representatives.....	73
7.3.2.8.	Actions of MPH of Russia representatives.....	76
8.	EAG EQUIPMENT, DOCUMENTATION AND REPORTING.....	79
8.1.	EAG EQUIPMENT.....	79
8.1.1.	<i>List of EAG equipment stored in RCC.....</i>	79
8.1.2.	<i>Maintaining EAG equipment constantly available for use in emergencies.....</i>	79
8.1.3.	<i>List of EAG Civil Defense equipment stored in a special room outside the territory of NPP.....</i>	79
8.2.	EAG DOCUMENTATION.....	80
8.2.1.	EAG RDs.....	80
8.2.2.	EAG operative documentation.....	80
8.2.3.	EAG members' special passes to access NPPs.....	80
8.2.4.	EAG reporting.....	80
9.	LIST OF DOCUMENTS USED FOR DEVELOPMENT OF THESE PROVISIONS	81
	ATTACHMENTS	83

1. ABBREVIATIONS AND ACRONYMS

ACMC “Zashita”	- All-Russia Catastrophe Medicine Center “Zashita” subordinate to Minzdrav of Russia
ACMS	- All-Russia Catastrophe Medicine Service subordinate to Minzdrav of Russia
ARMS	- Automatic Radiation Monitoring System
BN	- fast neutron reactor
CA	- Controlled Area
CAA	- Controlled Access Area
CDD of RAO EES of Russia	- Central Dispatcher Directorate of the Russian Joint-Stock Association – United Energy System of Russia
CDEHQ	- Civil Defense and Emergency Headquarters
COE	- Commission On Emergencies (regional)
CSF	- Critical Safety Functions
EA SEROC	- Shielded Emergency Response Operations Center in the NPP Evacuation Area
EAG	- Emergency Assistance Group
ECC of Minatom of Russia	- Emergency Control Center of Minatom of Russia
ECC of MOE of Russia	- Emergency Control Center of MOE of Russia
EGP	- graphite loop-type power reactor
EOL	- Emergency Operations Leader
ETC	- Emergency and Technical Center
FA	- Fuel Assembly
FD Medbioextrem of MPH of Russia	Federal Directorate for Medical, Biological and Extreme Problems of MPH of Russia
FIAC	- Federal Information and Analytical Center
FR	- Fuel Rod
FSEPE	- Functional Subsystem for Emergency Prevention and Elimination
FSPEE	- Facility System for Prevention and Elimination of Emergencies (including NPPs)
FSS of Russia	- Federal Security Service of the Russian Federation (FSB)
GAI	- State Road Police Service

Gosatomnadzor of Russia	- Federal Nuclear and Radiation Safety Authority of Russia
Gosgortekhnadzor of Russia	- Federal Mining and Industrial Safety Authority of Russia
HQ MOI of Russia	- MOI of Russia Headquarters
IAEA	- International Atomic Energy Agency
ICE of Minatom of Russia	- Internal industry Commission on Emergencies of Minatom of Russia
IDC	- Interagency Commission on Prevention and Elimination of Emergencies of MOE of Russia
ISPE of Minatom of Russia	- Internal industry System for Prevention and Elimination of emergencies at Minatom of Russia facilities
IT MOI of Russia	- Internal Troops of the Ministry of Interior of the Russian Federation
LCC	- Local Crisis Center
LNS	-Local Notification System of Nuclear power Plant
LS	- Loudspeaker system
MCC RC&TV	- Main Control Center for Regional Communications and Television
MCS	- Mobile Communications Station
MD	- Main Directorate
MD COC IT of MOI of Russia	- Main Directorate of the Internal Troops Commander-in-Chief of MOI of Russia
MD PF of MOI of Russia	- Main Directorate for Police Force of MOI of Russia
MD SFPS of MOI of Russia	-Main Directorate of the State Fire Protection Service of MOI of Russia
MDI of MOI of Russia	- Main Directorate of Interior of MOI of Russia
MFE of Russia	- the Ministry of Fuel and Power Generation of the Russian Federation
Minatom of Russia	- the Ministry of the Russian Federation of Atomic Energy
MOC of Russia	- Ministry of Communications of the Russian Federation
MOD of Russia	- the Ministry of Defense of the Russian Federation

MOE of Russia	- the Ministry of the Russian Federation for Civil Defense, Emergencies and Elimination of Consequences of Natural Disasters
MOI of Russia	- the Ministry of Interior of the Russian Federation (MVD)
MS	- Medical Station of NPP
NPP	- Nuclear Power Plant
NPP EAG	- Emergency Assistance Group for NPPs
NPP SEROC	- NPP Shielded Emergency Response Operations Center
NPPCOE	- Commission On Emergencies of NPP
OE	- Operational Event, violation in NPP operation
OKBM	- Experimental Design Bureau of Machine Engineering, Nizhni Novgorod
OPD of MOI HQ	- Organization and Preparedness Directorate of MOI of Russia Headquarters
OT	- Operations Team
PPE	- Personal Protective Equipment
PSS	- Plant Shift Supervisor
RBMK	- uranium-graphite channel-type reactor
RCC	- Crisis Center of Rosenergoatom Concern
RCCA	- Rosenergoatom Concern's Crisis Center Administration
RCCE	- Engineering Section of Rosenergoatom Concern's Crisis Center
RCOE	- Commission On Emergencies of Rosenergoatom Concern
RD	- Regulatory Documentation
RI	- Reactor Installation
Rosenergoatom Concern	- State Enterprise – Russia's State Concern for Generation of Electricity and Heat at Nuclear Power Plants
Rosgidromet	- Federal Service of Russia for Hydrometeorology and Environmental Monitoring
RSPE	- Russian federal System for Prevention and Elimination of emergencies
SC SEROC	- Shielded Emergency Response Operations

	Center in the NPP satellite-city
SEC NRS of Gosatomnadzor of Russia	- Scientific and Engineering Center for Nuclear and Radiation Safety of Gosatomnadzor of Russia
SEROC	- Shielded Emergency Response Operations Center
SFPS	- State Fire Protection Service
SOC RChBP of MOD of Russia	- Staff of Command of Radiation, Chemical and Biological Protection Troops of the Ministry of the Russian Federation for Defense Commander of MOD of Russia
SOCE of MOD of Russia	- Staff of Command of Engineering Troops Commander of MOD of Russia
SPEE	- System for Prevention and Elimination of Emergencies of Rosenergoatom Concern
STEC Atomtekhenergo	- Scientific, Technical and Engineering Center for NPP Operation and Industrial Engineering Improvement
SUA	- State Unitary Airline
SZ NPP	- Surveillance Zone of NPP
TSC	- Technical Support Center for nuclear power plants
VNIIAES	- All-Russia Research Institute for Nuclear Power Plant Operation
VVER	- power reactor with pressurized water coolant and moderator (water-water power reactor)
WMO	- World Meteorological Organization

2. INTRODUCTION

2.1. The Provisions On Procedure For Declaring An Emergency, Operative Communication Of Information, And Prompt Aid To Nuclear Power Plants In The Event Of Radiation Hazard (hereinafter “the Provisions”) have been developed to ensure preparedness of operating organizations – Rosenergoatom Concern and Leningrad NPP – to provide a prompt aid to NPPs in case of radiation accidents or radiation emergencies.

2.2. These Provisions provide for the interagency interaction in the event of radiation hazardous situation at NPPs, regulate roles and functions of the Interagency NPP Emergency Assistance Group and structures, which provide the group with organizational and scientific and technical support.

2.3. These Provisions determine priority actions of the NPP operating personnel and administration in the event of a threat of or accident at NPP, the procedure for declaring the states of “Alert” and “Emergency”, and for operative transmission of NPP accident information to ministries, agencies, organizations, federal and local authorities in accordance with the established procedure.

These Provisions determine the main objectives, authorities, duties and responsibilities of EAG members in the event of radiation emergencies at these plants including the procedures for the group staffing, notification, gathering and delivery to NPPs of the Russian Federation.

2.4. These Provisions describe actions of NPP personnel and EAG members under conditions of radiation emergencies or accidents.

2.5. These Provisions establish conditions for rendering emergency assistance with CA and in the NPP satellite-city as regards protection of the personnel and their families and as to the successful implementation of the Action Plan for Personnel Protection in Case of an Accident at Nuclear Power Plant.

2.6. These Provisions do not cover organizational measures to aid the population in case of a radioactive substance releases beyond CA boundaries. These issues are within the jurisdiction of

the local authorities. The execution of this work is subject to other regulatory documents.

2.7. Requirements of these Provisions cover all NPPs of Minatom of Russia and are mandatory for all ministries, agencies, enterprises and organizations represented in EAG.

2.8. Requirements of these Provisions also cover non-radiation accidents induced by fires, releases of high noxious substances, floods, earthquakes, hurricanes, industrial incidents and other operational events at facilities as well as criminal attempts to commit illegal acts, which may result in a radiation accident.

2.9. These Provisions have been developed taking account of changes in the state organizational structure of the Russian Federation as well as requirements of laws and documents given in Chapter 9 of these Provisions.

3. GENERAL STRUCTURE OF SYSTEM FOR PREVENTION AND ELIMINATION OF EMERGENCIES AT NPPs

3.1. *Organizational structure*

The activities to prevent and eliminate radiation and non-radiation emergencies at NPPs shall be arranged for and implemented by operating organizations.

At the plant level the Plant Director shall be the official responsible for safe operation and meeting the standards and regulations in the field of use of atomic energy at NPP. The Plant Director shall be responsible for execution of work to prevent and eliminate emergency within CA and implementation of other measures in accordance with emergency procedures and Action Plan for Personnel Protection in Case of an Accident at Nuclear Power Plant.

The head of local administration shall be responsible for protection of the population as per the Action Plan for Population Protection in Case of an Accident at Nuclear Power Plant.

The MOE of Russia shall control the degree of preparedness of controlling bodies, force and capabilities of

regional and functional structural units to prevent and eliminate emergencies.

The emergency prevention and elimination activities include preparedness to respond to emergencies (control, safety, emergency planning) and emergency response. The emergency prevention and elimination system is given in Fig. 1. Rosenergoatom Concern's activities regarding prevention and elimination of emergencies within the Concern's System for Prevention and Elimination of Emergencies (SPEE) is given in Fig. 2.

SPEE provides for the Concern's activities to prevent and eliminate emergencies during NPP operation. It incorporates systems for prevention and elimination of emergencies of facilities (FSPEE) subordinate to the Concern: NPPs and a number of organizations and enterprises. SPEE is a section of the functional subsystem for prevention and elimination of emergencies at nuclear power facilities (ISPE) of Minatom of Russia. In turn ISPE is incorporated in the United State System for Prevention and Elimination of Emergencies (RSPE) as a functional subsystem (Fig. 1). RSPE sets the frames for interaction between ISPE with RSPE regional and functional subsystems. All systems operate on the basis of the corresponding provisions. Therefore, in the event of an emergency at NPP the operative response scheme is triggered to involve all national emergency force and capabilities, as necessary.

3.2. *Emergency activities control*

The emergency actions control includes:

- assessment of the situation;
- decision-making;
- engineering support and supplies;
- communication of information;
- arrangements for emergency response.

The assessment of situation shall done by:

at the facility level:

- EOL – Emergency Operations Leader at NPP;
- NPP COE – Commission on Emergencies at NPP;

at the federal level:

- Technical support centers of the Crisis Center and EAG (expert groups);
- Expert group of FD Medbioextrem of MPH of Russia;
- EAG Management in case of radiation situations or accidents at NPP.

Decision-making shall be done by:

на обЪектовом уровне:

- EOL – the leader of emergency operations at NPP (NPP Director or his/her designee) responsible for implementation of the Action Plan for Personnel Protection in Case of an Accident at Nuclear Power Plant;
- NPP COE – Commission on Emergencies at NPP, which, along with EOL, is responsible for implementation of the Action Plan for Personnel Protection in Case of an Accident at Nuclear Power Plant;
- CDEHQ – Civil Defense and Emergency Headquarters at NPP, which is the daily controlling body and which organizes operations to protect and evacuate personnel in case of an emergency;
- COE – regional commissions on emergencies, which direct the work of regional groups and RSPE subsystems;

at the level of operating organization:

- RCOE – Commission on Emergencies of Rosenergoatom Concern, which directs emergency actions of the Concern's units and services;
- RCC – Crisis Center of Rosenergoatom Concern, which provides for organization of the emergency assistance to NPP;

at the federal level:

- ICE of Minatom of Russia – the Internal Industry Commission on Emergencies of Minatom of Russia, which

directs activities of ISPE, participates in federal programs and ensures availability and emergency assistance to NPP from the industry's institutions;

- EAG – Emergency Assistance Group to NPPs in case of radiation situations or accidents; it coordinates emergency actions at the interagency level;
- IDC – Interagency Commission on Prevention and Elimination of Emergencies; it coordinates emergency actions of the federal executive bodies;
- Gosatomnadzor of Russia – Federal Nuclear and Radiation Safety Authority of Russia; it oversees nuclear power plant safety;
- FD Medbioextrem – Federal Directorate for Medical, Biological and Extreme Problems of MPH of Russia; at federal level it oversees radiation safety of the personnel and those who participates in elimination of accident consequences and monitors environmental contamination.

The engineering support and supplies shall be done by:

at the facility level:

- LCC – local crisis center or expert group at NPP, which interacts with RCC;

at the federal level:

- ECC of Minatom of Russia – Emergency Control Center, which interacts with RCC, technical support centers (TSC) of lead industry's institutes, design organizations (VNIIAES, OKB Hidropress, NIKIET, etc.);
- ECC of MOE of Russia – Emergency Control Center, which interacts with ECC of Minatom of Russia, SEC NRS of Gosatomnadzoe of Russia and scientific centers of RAS as regards issues of protection of population and territories (IBRAE RAS, RRC Kurchatov Institute) and FIAC of Rosgidromet.

Communication of information to population on radiation situations or accidents at NPP shall be done in

accordance with article 6 of the federal law “On Protection of Population and Territories from Natural and Man-Induced Emergencies”.

The organization of emergency response shall be done by:

at the facility level:

- EOL – Emergency Operations Leader at NPP;
- NPP COE – Commission on Emergencies at NPP;
- CDEHQ – Civil Defense and Emergencies Headquarters;
- COE – regional commissions on emergencies;

at the federal level:

- EAG – Emergency Assistance Group in case of radiation situations or accidents at NPPs;
- ECC of Minatom of Russia in interaction with RCC, TSC of lead industry’s institutes, design organizations (VNIIAES, OKB Hidropress, NIKIET, etc.);
- ECC of MOE of Russia – Emergency Control Center, which interacts with ECC of Minatom of Russia, SEC NRS of Gosatomnadzor of Russia and scientific centers of RAS as regards issues of protection of population and territories (IBRAE RAS, RRC Kurchatov Institute) and FIAC of Rosgidromet.

SYSTEM FOR PREVENTION AND ELIMINATION OF EMERGENCIES



Fig. 1

**ROSENERGOATOM CONCERN'S ACTIVITIES REGARDING PREVENTION AND
ELIMINATION OF EMERGENCIES**

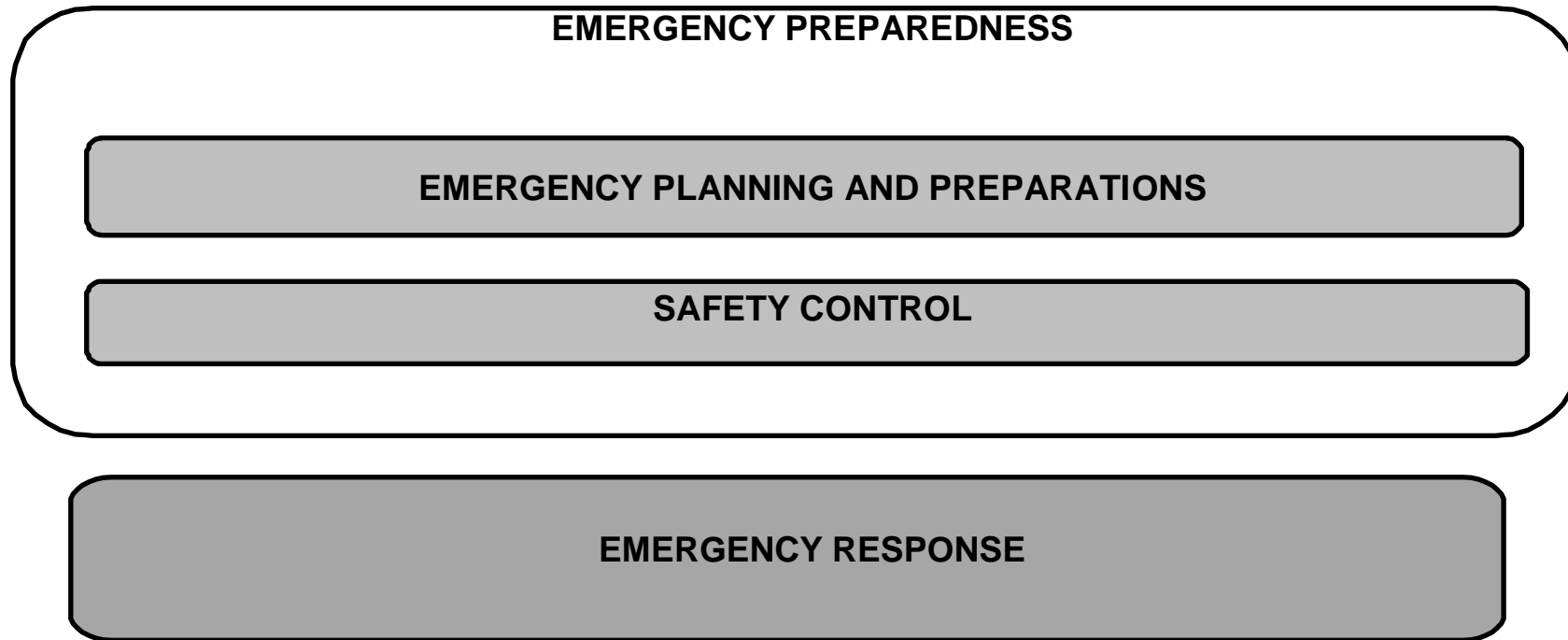


Fig. 2

4. EMERGENCY ASSISTANCE GROUP IN CASE OF RADIATION SITUATIONS OR ACCIDENTS AT NPP

4.1. EAG place within System for Prevention and Elimination of Emergencies

4.1.1. In the event of radiation situations or accidents at NPPs the emergency assistance shall be provided by EAG, which in turn is the interagency body coordinating actions of force and capabilities it involves to localize and eliminate accidents.

4.1.2. ICE of Minatom of Russia shall exercise the overall management of EAG activities.

4.1.3. EAG shall be set up by Minatom of Russia and operate under Rosenergoatom Concern.

4.1.4. EAG head shall be designated by the order of the Minister of the Russian Federation of Atomic Energy as submitted by ICE and Rosenergoatom Concern's Administration.

4.1.5. When IDC is involved to investigate into causes of the accident and elimination of its consequences, EAG shall interact with it.

4.1.6. The responsibility for maintaining EAG continuously prepared for fulfillment of designated tasks shall rest with Rosenergoatom Concern.

4.1.7. EAG members shall be designated by orders issued by officials of the relevant ministries, agencies and organizations. They shall have the right to enjoy exempts and compensations in accordance with the applicable legislation.

4.1.8. The procedure of rendering emergency assistance to NPPs located beyond the state borders of the Russian Federation is determined by stand-alone international agreements.

4.1.9. EAG shall include (with the membership rights) representatives of: the Ministry of the Russian Federation for Civil Defense, Emergencies and Elimination of Consequences of Natural Disasters, the Ministry of the Russian Federation of

Atomic Energy, the State Enterprise – Russia’s State Concern for Generation of Electricity and Heat at Nuclear Power Plants, the Ministry of Public Health of the Russian Federation, the Ministry of Interior of the Russian Federation, the Federal Nuclear and Radiation Safety Authority of Russia, the Federal Service of Russia for Hydrometeorology and Environmental Monitoring, the Commander of Engineering Troops Commander of the Ministry of Defense of the Russian Federation, the Commander of Radiation, Chemical and Biological Protection Troops of the Ministry of Defense of the Russian Federation, as well as All-Russia Research Institute for Nuclear Power Plant Operation, the Research and Development Institute of Power Engineering, the State Research, Design and Surveying Institute Atomenergoproekt, the Experimental Design Bureau Hidropress, the Russian Research Center Kurchatov Institute, the State Research Center of the Russian Federation Institute for Physics and Power Engineering, the Experimental Design Bureau for Machine Engineering, the Scientific and Production Association Taiphun, the Nuclear safety Institute of the Russian Academy of Sciences, the State Scientific Center of the Russian Federation Institute of Biophysics of MPH of Russia.

4.1.10. EAG members may involve in accident assessment and forecasting the experts from relevant ministries, agencies and organizations who receive the necessary information about the situation at the level of EAG members.

4.1.11. EAG members’ personal information shall be verified and updated by Rosenergoatom Concern with the relevant ministries, agencies and organizations twice a year. In the event of an EAG member leaves the group (dismissal, transfer to another duty, etc.) the ministry, agency or organization shall notify Rosenergoatom Concern on such changes and designation of a new representative.

4.1.12. All EAG members shall have an alternate.

4.1.13. EAG gathering point shall be RCC premises (Moscow, Kitaigorodski Proyezd, 7; 4 floor, rooms 499, 501).

4.1.14. To ensure continuous EAG preparedness to fulfill the designated tasks Rosenergoatom Concern shall organize and

carry out checks of the notification system by sending the “Check Call” signal (once a quarter of the year); training and methodology events by sending the “Training Call” signal (once a year) or class-room staff exercise at one of the NPPs with involvement of command officers from detachments designated for elimination of accident consequences by sending the “Exercise” signal. If possible, the said events and classroom exercises may overlap with drills at NPPs.

In the event of a radiation situation or accident at NPP the system shall transmit “NPP Radiation Situation” or “NPP Radiation Accident” signals.

4.1.15. The EAG equipment shall be kept in special rooms at RCC (Moscow, Kitaigorodski Proyezd, 7).

EAG items, technical means and vehicles shall not be used for purposes irrelevant to its functions.

4.1.16. EAG operations area shall be NPP territory, CA and NPP satellite-city as regards protection of NPP personnel and their families.

4.1.17. The decisions made by EAG shall be mandatory when made jointly with EOL. In other cases they shall be of recommending and advisory nature.

4.1.18. EAG terminates its operations at the directive of EAG head.

4.2. EAG main tasks

The main tasks of EAG shall be:

4.2.1. Analysis and assessment of measures taken by NPP management to prevent the accident expansion.

4.2.2. Control over EOL and NPP personnel’s emergency operations.

4.2.3. Generation and making decisions on ways and techniques to minimize, localize and eliminate accident consequences at NPP.

4.2.4. Preparing proposals on necessity to involve in elimination of accident consequences special detachments of MOI of Russia, MOD of Russia, MOE of Russia, medical units and other force, as well as determining their composition and equipment.

4.2.5. Preparing recommendations for prompt protection measures regarding NPP personnel and population of the NPP satellite-city; for assessment and forecasting of radiation contamination of the environment.

4.2.6. Advising EOL and NPP personnel on nuclear, fire safety, engineering protection, medical aid and care, radiation and chemical protection and design features of the nuclear power units.

4.2.7. Preparing for superior organizations the statements on the accident progress at NPP and on the necessity to take measures at the state (national) level.

4.2.8. Collection and analysis of information on the work progress and force and capabilities involved in localizing the accident and eliminating its consequences.

4.2.9. Organization of work to involve additional force and capabilities to protect the personnel in excess of those set forth by the Plan.

4.2.10. Organization of work to involve manpower, materiel, technical resources and means of transport to carry out decontamination and repair and rehabilitation of NPP.

4.2.11. Organization of interaction between the special NPP force, non-military CD units, military CD formations, military engineers, Radiation, Chemical and Biological Protection Troops of MOD of Russia, medical aid units of FD Medbioextrem of MPH of Russia, ACMS, ACMC Zashita, SFPC and MOI of Russia units involved in operations within NPP CA.

4.2.12. Assistance to NPP in deployment within CA of sanitary treatment posts and clothes and vehicles decontamination posts for personnel and machinery participating in the accident consequences elimination.

4.2.13. Organization of guarding the affected NPP, peacekeeping and security, evacuation of population from the dangerous area, security enforcement measures to prevent access of persons, vehicles, etc. to the contaminated area.

4.2.14. Prompt notification of population through mass media on the progress of work to localize and eliminate the accident at NPP and on the application of radiation impact protection measures.

4.2.15. Generation of proposals to revise and update the Action Plan for Protection of Personnel in Case of Accident at Nuclear Power Plant.

4.2.16. Advising of the operating organization on termination of the emergency.

4.2.17. Preparing force and capabilities for actions in the event of an emergency at NPP and institutional control over implementation of measures to prevent emergencies.

4.3. Responsibilities of EAG members

During the period of operation the EAG members shall be subordinate to the group head. They shall:

4.3.1. Come to the group gathering point at the signal by Rosenergoatom Concern's dispatcher and participate in EAG work.

4.3.2. Fulfill main tasks of EAG.

4.3.3. Take part in training events and classroom staff exercises.

4.3.4. Follow safety rules and internal regulations in the accident area.

4.3.5. Fulfill directives and errands of EAG head in the area of responsibility.

4.3.6. Master professional skills on the basis of domestic and foreign experience.

4.3.7. Spare EAG designated equipment and materiel and use them as prescribed.

4.3.8. Maintain continuous communications with the relevant ministry (agency), inform superiors on the situation, measures taken; come up with proposals on involvement of allocated and extra force and capabilities for elimination of consequences at NPP.

4.3.9. Take active part in generation of proposals on improvement of EAG structure, training and functioning.

4.3.10. Examine degree of preparedness of force and capabilities of the relevant ministry (agency) designated for emergency actions at the affected NPP and direct their actions in the event of an accident at NPP.

4.3.11. Inform the Rosenergoatom Concern's Dispatcher-on-Duty on changing the residence, home or office telephone numbers, as well as in the event of a vacation, business travel, illness (telephone: 220-60-01, 220-40-90).

4.4. *Authorities and rights of EAG members*

4.4.1. The EAG members shall be given the authorities and rights below to enable the group to meet the designated objectives and the group members to fulfill their tasks:

- participation in discussion and making decisions on all EAG activity issues;
- bringing up any issue relevant for solving the main EAG tasks;
- submit in writing a "minority report" in case of disagreement with the EAG group decision;
- have special access pass to get into the affected facility and move within the affected facility area along the designated routes while following safety regulations. The special access pass shall be issued for the period of work in EAG;
- receive from Rosenergoatom Concern, NPP and involved organizations the information of the radiation situation in the area of the affected facility and on-site; on causes of the accident; nature and scale of equipment damages; NPP operational modes before the accident; measures taken by NPP management as to prevention of accident expansion, minimization, localization and elimination of its

consequences before EAG arrival on-site; on progress in implementation of measures to eliminate the accident consequences and protect the operating personnel, workers and administrative staff of the enterprises (including the personnel of military and fire fighting detachments) who support the nuclear power plant; on reserved materiel, technical means and manpower available to NPP, region and involved organizations; on activities of the involved organizations and emergency operations progress;

- use all means of transport allocated for fulfillment of set tasks and performance of designated functions;
- use all means of communications available to as RCC as the affected NPP; establish telephone and radio communication with organizations involved in the accident localization and elimination operations for the purpose of coordination of joint actions;
- use all available to Rosenergoatom Concern operative documentation, maps, diagrams, situation charts, video information, databanks on each NPP as well as the databanks available to other organizations concerned; if necessary, have access to classified information in accordance with established procedure;
- use, when necessary, EAG “emergency kits”, PPE, preparations, replacement clothes, etc;
- have free of charge life insurance during work in EAG;
- have the right to get exemptions, privileges, social security and aid as stipulated in the legislation for other involved in elimination of the accident at NPP.

4.4.2. In addition to the authorities and rights in para 4.4.1 of these Provisions, the EAG Head shall have the authority to:

- ask ICE of Minatom of Russia or MOE of Russia about allocating additional materiel and technical resources and manpower necessary to localize and eliminate the accident;
- within the frames of decisions made on localization and elimination of the accident, coordinate activities of organizations (units) of Minatom of Russia and other participating ministries and agencies under command;

- submit to ICE of Minatom's of Russia consideration a work organization program for localization of the accident and elimination of its consequences.

4.5. Responsibilities of EAG members

In accordance with the Russian Federation legislation, the EAG Head shall be made personally responsible for sufficiency and effectiveness of made decisions, given recommendations and advice, objectiveness of information submitted to superior agencies, safety of the EAG members, fulfillment of designated duties and exercising the authorities outlined in these Provisions.

The EAG members shall bear the responsibility for fulfillment of the designated duties and exercising the authorities outlined in these Provisions.

4.6. EAG financing

4.6.1. EAG shall be financed by Rosenergoatom Concern, NPP and MOE of Russia as follows:

4.6.1.1. Rosenergoatom Concern, at the expense of the operating organization targeted to maintaining reliable and safe operation of NPP, shall provide for the EAG activities as below:

- if necessary, free of charge life insurance for the experts during the period of their work in EAG;
- renting of communications channels and systems required for EAG and RCC operations;
- furnishing EAG with required means of communication; personal protective and dosimetry equipment; means, documents, office equipment, vehicles and maintaining them continuously available for use in the event of an emergency;
- maintaining RCC including its further development and upgrade of software and hardware; compilation, maintenance and updating of databases of the RCC local computer network;
- TSC services as regards emergency preparedness and response activities;

- organization and conduct of emergency exercises of EAG jointly with NPP (partially).

4.6.2. NPPs shall provide, at their own expense:

- purchasing and maintaining of the facility civil defense equipment, which is to be given to EAG in the event of an emergency as per the list (Appendix 6);
- compiling of regulatory and design documentation (registered copies) as per the list (Appendix 7) in two copies. The second copy shall be forwarded to RCC;
- arranging for communication between RCC, NPP and TSC in the event of an emergency;
- organization and conduct of emergency drills of EAG jointly with NPP (partially).

4.6.3. The financing of expenses related to EAG activities in the period of elimination of accidents and their consequences shall be carried out in accordance with the Russian Federation Governmental Decree № 1113 of November 5, 1995 “On the Unified State System for Prevention and Elimination of Emergencies (RSPE)”.

5. EAG TECHNIAL AND INFORMATION SUPPORT

5.1. Crisis Center of Rosenergoatom Concern (RCC)

RCC consists of:

- RCC Administration (RCCA);
- RCC Engineering Section (RCCE).

5.1.1. R C C Administration (R C C A)

The main task of RCCA is to organize emergency activities and response at the level of Rosenergoatom Concern to include:

- *future planning of emergency activities;*
- *preparations for emergency actions;*
- *organization and conduct of emergency drills;*

- *improvement of methodological and software and hardware support of emergency activities;*
- *decision-making on triggering the scheme of notifying and gathering of EAG members and expert group;*
- *decision-making on providing prompt assistance to the affected NPP (on involvement of additional force and capabilities of the Concern and industry; rendering materiel and technical assistance to NPP as regards implementation of the Action Plan for Protection of Personnel in the Event of an Accident at NPP ; development and implementation of measures to localize and eliminate accident; on pressing issues related to elimination of the accident consequence and the like);*
- *emergency actions;*
- *emergency dispatcher activities;*
- *interaction with superior institutions for the purposes of coordination and cooperation of the use of force and capabilities of the ministries and agencies incorporated in EAG;*
- *interaction with the public and mass media.*

VNIIAES shall provide for the technical support of RCCA.

5.1.2. RCC Engineering Section (RCCE)

The main task of RCCE is the operative generation of technical solutions to include:

- *monitoring of the current status of safety of the nuclear power units in operation;*
- *maintaining of software and hardware;*
- *support of emergency drills;*
- *assessment and forecasting of the pre-accident situation development and generation of recommendations on the accident prevention;*

- *assessment and forecasting of the power unit and environment conditions in case of an accident and identifying a scale of the accident;*
- *submission to RCCA recommendations on the personnel radiation protection;*
- *identifying additional, to the routine, force and capabilities for localization and elimination of the radiation release source at the power unit; restoring the safe state of the power unit;*
- *information and analytical support of the expert group, RCCA, NPP, TSC in the event of an emergency;*

The deployment of RCC areas and support of operations of the corresponding groups in these areas is determined by the RCC Statute.

5.1.3. Crisis Center modes of operation

Depending on the situation at NPP power units RCC shall operate in the following modes:

- daily routine operation;
- alerted operation;
- emergency operation.

5.1.3.1. Daily routine operation

In its daily routine RCC shall provide for the information support of Rosenergoatom Concerns by using the information supplied on-line from the power units and the information contained in its databases, as well as carry out upgrades and improvements of its technical, software and methodological capabilities.

RCC shall provide for:

- monitoring of the current safety status of the power units;
- improvement of SPEE units' preparedness, preparing for and conduct of emergency drills;

- inspection of conditions of the protection equipment of the personnel and their families;
- participation in generating and implementation control of the federal and industry's programs related to prevention and elimination of emergencies at NPPs;
- coordination of development of emergency systems and capabilities;
- maintaining in working order the technical means designed for continuous operation in the daily routine operational mode;
- conduct of routine inspections and tests, repair and replacement of technical means, which are not used in the daily routine operations;
- maintaining available the means of transport for delivery of EAG members and technical experts to the affected NPP region; availability for the use of the equipment and materiel of EAG;
- conduct of tests, acceptance for operation of newly introduced RCC elements and subsystems;
- training and periodic examination of RCC personnel knowledge.

5.1.3.2. Alerted operation

The alerted operation mode is a “transient” from the daily routine operation to the emergency operation and shall be introduced by the Dispatcher-on-Duty upon the EAG Head directive in the event of:

- declaring “Alert” at NPP;
- receipt of information on degrading of the radiation situation on the NPP site, in CA and NPP satellite-city from the automated radiation monitoring system or on degrading of the critical safety functions as confirmed by the Plant Shift Supervisor, along with the causes of degrading.

In the alerted mode RCC shall inform in the centralized way the industry's structural units, organizes gathering of the RCC personnel and adjustment of the RCCE technical means for a wide-range monitoring of conditions of the endangered power unit, and check on the communications system availability. After the said actions have been performed RCC shall start rendering organizational and technical assistance to NPP to prevent the emergency.

5.1.3.3. *Emergency operation*

In the emergency mode RCCE shall direct the emergency response, provide for its organizational and technical support to include:

- actuation of the notification system;
- gathering of EAG and expert group (EG), monitors arrival and recording EAG and EG members;
- monitoring of the current safety status of the power units in operation;
- provisions for the information on the emergency and measures taken and being taken at NPP;
- preparing all necessary information (on-line, archived, etc.) available to RCC;
- actuating and deploying RCC areas, which represent pre-set working places with necessary means of communications and software and hardware;
- control and assistance in implementing the Action Plan to Protect the Personnel in the Event of Emergency at NPP;
- making decisions on way of rendering the emergency assistance;
- coordination of activities to engage necessary force and capabilities of the affected NPP;
- delivery of EAG members and necessary experts to the affected NPP; delivery and deployment at the affected NPP of the force and capabilities under command; control over

rendering the materiel and technical assistance to the affected NPP;

- interaction with organizations, ministries and agencies comprising EAG;
- preparation for the decision-making of preliminary information on the power unit and its major systems conditions, on scale of damages, radiation situation at the power unit and in the environment;
- jointly with TSC, receipt and analysis of results of emergency monitoring;
- jointly with TSC, assessment and forecasting of the situation basing on the processed data;
- timely preparation of technical proposals on the following issues:
 - ⇒ assessment and forecasting of the accident scale (power unit conditions and environmental contamination),
 - ⇒ evaluation of progress in implementation of the Action Plan for Protection of Personnel in the Event of Accident at Nuclear Power Plant,
 - ⇒ recommendations on the personnel protection,
 - ⇒ use at NPP the force and capabilities extra to the routine ones,
 - ⇒ localization and elimination of the radiation release source,
 - ⇒ restoring the safe conditions of the power unit;
- submission of information on the emergency occurred; on the measures taken and being taken at NPP;
- preparation of press-releases.

5.1.4. All-Russia Research Institute for Nuclear Power Plant Operation (VNIIAES)

The overall task of VNIIAES, as an institution incorporated into Rosenergoatom Concern and in accordance with the Institute Statute, shall be ensurance of the centralized technical support of NPP operation.

The main task of VNIIAES as regards the technical support of NPPs during emergencies shall be the continuous maintaining available and upgrading of the methodological software and hardware capabilities of RCC and LCC as well as training of researchers and engineers.

Maintaining RCCE continuously available shall be ensured through monitoring of the NPP main parameters and information exchange with TSC and LCC and joint exercises of EG members with TSC and LCC.

The training of researchers and engineers shall be pursued through expansion of the database and base of knowledge, accumulating experience, development of new means on the basis of state-of-the-art technologies and application of international experience.

5.2. *Technical Support Centers of the Crisi Center and EAG (VNIIAES, NIKIET, AEP, OKB Hidropress, RRC Kurchatov Institute, RSC IPPE, OKBM-Nizhni Novgorod, IBRAE RAS, SPA Taiphun, VNIPIET)*

5.2.1. Organizational structure of technical support centers

TSC shall organize standing units and EG, which shall convene in the event of emergency at a power unit.

The continuously operating TSC units shall include a round-the-clock duty group, which receives and does preliminary analysis of the information received from ES RCC via computer networks.

The TSC EG generates assessments, forecasts and recommendations in accordance with tasks TSC is charged with in the course of the emergency response. The leading enterprise experts shall be included into EG.

5.2.1.1. TSC and RCC interaction

TSC are created for engineering support of RCC and affected NPP as regards to analysis and forecasting of sequence and scale of an accident, development of recommendations on accident management and its consequence elimination operations.

TSC shall be engaged either by a request from the EAG head (or the designee) or by a directive from the Chairman of the Industry Emergency Commission dispatched by the dispatcher-on-duty of Rosenergoatom Concern or by RCC duty officer.

RCC shall interact with TSC through the TSC representatives in ES RCC's EG via RCC communications system that uses the computer network, telephone, facsimile and audio-conferencing capabilities.

All recommendations developed by TSC upon RCC request shall be transmitted to RCC only. TSC shall inform RCC on all requests it receives that by-passing RCC, and on relevant responses.

5.2.1.2. TSC Expert Group

Emergences at NPPs represent a threat of or an actual accident resulting in radiation impacts. Prevention and elimination of radiation hazardous situations and accidents are the integrated tasks of a number of the industry's and inter-agency organizations. The operative interaction of the response forces and capabilities is the task of EAG, while NPP and RCC ensure that these forces and capabilities are available at all times. TSC EG shall deal with improvement of protection of personnel, population and territories in the event of an emergency as regards radiation safety issues.

TSC EG shall ensure:

- regular interaction of leading radiation safety experts;
- determining the key areas of improvement of emergency response activities;
- coordination of continuous operation of TSC as regards NPP operation.

TSC EG main functions shall be:

- development and concurrence of regulatory and methodological documents on emergency response as regards radiation safety;
- determining principles and methodological bases for the centralized monitoring of radiation situation;
- organization of work to develop emergency criteria, emergency identification basing on results of the preliminary analysis of design basis and beyond design basis accidents;
- organization of work to improve methods and means of prompt information exchange between the emergency response forces;
- organization of work to improve techniques of assessment of real radiation situation and forecasting its changes on the basis of data processing results;
- development of common approaches to working out recommendations and technical solutions;
- organization of preparing the radiation safety reference information EAG would need in the event of an emergency or emergency response drills;
- coordination of work to develop emergency drill scenarios;
- analysis and comparison of existing techniques and computer codes for assessment and forecasting of an accident radiation consequences and development of recommendations regarding their application.

TSC EG shall submit its proposals to Rosenergoatom Concern management for implementation.

TSC EG shall be composed of experts from Rosenergoatom Concern, entities subordinate to the Architect General, scientific project and operation leaders, chief designers, leading organizations which provide for scientific and technical support to NPP operations.

5.2.2. TSC of chief designers of nuclear reactors (NIKIET, OKB Hidropress, OKBM) and Architect General (AEP, VNIPIET)

Condition for engagement – beyond design basis accident sequence at a reactor installation (RI) or a threat of such development of abnormal events.

TSC tasks in the course of the emergency response:

- assessment of conditions of RI of the affected nuclear power unit including identification of the accident causes;
- forecasting of anticipated accident sequence, its possible scale and probable consequences;
- development of recommendations to bring the RI of the affected power unit into safe state including recommendations on the personnel actions to restore CSF and measures to eliminate the accident consequences;
- assessment of conditions of the equipment, premises, NPP industrial site. Development of recommendations regarding failed equipment, decontamination of premises and NPP industrial site;
- assessment of actions of personnel of the affected power unit during the accident confinement and elimination of its consequences.

Information support – all technology information available to and promptly received by RCC.

5.2.3. TSC of RRC Kurchatov Institute and SRC IPPE

Condition for engagement – beyond design basis accident development involving a radioactivity release.

TSC tasks during emergency response:

- assessment of conditions of RI of the affected nuclear power unit including identification of the accident causes;
- forecasting of anticipated accident sequence, its possible scale and consequences;
- development of recommendations to bring the RI of the affected power unit into safe state and measures to eliminate the accident consequences;
- control of the affected power unit personnel actions during the accident confining and elimination of its consequences;
- assessment of the release isotopic composition and magnitude.

Information support – all technology information and radiation situation data for the power unit premises available to and promptly received by RCC.

5.2.4. TSC of IBRAE RAS

Condition for engagement – radioactivity release into the environment in excess of the established standards.

TSC tasks in the course of the emergency response:

- assessment of the situation both as regards the scale of accident and radioactive contamination of the environment;
- assessment and forecasting of the main release source data.

Information support – parameters of the release source (location, height, diameter, etc.), source characteristics (dynamic parameters, starting time and duration, magnitude or volume, nuclide composition, physical and chemical properties), weather data, data from ARMS and monitoring.

5.2.5. TSC of SPA Taifun

Condition for engagement – release of radioactivity into the environment in excess of the established standards.

TSC tasks in the course of the emergency response:

- assessment and forecasting of weather conditions in the NPP location region;
- forecasting of radioactivity propagation and radioactive contamination level of environment and territory as a result of the accident at NPP;
- forecasting in regard of a possibility of transboundary transfer of the radioactive plume.

Information support – weather data for NPP location region, forecasting of air mass transfer from the accident region, assessment of levels of contamination of environment in the region as a result of the accident and forecasting in regard of possible transfer of contaminated air masses.

5.3. Emergency Technical Center (ETC)

5.3.1. ETC is located in the city of Novovoronezh and set up for execution of the following emergency technical and rescue operations involving robotics and special machinery:

- elimination of accident consequences associated with radiation factors at NPP and research reactors pertaining to Minatom of Russia;
- elimination of accident consequences associated with transportation of nuclear fuel at NPP pertaining to Minatom of Russia and within their CA;
- participation in elimination of emergency consequences associated with radiation factors in the territory of Voronezh Region.

5.3.2. ETC modes of operation:

“Routine activity” – the activity during normal, accident-free situation at the supported facilities;

“Alert” – getting ready the force and capabilities of ETC in case of forecasted emergency at a supported facility;

“Emergency” – deployment of the force and capabilities of ETC at the affected facility with their command given to the emergency operations leader to execute emergency and technical and rescue operations.

The ETC operations modes shall be introduced by the EAG head directive.

5.4. EAG Integrated Communications System

The EAG communications system shall employ the existing integrated communications system of NPP operation control and special means of communication available to Rosenergoatom Concern. The system shall support EAG and its notification at all stages of emergency activities.

The following engineered means shall be available to RCC and NPP communications centers to notify and support EAG and command of emergency response activities:

- long distance governmental and special mobile radio communication system “Rosa”;
- communication system “Iskra”;
- communication network of CDD of RAO EES of Russia;
- communication network of MFE of Russia;
- dispatcher communications;
- regular long-distance communication;
- stationary satellite communication system “Materik” and portable emergency satellite station “Inmarsat”;
- cell telephone network.

The engineered means supporting EAG communications shall be telephone sets, cable channels, data transfer channels, electronic mail and weather data transmission channels arranged through cable, radio relay, tropospheric, radio and satellite systems for transfer of federal, regional and local communication networks.

The means of communication shall be continuously available for performing the designated tasks.

When EAG operates, the communications shall be ensured through communication centers of RCC and shielded emergency response operations centers (NPP SEROC, SC SEROC, EA SEROC) and EAG mobile communication station (EAG MCS) mounted on the off-road vehicle.

The list of means of communication necessary for EAG operations and subject to storage in RCC is given in Attachment 8.

5.4.1. EAG notification procedure

5.4.1.1. EAG notification shall be done by the duty dispatcher of Rosenergoatom Concern using the automated emergency notification system.

5.4.1.2. Organizations, which officials are EAG members, shall inform Rosenergoatom Concern on such EAG members' home and office telephone numbers, individual paging numbers and telephone numbers of paging system operators.

5.4.1.3. Such organizations shall within three days inform Rosenergoatom Concern on any changes in telephone numbers of such EAG members.

5.4.1.4. The NPP management and Rosenergoatom Concern's duty dispatcher shall be notified about an emergency at NPP through the NPP notification system.

5.4.1.5. The performance testing of the notification system and paging system for communicating information to EAG members shall be carried out at least monthly.

5.4.1.6. The performance testing of paging and notification systems at NPP shall be carried out at least monthly.

5.4.2. EAG communication provisions

5.4.2.1. EAG communication is ensured by:

- in RCC – by integrated communication system for NPP operation control using the engineered means of communication listed in para 5.4 of this Attachment;
- on route to the affected NPP region – from EAG MCS via radio and special mobile radio communication system “Rosa”; during short stops via radio, satellite communication system “Inmarsat”; as well as using means of communication at GAI posts;
- while using aircraft – by means of communication at take-off and landing airports and that of the aircraft (upon agreement with the agency, which provided for the aircraft);
- in NPP emergency operations regions – from shielded emergency response operations centers at NPP via communication systems available to NPP.

5.4.2.2. The communication centers of shielded emergency response operations centers (local crisis centers) at NPP the channel switch-over capabilities shall be provided for.

5.4.2.3. The following number of communication channels shall be designated:

- RCC – NPP (continuously operating channels: wire – 1-2; satellite – 2-3; federal wire made available at a signal – 2-3);
- Rosenergoatom Concern – TSC (1-2 telephone channels);
- In NPP region the list and number of channels is determined and approved by NPP management.

5.4.2.4. The communication channels temporary designated in accordance with the Provisions for Furnishing Rosenergoatom Concern with Common Communication Network of the Russian Federation shall be commuted to the communication centers of shielded emergency response operations centers (LCC) at NPP with a possibility of their switching to the NPP permanent communication center. In Rosenergoatom Concern the additional channels shall be commuted to the dispatcher station.

5.4.2.5. The communication through additional channels between Rosenergoatom Concern and NPP communication centers shall be arranged for within five hours starting from the moment the MOC of Russia receives the request to designate such channels.

5.4.2.6. According to the MOC of Russia order № 93 of April 1994, upon the receipt of “Disaster” password the long distant telephone calls shall be made available to the four top managers and dispatcher of Rosenergoatom Concern as well as to all directors of NPPs.

5.4.2.7. The calls placed under “Disaster” password shall be made available from any telephone number indicated by the calling side as well as from a communication station or post office.

5.4.3. The means of communication shall be available and reliable performance of communication channels shall be ensured by:

- NPP – within 5-km zone around NPP and at the shielded emergency response operations centers of NPP;
- regional CD and emergency authority (autonomous region) – within 30-km zone around NPP (interaction communication support and electromagnetic compatibility of radio equipment, involved force and capabilities);
- Rosenergoatom Concern – to support EAG;
- MCC RC&TV – as regards arrangements for federal communication channels to support Rosenergoatom Concern and NPP communications.

5.5. EAG means of transport

EAG shall be provided with operative road vehicles to be on duty round-the-clock and in Rosenergoatom Concern disposal.

The road vehicles designated for EAG shall ensure prompt gathering of EAG members and technical experts and their transfer to Rosenergoatom Concern and affected NPP.

5.5.1. EAG means of transport (nomenclature)

Road vehicles (Rosenergoatom accounting books):

- cars (“Volga”), 3 pcs; on round-the-clock duty to ensure prompt gathering of necessary experts and specialists;
- mini-vans for 10-12 seats (2 vehicles in stand-by) to deliver necessary force and capabilities to the departure airport and NPP located within 600 km from Moscow (Kursk, Smolensk, Kalinin, Novovoronezh);
- mini-van (10-12 seats) – mobile communication station to coordinate actions of involved force and capabilities in NPP location regions and EAG on-route to the affected NPP;
- mini-truck (“Gazel”).

All above listed EAG vehicles shall be duly registered with GAI of MOI of Russia as special-purpose vehicles.

EAG vehicles shall be equipped with:

- * flasher;
- * loudspeaker and siren;
- * mobile phone;
- * paging system;
- * dosimetry and radiation survey instrumentation.

Aircraft for operative delivery of EAG members to the affected NPP:

* aircraft pertaining to the State Unitary Airline (SUA) of MOE of Russia (under the contract (agreement) between SUA MOE of Russia and Rosenergoatom Concern);

* aircraft of other airlines (under contracts concluded by Rosenergoatom Concern). Rosenergoatom shall have the right to select airlines.

EAG shall be delivered to affected NPP using the following routes:

- Balakovo NPP – Balakovo airport.
- Beloyarsk NPP – Koltsovo airport.
- Bilibino NPP – Kiperveem airport (Pevek).
- Kola NPP – Kirovsk airport (Afrikanda).
- Kursk NPP – Kursk airport.
- Novovoronezh NPP – Voronezh airport.
- Kalinin NPP – by helicopter (MI-8) directly to the plant site.
- Smolensk NPP - by helicopter (MI-8) directly to the plant site.
- Leningrad NPP – Pulkovo airport.

To keep and maintain the EAG designated vehicles Rosenergoatom Concern shall arrange for special boxes equipped with electricity supply and district heating, storage battery chargers and security alarm with indication at the security force center.

Rosenergoatom Concern shall develop, timely update and store in databases of the local computer network of RCC the following information on EAG vehicles:

- Routes for gathering and delivery of EAG members and technical experts to RCC of Rosenergoatom Concern;
- routes and timing of delivery to the affected NPP;
- list of necessary materials and replacement parts;
- telephone numbers for operative communication with road vehicles, airlines which provide for EAG delivery to the affected NPP, and Moscow departure airports.

5.5.2. Use of EAG vehicles in normal operation of NPP and emergencies

5.5.2.1. Normal operation

In this regime the EAG vehicle fleet is managed by the duty dispatcher of Rosenergoatom Concern as directed by the Concern top management (Director General, Deputy Director General for Productions-Inspector General).

The transportation unit of Rosenergoatom Concern shall ensure appropriate technical conditions of the EAG designated vehicles.

5.5.2.2. Emergency

On the basis of information on an emergency at NPP and decision made by ICE chairman to render prompt assistance to the affected NPP the EAG head shall order the duty dispatcher of Rosenergoatom Concern to gather the EAG members. The EAG designated vehicles shall be used for this purpose and for further delivery of EAG to the airport.

6. PROCEDURES FOR DECLARING STATE OF EMERGENCY AND PROMPT TRANSMISSION OF INFORMATION

6.1. Procedures for declaring “Alert” at NPP

6.1.1. In the event of violation of NPP safe operation limits and/or conditions when the dose equivalent rate or iodine-131 volumetric activity in air approaches the level of “Alert” (criteria for declaring “Alert” and “Emergency” at NPP are given in Table 1) as well as in case of a threat to NPP safety posed by fires and natural disasters, which may result in a radiation accident, the operating personnel shall immediately:

- inform about the situation the officials in the chain of command up to the PSS;

- undertake the necessary and practical measures to provide the first aid in case of injuries, risk to life or overexposure of the personnel;
- undertake the necessary and practical measures to eliminate the detected violation or mitigate its consequences.

6.1.2. PSS upon receipt of factual information evidencing the occurrence of a radiation emergency or accident shall identify the situation and, if A04 (Attachment 1) category values are reached or exceeded, shall make notifications as per the List of Violations of Safe Operation of NPP to be Promptly Reported by NPP Management (Table 2).

Table 1

NPP "Alert" and "Emergency" declaring criteria

No	Parameter being monitored, place of monitoring	"Alert"	"Emergency"
1.	Equivalent dose rate ($\mu\text{Sv/h}$)		
1.1.	Permanently attended premises, CAA	> 29	> 600
1.2.	Site and CA	> 2.4	> 200
1.3.	NPP surveillance zone	> 0.6	> 20 *
2.	VOLUMETRIC ACTIVITY OF IODINE-131 IN AIR (BQ/L)		
2.1.	Permanently attended premises, CAA	> 0.16	> ~ 26
2.2.	Site and CA	> 0.006	> 7.4
2.3.	NPP surveillance zone	> 0.006	> 0.60*

* Specified for the critical group (children at the age of 1-8 years).

Table 2

List of Violations of Safe Operation of NPP to be Promptly Reported by NPP Management

Violations of the safe operation of NPP	Куда и кому сообщать при всех видах нарушения режима безопасной эксплуатации АС
<p>Declaring the state of "Alert"</p> <p>Declaring the state of "Emergency";</p> <p>Fire which may cause a radiation accident;</p> <p>Natural disasters (e.g. earthquakes, hurricanes, flooding, etc.) which may cause a radiation accident;</p> <p>Attempts of the criminal elements to commit illegal acts which may cause a radiation accident</p>	<p>Dispatcher on duty at Rosenergoatom Concern Offices for CD and emergencies of the NPP region (the autonomous area) and satellite city</p> <p>Head of RF Gosatomnadzor Inspection at a given NPP</p> <p>Regional Committee on Environmental Protection</p> <p>Duty officer of the respective division of RF Gosgortekhnadzor of Russia (in case of damages to NPP component(s) registered with RF Gosgortekhnadzor of Russia divisions)</p> <p>Head of administration of the NPP satellite city and region (the autonomous area)</p> <p>NPP First Aid Station</p> <p>Appropriate division of SFPS and regional fire protection authority</p> <p>Internal troops detachment of MOI of Russia responsible for guarding of a given NPP (duty officer of this unit, sentry commander)</p> <p>Divisions of MOI and FSS of Russia designated for a given NPP</p> <p>Regional office of Rosgydromet designated for a given NPP</p> <p>Organizations of other ministries and agencies on-site of NPP and CA</p> <p>Local authorities of the communities within a 5-kilometer zone around NPP</p> <p>ICE of Minatom of Russia (NPP management is to report)</p>

To shorten the notification and reporting time and to timely organize operations to minimize and eliminate an emergency, PSS shall:

- personally report to NPP Director and Chief Engineer, duty dispatchers of Rosenergoatom Concern and Minatom of Russia, CD and emergencies authorities of NPP satellite city and region (the autonomous area);
- simultaneously direct the individual, advancedly designated by the NPP Director order, to report on the event to the head of on-site inspectorate of Gosatomnadzor of Russia and inform:

Regional Committee on Environmental Protection;
 Duty officer of the respective division of RF Gosgortekhnadzor of Russia;
 Head of administration of the NPP satellite city and region (the autonomous area);
 Dispatcher of the relevant power grid authority;
 NPP First Aid Station;
 division of SFPS designated for NPP and regional fire protection authority;
 Internal troops detachment of MOI of Russia responsible for guarding of a given NPP;
 Divisions of MOI and FSS of Russia designated for a given NPP;
 Regional office of Rosgydromet designated for a given NPP;
 Organizations of other ministries and agencies on-site of NPP and CA;
 Local authorities of the communities within a 5- kilometer zone around NPP.

In the event of violations approaching or exceeding values of O1 through O11 (Attachment 1) categories the NPP operational event shall be reported on in accordance with the procedure described in paras. 3.2.1.4, 3.2.1.5, and 3.2.1.6 of Provisions for Accounting of and Investigation of Violations at Nuclear Power Plants (PNAE G-12-005-97);

- organize, if necessary with involvement of operating personnel, the radiation survey and examination of equipment, premises and utilities to find out the event causes, sources and

scale; identify the violation of NPP safe operation against Attachment 4.

6.1.3. Having received the preliminary information on nature, assessment and forecast of the situation development from PSS, the Director (Chief Engineer), if he/she deems it necessary or reasonable, shall make the decision to declare the state of "Alert" at NPP and correspondingly direct PSS and chief of staff of CD and emergencies (or a designee).

If the Director (Chief Engineer) is absent at NPP, PSS shall make the decision as of to declare the state of "Alert".

6.1.4. The state of "Alert" at NPP shall mean that the corresponding NPP personnel and equipment are brought available. It is assumed that at this there is time to take measures of precaution and implement specific actions to prevent the accident development or mitigate its consequences.

6.1.5. The decision to declare the state of "Alert" shall be conveyed, by PSS directive, to all NPP personnel using all means of communication and notification available.

6.1.6. After the state of "Alert" has been declared at NPP, PSS shall immediately informs the NPP management on necessary protective measures to be taken should the situation develops unfavorably or on corresponding measures to prevent the accident.

6.1.7. PSS shall be responsible for taking necessary measures to ensure NPP safety during the state of "Alert" until the Director (Chief Engineer) arrives at NPP.

6.2. Procedures for declaring "Emergency" at NPP

6.2.1. When a radiation hazardous situation at NPP arises where the dose equivalent rate or volumetric activity of iodine-131 approaches the "Emergency" level (see criteria for declaring the states of "Alert" and "Emergency" at NPP in Table 1), the NPP operating personnel shall immediately:

- inform the designated official via the chain of command up to PSS about the situation;

- take necessary and practicable measures to provide aid in cases of injury, threat to life or radioactive overexposure of the personnel;
- take necessary and practicable measures to localize the accident or mitigate its consequences.

Having received a notice on the radiation hazardous situation at NPP or accident, PSS shall identify the situation and, if the values of A03, A02 and A01 (Attachment 4) categories are exceeded, personally report to the NPP Director and Chief Engineer, Rosenergoatom Concern dispatcher on duty, CD and emergency authorities of the NPP satellite-city and region (the autonomous area). At the same time he/she shall direct an individual advancedly appointed by the NPP Director's order to report on the situation to the head of on-site inspectorate of Gosatomnadzor of Russia, relevant power grid control dispatcher, NPP first aid station, division of SFPS designated for NPP and regional fire protection authority, internal troops detachment of MOI of Russia responsible for guarding of a given NPP, divisions of MoI and FSS of Russia designated for a given NPP, regional office of Rosgydromet designated for a given NPP, organizations of other ministries and agencies on-site of NPP and CA, and local authorities of the communities within a 5- kilometer zone around NPP.

He/she shall organize by involving operating personnel the radiation survey and examination of equipment, premises and utilities to find out causes, sources and scale of the accident.

PSS shall preliminary assess the radiation hazardous situation or accident and make a forecast of the radiation situation off-site as well as identify the violation of NPP safe operation against Attachment 4.

6.2.3. The NPP Director (Chief Engineer), having received from PSS the preliminary information about the accident and forecast of its development or having familiarized with the situation on the scene, and if he/she deems it necessary basing on the criteria for declaring the states of "Alert" and "Emergency" at NPP (see Table 1) shall make the decision on declaring the state of "Emergency" at NPP and triggering the Plan of Measures to

Protect Personnel in Case of Accident at Nuclear Power Plant. Should this be the case, he/she shall correspondingly direct PSS and the head of command for CD and emergencies (or the designee).

In case the Director (Chief Engineer) are absent on-site, PSS shall make the decision on declaring the state of “Emergency” and triggering of the Plan of Measures to Protect Personnel in Case of Accident at Nuclear Power Plant.

6.2.4. The “Emergency” signal shall be the indication to trigger the Plan of Measures to Protect Personnel in Case of Accident at Nuclear Power Plant.

6.3. Notification procedure in the event of radiation hazardous situations or accidents at NPP

6.3.1. In the event of a radiation hazardous situation or accident at NPP the NPP management and CD and emergency authorities of the NPP satellite-city shall through all means of communication and notification available immediately notify both the NPP personnel and the personnel of enterprises and organizations located and the population resided within the 5-km zone around NPP and the NPP satellite-city.

6.3.2. The notification of the NPP satellite-city, enterprises and organizations executing construction works and supporting life and functioning of NPP (including personnel of military and fire detachments) and the population of settlements within the 5-km area around NPP shall be done in accordance with plans for the personnel and population protection in the event of a radiation accident at NPP. Such notification shall be done in parallel by the NPP management and the CD and emergency authorities of the NPP satellite-city.

6.3.3. To provide for notification and transmission of information the NPP management shall develop a system for communication and notification within the 5-km area around NPP and its satellite city and LNS shall be set up.

As regards communications beyond the 5-km area around NPP but within the administrative-territorial formation (oblast, krai, republic within the Russian Federation), the NPP management

shall apply to the local communications authorities and conclude an agreement to determine the interaction procedure for the local communication center dispatcher unit, designation of additional communication channels in the event of emergencies at NPP and payment terms and conditions for these services. Regarding communications beyond the administrative and territorial formation where NPP is located (oblast, krai, republic within the Russian Federation) Rosenergoatom Concern shall enter into an agreement with the Main Control Center for Regional Communications and Television (MCC RC&TV), which determines the interaction procedure for the MCC RC&TV dispatcher unit, designation of additional communication channels in the event of emergencies at NPP and payment terms and conditions for these services.

6.3.4 The procedures for the NPP operating personnel and management actions (supplemented by relevant notification and communication schemes) at the stages when the accident causes and sources are identified and the states of “Alert” and “Emergency” at NPP shall be developed basing on provisions of this document. The said procedures shall be signed by the Chief Engineer, approved by the Director and kept with PSS.

To maintain the notification system continuously available the NPP management shall conduct quarterly checks of the communications system equipment performance.

6.4. Procedures for prompt transmission of information in case of radiation hazardous situations or accidents at NPP

6.4.1. The primary information about the accident shall be concise and at the same time represent the actual conditions at the affected facility, remind of the required actions under the emergency conditions. If necessary, the additional details about the accident can be distributed later.

6.4.2. It is required to distinguish the messages about the actual emergency situations and those transmitted during the exercises.

6.4.3. All transmitted messages about radiation hazardous situations and accidents at NPP shall be recorded as prescribed

with identification of the date, time of transmission and personnel who transmitted and received the information.

6.4.4. As soon as the state of "Alert" or "Emergency" are declared at NPP and the Action Plan to Protect Personnel in the Event of Accident at NPP has been triggered, PSS (or a designee) shall immediately inform about the situation at NPP the following officials and organizations:

- dispatcher on duty of Rosenergoatom Concern;
- regional agencies of CD and emergencies of the NPP satellite city and in the region (the autonomous area) where the NPP is located;
- Head of RF Gosatomnadzor Inspection at a given NPP
- Regional Committee on Environmental Protection
- Duty officer of the respective division of RF Gosortekhnadzor of Russia;
- Head of administration of the NPP satellite city and region (the autonomous area)
- NPP First Aid Station
- Appropriate division of SFPS and regional fire protection authority;
- Internal troops detachment of MOI of Russia responsible for guarding of a given NPP;
- Divisions of MOI and FSS of Russia designated for a given NPP;
- Regional office of Rosgydromet;
- Organizations of other ministries and agencies on-site of NPP and CA;
- Local authorities of the communities within a 5- kilometer zone around NPP;

PSS shall immediately transmit all additional and updated information about the emergency situation at NPP to the dispatcher on duty of Rosenergoatom Concern.

During the first hour since the onset of the accident at NPP PSS (or the designee) shall transmit to the dispatcher on duty of Rosenergoatom Concern the following information for the purpose of subsequent operative

forecasting of the radiation situation at NPP to RCC of Rosenergoatom Concern and Rosgidromet:

- name of NPP and NPP power unit number;
- date and time of the accident onset;
- pre-accident state of the damaged power unit;
- suggested causes of the accident, brief characteristic of the accident, total amount of radioactive products released to the environment during the accident, their approximate isotopic composition;
- the state of the affected power unit at the moment of information transmission;
- brief description of meteorological conditions at the onset and after the accident in the vicinity of NPP (air temperature, cloudiness, wind speed and direction).

PSS shall transmit the updated and additional information about the emergency release, the situation at NPP, radioactive contamination within CA and the adjacent territory to the dispatcher on duty of Rosenergoatom Concern not later the third and eighth hour since the accident onset.

The Rosenergoatom Concern dispatcher on duty shall immediately transmit the information received from NPP to Rosgidromet.

The subsequent piece of information (the reporting format for NPP violations is given in Attachment 5) shall be transmitted by PSS to the Rosenergoatom Concern dispatcher as follows:

- follow-up on the situation progress and elimination of the violations (or the urgent updated information in response to a request) – within two hours since the accident onset;
- notification of and announcing the accident or radiation hazardous situation, the information about force and capabilities to mitigate the violation not resulted in the potential hazard to the public – within eight hours since the accident onset;
- the events during 24 hours of the confining and elimination activities, the current radiation (chemical) situation – by 8.00 a.m. (Moscow time) of the next day.

The Rosenergoatom Concern dispatcher on duty shall transmit the information received from PSS to ECC of Minatom of Russia.

Dispatcher on duty of Rosenergoatom Concern shall inform the following officials about the current situation at the affected NPP:

- Head of EAG;
- Duty Officer of Minatom of Russia (Secretary to the Minister);
- ECC of Minatom of Russia;
- Duty Officer of Gosatomnadzor of Russia;
- Duty Officer of MOE of Russia;
- Dispatcher on Duty of FD Medbioextreme of MPH of Russia;
- Duty Officer of Rosgidromet;
- other organizations and agencies concerned using the contact round-the-clock phone numbers on the special list in accordance with the category of the violation at NPP and EAG members notification scheme;
- Engineer on Duty in RCC.

The General Scheme of Notification of Organizations Involved in EAG in the Event of Accident at NPP with RBMK, BN and EGP Reactors is given in Attachment 2.

The General Scheme of Notification of Organizations Involved in EAG in the Event of Accident at NPP with VVER Reactors is given in Attachment 3.

The Scheme of Notification and Triggering Technical Support Centers of RCC of Rosenergoatom Concern and EAG in the Event of Accidents or Radiation Hazardous Situations at NPPs is given in Attachment 4.

The NPP Director (or designee) shall inform:

- The Rosenergoatom Concern management about the causes for declaring the emergency and triggering the Plan of Measures to protect Personnel in the Event of Accident and Nuclear Power Plant;

- Chairman (Vice Chairman) of ICE of Minatom of Russia about the measures being implemented to eliminate the accident, the estimated scale of the accident and predicted spread of radioactive contamination, if necessary, asking them for the prompt aid to NPP;

- heads of regional and local authorities.

The management of Rosenergoatom Concern shall inform:

The Minister of the Russian Federation of Atomic Energy, the Chairman of ICE of Minatom of Russia, the Chairman of Gosatomnadzor of Russia about the measures being undertaken by the Concern and about the necessity to render the prompt centralized assistance to the Concern.

The Chairman of ICE of Minatom of Russia shall inform: the international organizations and mass media about the measures being implemented by ICE of Minatom of Russia and makes the decision about the urgent aid to NPP and sending EAG to the affected NPP depending on the scale of the emergency.

The Minister of the Russian Federation of Atomic Energy shall inform:

central executive bodies on the event and implemented and being taken measures, and on the necessity to render assistance to Minatom of Russia to localize the accident and eliminate its consequences.

The Head of EAG shall decide on:

- gathering of EAG members;
- alerting ETC and dispatching the lead team of ETC duty unit to the affected NPP.

6.4.5. The scope and completeness of the NPP safety event information being transmitted to other ministries and agencies of the Russian Federation shall provide for these organizations timely decision making regarding measures to confine the accident, protect population and prepare for elimination of the accident consequences as well as to meet the corresponding

requirements of the Convention on Early Notification of Nuclear Accident.

The responsibility for meeting the Convention requirements rests with Minatom of Russia.

6.4.6. To provide for operative forecasting of a transboundary migration of air masses in case of increased releases (discharges) of radioactive substances during the accident at NPP the Dispatcher on Duty of Rosenergoatom Concern immediately after he/she has received the accident data shall transmit to Rosgidromet the following information:

- name of NPP and number of the NPP power unit;
- date and time of the accident;
- pre-accident conditions of the power unit;
- assumed causes of the accident, brief description of the accident, total amount of radioactive products ingressed to the environment during accident and their approximate isotopic composition;
- conditions of the power unit at the moment of information transmission;
- brief description of meteorological conditions in the NPP region at the moment and after the accident (air temperature), cloudiness, wind velocity and direction).

The updated and additional information on the accident release, NPP situation and radioactive contamination within CA and adjacent territory as prepared by the relevant structural unit of Rosenergoatom Concern shall be transmitted by the Dispatcher on Duty of Rosenergoatom Concern to Rosgidromet not later than the third and eighth hour of the accident onset.

6.4.7. Upon the results of the preliminary data received and forecasts made Rosgidromet shall within six hours send to Minatom of Russia a statement on a possibility of transboundary migration of contaminated air masses and updated forecasts as additional refined accident data received.

6.4.8. On the basis of forecasts of transboundary migration of contaminated air masses received from Rosgidromet Minatom of Russia shall make the decision to notify promptly the executive

bodies implementing the Convention on Early Notification of Nuclear Accident and corresponding countries on the forecasted transboundary migration data and triggering the WMO Global Telecommunication System. At the same time a decision is made on transmission of the radiation situation monitoring data in accordance with provisions of the Convention.

7. Procedure of rendering prompt assistance to nuclear power plants by EAG in the event of radiation hazardous situations or accidents at these NPPs

7.1. Procedure of notification, gathering and delivery of EAG members to affected NPP

7.1.1. Basing on the received information about an emergency at NPP and the decision made by the Chairman of ICE of Minatom of Russia to render prompt assistance to this NPP the EAG head shall order the Dispatcher of Rosenergoatom Concern to gather the EAG members and the Engineer on Duty of RCC to gather the EG.

The Engineer on Duty of RCC shall notify RCC technical support centers and EAG and convey to them the order of the EAG head to full deploy the groups. The scheme for triggering technical support centers of RCC and EAG in the event of an accident or radiation hazardous situations is given in Attachment 8.

7.1.2. Rosenergoatom Concern shall provide for the notification, gathering and delivery of EAG members to the affected NPP.

7.1.3. In the event of an accident at NPP the Dispatcher of Rosenergoatom Concern, after he/she has received the order to gather EAG, shall trigger the notification scheme as indicated by the EAG head to notify the EAG members or officials from the organizations they are designated by (Attachments 2 and 3) and shall dispatch the service minivan from 24:00H till 6:00H to pick up EAG members to the designated routes (EAG members from Minatom of Russia, MOE of Russia, SOC RhBP of MOD of Russia and SOCE of MOD of Russia, FD Midbioextreme, ACMC Zashita, MD GAI of MOI of Russia, MD COC IT of MOI of Russia, MD SFPS of MOI of Russia, MD MD PF of MOI of Russia, OPD of MOI HQ, HQ of MOI of Russia, Rosgidromet, IBRAE RAS shall use their means of transportation on duty). In other times the group members shall use public transport. The EAG members shall be notified with confirmation of the message receipt by the notified person and a written entry made to the Dispatcher's Log indicating the notification time. All messages transmitted and

received by the Dispatcher during the period of accident shall be recorded on magnetic tape.

7.1.4. To provide for the EAG members' delivery to the affected NPP the Dispatcher of Rosenergoatom Concern shall communicate via telephone with the airline dispatchers of MOE of Russia or airwing, which services EAG and inform them on:

- name of NPP EAG must be delivered to;
- number of EAG members (up to 25 persons) and amount of luggage (the total weight of passengers and luggage shall not exceed 3.5 tons);
- last, middle and given name of the EAG head and position;
- set time of EAG departure to the departure airfield;
- last, middle and given name of the ICE of Minatom chairman who made the decision to render the prompt assistance to NPP.

At the same time the Dispatcher on Duty of Rosenergoatom Concern shall inform the airport of departure on the necessity to accept and dispatch the aircraft servicing EAG beyond the daily flight schedule due to an emergency at NPP.

7.1.5. Not later than one hour after the information transmission as per para 7.1.4 of these Provisions the Dispatcher on Duty of Rosenergoatom Concern shall request the flight dispatcher of MOE of Russia or the dispatcher guiding the airwing servicing EAG on:

- departure time;
- estimated arrival time to the destination airport (airfield) of the EAG members;
- availability of means of road transportation or helicopters in the EAG destination airport (airfield) to deliver EAG to the affected NPP site (in accordance with the EAG delivery route);
- last, middle and given name of the officer of the airline of MOE of Russia or airwing servicing EAG who is responsible for

organization of EAG delivery, his/her office telephone number and location;

- flight number, board number and name of the flight commander.

At this the Dispatcher on Duty of Rosenergoatom Concern shall inform the flight dispatcher of MOE of Russia or airwing servicing EAG as well as the Director (Chief Engineer) of the affected NPP on:

- estimated time of EAG arrival at the departure airport (airfield);
- last, middle and given name and position of the officer responsible for meeting EAG in the destination airport (airfield).

At the same time the Dispatcher of Rosenergoatom Concern shall get the confirmation from the Shift Airport Supervisor on the readiness of the departure airport to receive, beyond the daily flight schedule, the aircraft servicing EAG.

7.1.6. The Dispatcher of SUA of MOE of Russia or airline servicing EAG shall inform the Dispatcher on Duty of Rosenergoatom Concern as regards the actual departure time of the EAG aircraft and its arrival time at the destination airport.

7.1.7. The Dispatcher on Duty of Rosenergoatom Concern shall inform the Director or Chief Engineer of NPP on the actual departure time of the EAG aircraft and its arrival time at the destination airport.

7.1.8. The NPP Director or Chief Engineer shall clarify the information on the composition, schedule and route of EAG and provide for its delivery from the destination airport to NPP.

7.1.9. The EAG members shall gather after the first priority notification within two hours during the working time and six hours during the off-duty time.

7.1.10. The order and timing of EAG members' arrival to the affected NPP shall be determined by the EAG head's decision.

7.2. EAG work procedure to define necessity and scope of assistance to the affected NPP

7.2.1. Before setting out to the affected NPP

7.2.1.1. The EAG head, having received the information on a radiation hazardous situation at NPP shall:

- direct the Dispatcher of Rosenergoatom Concern to gather the EAG members;
- direct to render ETC in the state of “Alert” and deploy the on-duty of second line division of ETC to the affected NPP;
- informs EAG members, when have gathered in the designated place, on the occurred accident, measures taken and being taken at NPP, consult with them and make decision on the way of rendering assistance to NPP and the number of experts to be involved;
- prepare an information notice to the superior authorities as regards the accident at NPP, measures taken and being taken thereof.

7.2.1.2. While working out solutions the EAG members shall consider the following:

- assumed state of the reactor and its safety systems;
- sufficiency of accident mitigation measures being taken by NPP management;
- progress of implementation of the Plan of Measures to Protect Personnel in the Event of Accident at Nuclear Power Plant;
- forecasted scale of accident releases of radioactive substances and radioactive contamination levels at NPP;
- priority measures to mitigate and possibly prevent releases of radioactive substances beyond NPP boundaries;
- necessity of involvement of additional force and capabilities of MPH of Russia, MOI of Russia, non-military

detachments of CD and military detachments of CD, military engineers, radiation, chemical and biological protection personnel and medical detachments;

- necessity to involve centralized materiel and transportation to carry out decontamination and repair and restoring operations at NPP;
- necessity to trigger the second line notification of EAG members;
- additional involvement to work on EAG of necessary specialists from the ministries, agencies and organizations concerned;
- ways to eliminate the accident consequences;
- composition of EAG going to the affected NPP;
- state of the guard force at the affected NPP.

7.2.2. Upon arrival to the affected NPP

Upon arrival to the affected NPP EAG shall receive from the NPP Director or the designee the following information:

- on the state of the affected reactor and its safety systems;
- on the measures taken and being taken to confine the accident and eliminate its consequences;
- on the measures taken to protect the personnel;
- on the radiation situation at NPP, within CA and surveillance zone;
- on fire situation at NPP;
- on the engineering situation in the region of the affected facility;
- on conditions of roads and access routes to the accident scene;
- on nature and scale of damages;

- on progress of implementation of the Plan of Measures to Protect Personnel in the Event of Accident at Nuclear Power Plant;
- on the state of materiel and transport support of the operations;
- on the force and capabilities involved and being involved to eliminate the accident;
- on the progress of notification of the relevant organization about the accident;
- on measures being taken to guard the affected NPP.

Basing on the information received the EAG members shall carry out the analysis and draw out a conclusion as regards the correctness of NPP management's activities to confine and eliminate the accident. Should such actions be insufficiently qualifies, timely and technically justified the EAG head shall have the right to approach ICE of Minatom of Russia and the Minister of the Russian Federation of Atomic Energy to suspend the relevant official from command of operations within CA and recommend a candidate to substitute the position.

7.3. Actions of EAG members when the state of emergency is declared at NPP

7.3.1. EAG Head actions

7.3.1.1. Decision-making on:

- gathering of EAG members;
- time of EAG setting off to the affected NPP;
- deployment of ETC force and capabilities at the affected NPP.

7.3.1.2. Prompt informing of ICE of Minatom of Russia, local and regional administrations, top officials of ministries and agencies, and mass media on the nature of NPP accident, measures taken and being taken to confine and eliminate it, progress of emergency and restoring operations.

7.3.1.3. Support to EAG members as regards fulfillment by them the designated duties and tasks, use of the rights they are entitled with in the scope as per these Provisions.

7.3.1.4. Coordination of actions of the EAG members, involved ministries, agencies and organizations as regards prompt deployment of the force and capabilities at the affected NPP.

7.3.1.5. Maintaining prompt communication with the CA emergency operations commander, PSS, ICE of Minatom of Russia Chairman, heads of local and regional administrations, top officials of ministries and agencies which force and capabilities are involved to eliminate the accident consequences.

7.3.1.6. Conducting meetings, briefings, press-conferences, consultations and the like with participation of EAG members.

7.3.1.7. Approval and concurrence of records, conclusion statements, recommendations and other documents on the collegial decisions made by EAG members.

7.3.1.8. Control over materiel and technical, financial and legal support of EAG members as well as over organizational issues regarding their activities.

7.3.1.9. Getting permits to carry out operations to confine and eliminate the accident consequences in case of radioactive contamination.

7.3.1.10. Arranging for strict health physics monitoring of individuals participating in elimination of the accident consequences and sanitary access control regime.

7.3.1.11. Coordination of EAG members' actions basing on results of radiation monitoring in the region of the accident.

7.3.2. Actions of EAG members

7.3.2.1. Actions of representatives of Minatom of Russia and its structural units

7.3.2.1.1. Actions of representatives of Minatom of Russia

* management of development and implementation of priority measures to mitigate and possibly stop the radioactive substance release beyond the affected NPP boundaries;

* practical aid to the NPP management as regards implementation of the Plan of Measures to Protect Personnel in the Event of Accident at Nuclear Power Plant;

* operative resolving of issues related to organization and delivery to the affected NPP of necessary materials, equipment and PPE;

* organization of calling for and delivery to the affected NPP of necessary specialists from other NPPs and enterprises. Organization of prompt deployment of the involved force and capabilities at the affected NPP and coordination of actions of EAG members, involved personnel of ministries, agencies and organizations;

* prompt transmission of information about the radiation hazardous situation or accident at NPP to the superior entities and mass media, setting press-conferences;

* overseeing the regular notification of the NPP personnel and population of the NPP satellite-city, CA and surveillance zone about the measures being taken to confine and eliminate the radiation hazardous situation or accident;

* overseeing the compiling, scope and quality of the would-be transmitted information from the affected NPP, assistance in effective use of mass media and notification capabilities.

7.3.2.1.2. Activities of representatives of Rosenergoatom Concern

Basing on the factual data of the radiation situation

a) assessment of sufficiency and timeliness of the measures taken as regards:

- iodine prophylaxis of the NPP personnel;
- sheltering of NPP personnel and their families in protective structures (shelters, radiation protection enclosures and the like) or, if necessary, evacuating the NPP personnel and their families to a safe region;

- deployment of specialized detachments and NPP CD detachments and their preparedness for emergency response operations;

- assessments of the accident in terms of the radiation release (isotopic and dispersed composition, release dynamics, output temperature gradient, release rate (m/sec), accident duration);

- proposals to the local administration on iodine prophylaxis and procedures for evacuation of the population residing within the plume's "shade";

b) resolution of issues of confining and eliminating the accident consequences:

- organization of development and implementation of priority measures to mitigate and possibly stop the release of radioactive substances beyond the NPP boundaries;

- practical aid to the NPP management in implementation of measures to protect the NPP personnel and their families;

- prompt resolving of issues related to delivery of necessary materials, equipment and PPE to the affected NPP;

- calling for and delivery of necessary specialists from other NPPs to the affected NPP;

- arrangements for fast deployment of the force and capabilities involved from other ministries and agencies at the affected NPP and coordination of their activities using help of EAG members;

- rendering assistance to the NPP management as regards the arrangements for communications necessary for EAG work;

- regular compiling and transmission of information about the accident and measures being taken to the superior authorities and mass media;

- assistance to the NPP management in implementation of additional measures to strengthen physical protection of NPP.

7.3.2.1.3. Actions of Architect General (AEP and VNIPIET) representatives

- participation in development of measures to identify ways and means of minimizing, confining and eliminating the accident at NPP;
- execution of work to assess the degree of damage to buildings, major and auxiliary systems of NPP;
- expedite development of design solutions for engineered systems necessary to confine the accident and eliminate its consequences;
- participation in development of technical solutions for emergency and restoring operations.

7.3.2.1.4. Activities of representatives of the Scientific Supervisor (RRC Kurchatov Institute, SRC IPPE) and Scientific Supervisor of Operations (VNIIAES)

- participation in assessment of the state of reactor and its safety systems, in development of measures to identify ways and means of minimizing, confining and eliminating the accident at NPP;
- control over completeness of measures being taken to cooldown the reactor core, spent fuel pond and to ensure nuclear safety;
- review and preparing of proposals on the emergency cooldown of the reactor core in case safety systems' failure;
- drawing out proposals on anticipated releases of radioactivity under possible accident development;
- review and preparing of recommendations on ways to prevent, confine and eliminate sodium coolant fires;
- review and preparing of proposals on prevention of sodium coolant interaction with water, generation and accumulation of explosive mixtures of hydrogen and oxygen.

7.3.2.1.5. Actions of Chief Designer representatives (OKB Hidropress, NIKIET, OKBM)

- participation in assessment of the state of reactor and its safety systems; development of measures to confine and eliminate accidents at NPP;
- execution of work to assess the degree of damage to the major process equipment;
- drawing out solutions to restore the damaged equipment;
- participation in drawing out proposals on anticipated releases of radioactivity under possible accident development.

7.3.2.1.6. Interaction of Minatom of Russia representatives

When acting as designated the representatives of organizations and enterprises of Minatom of Russia shall be supported by special structures ES RCC and TSC, which shall provide for engineering and information-analytical support to EAG as guided by Minatom of Russia.

7.3.2.2. Actions of representatives of Gosatomnadzor of Russia

7.3.2.2.1. Organization of required schedule and work place for the regulatory experts (if necessary, involvement of extra personnel from regional offices by head of the Gosatomnadzor of Russia group).

7.3.2.2.2. Regulatory oversight of:

- timeliness and completeness of measures being taken to eliminate and mitigate the accident consequences;
- how the standards and rules in the field of use of atomic energy are followed as regards organization of work to bring the affected power unit into the safe state and to eliminate the consequences;
- timely triggering the Plan of Measures to Protect Personnel in the Event of Accident at Nuclear Power Plant;

- confidence and timeliness of published and transmitted messages on the nature and consequences of the accident.

7.3.2.2.3. Compiling and transmission of operative information to EAG head and management of Gosatomnadzor of Russia about NPP nuclear and radiation safety, on completeness and sufficiency of measures being taken to confine and eliminate the accident, and on results of the regulatory oversight.

7.3.2.3. Actions of Rosgidromet representatives

7.3.2.3.1. Establishing contacts with regional offices for hydrometeorology and environmental monitoring and research institutions of Rosgidromet to coordinate actions related to clarification of radiation situation in the NPP region, radionuclide composition of the contamination and forecast of air masses transfer paths from the MPP region.

7.3.2.3.2. Preparing, for EAG head and Rosgidromet management, the following information as based on data supplied by Rosgidromet offices and Minatom of Russia units:

- * on radioactive contamination levels of the environment of the region resulted from NPP accident;
- * on forecasts of air mass transfer paths from the NPP region;
- * on weather conditions and weather forecasts for the NPP region.

7.3.2.4. Actions of IBRAE RAS representatives

7.3.2.4.1. Establishing of stable communication with TSC IBRAE RAS to transmit additional information about the accident and forming radiation situation, the use of TSC recommendations by EAG.

7.3.2.4.2. Participation in assessment of the accident source and radiation situation within CA.

7.3.2.4.3. Participation in clarifying boundaries of the contaminated area beyond CA and assessment of dose burden to the population.

7.3.2.4.4. Practical assistance to optimize radiation monitoring beyond CA.

7.3.2.4.5. Analysis and assessment of implemented and planned measures to protect the personnel and population.

7.3.2.4.6. Participation in preparing information materials and recommendations for the population staying in the accident region.

7.3.2.4.7. Preparation of a report to EAG officials as regards the assessment of existing and forecasted dose burden to the population of nearby settlements and priority recommendations on the population radiation protection and minimization of damage.

7.3.2.5. Actions of MOE of Russia representatives

7.3.2.5.1. Coordination of the building up of the operative formation of force and capabilities of RSPE and oversight of its delivery to the accident region.

Support of deployment of the IDC operative team, MOE of Russia operative team or team of the regional office of MOE of Russia.

Organization of interaction and coordination of activities of ministries, agencies and organizations as to eliminate the accident consequences at NPP and beyond CA of the affected facility.

Organization of creating, preparing and using of emergency rescue teams to execute works to promptly confine and eliminate the emergency.

7.3.2.5.2. Establishing communications with ECC of MOE of Russia, regional centers, regional CD and emergency units (oblast, autonomous area, region, city), emergency response commissions; transmission of information at the affected facility and accident elimination measures being taken.

7.3.2.5.3. Control over deployment of special treatment and dosimetry posts at the CA boundary and in other locations as required.

7.3.2.5.4. Oversight of implementing of measures to protect the population of the NPP satellite-city as regards:

- supply of PPE;
- arrangements for dosimetry monitoring;
- sheltering;
- evacuation of personnel who do not participate in operations to localize the accident and eliminate its consequences, and the NPP satellite-city population;
- rendering assistance in deployment of medical aid and prophylaxis stations to care for the injured individuals.

7.3.2.5.5. Oversight of preparedness of RSPE systems to eliminate a radiation emergency and carrying out of measures to prevent them.

7.3.2.5.6. Preparing of proposals regarding involvement of RSPE additional force and capabilities to carry out emergency rescue and other priority operations during the accident elimination.

7.3.2.5.7. Preparing of reports to MOE of Russia top officials on implementation of the Plan of Measures for Protection of Population in the Event of Radiation Accident at Nuclear Power Plant at the affected NPP.

7.3.2.6. Actions of MOD of Russia representatives

7.3.2.6.1. Actions of representatives of Staff of Command of Radiation, Chemical and Biological Protection Troops of MOD of Russia:

- establishing communications with the SOC RCBP operative team of MOD of Russia; maintaining communications with MOD of Russia Command and keeping its informed on the progress of accident elimination activities;

- coordination with the SOC RCBP operative team of MOD of Russia as regards force and capabilities of RCBP troops involved in confining and eliminating of the accident;
- coordination of EAG actions with the SOC RCBP operative team of MOD of Russia while deploying the force and capability of RCBP troops in the accident region;
- organization of meeting the arriving RCBP troops and tasking them with advancement to temporary deployment regions and carrying out the preliminary radiation survey of the locale;
- coordination of actions in the accident region: RCBP with MOE of Russia, MOI of Russia, Air Force of Russia, SOCE of MOD of Russia and the Central Military Medical Department of MOD of Russia;
- participation in EAG work as regards the analysis of the accident scale and radiation situation data; preparing a report to the EAG heads and SOC RCBP of MOD of Russia commandment.

7.3.2.6.2. Actions of representatives of Staff of Command of Engineering Troops of MOD of Russia:

- establishing communication with the operative team (OT) of SOCE of MOD of Russia and regional headquarters which is planned to provide for the engineering formations (detachments and units);
- participation in EAG work as regards the analysis of the accident scale and survey of the engineering situation; joint preparing with OT SOCE of MOD of Russia a report to the commandment of the Engineering Troops and EAG heads;
- participating jointly with OT SOCE of MOD of Russia in determining the force and capabilities of the Engineering Troops required for elimination of the accident consequences;
- coordination of actions of EAG and OT SOCE of MOD of Russia while advancing the force and capabilities to the accident region;

- organization of interaction in the accident region of detachments and units of the Engineering Troops with the detachments and units of other arms of the service and with CD formations;

- collection of information and reporting of OT SOCE of MOD of Russia on the progress in fulfilling tasks by the involved force and capabilities of the Engineering Troops; analysis of the engineering situation.

7.3.2.7. Actions of MOI of Russia representatives

7.3.2.7.1. Actions of representatives of HQ MOI of Russia:

- accumulation and analysis of information transmitted from the accident scene; assessment of the situation jointly with the concerned departments of HQ MOI of Russia, MDI of MOI of Russia, regional departments of interior of the Russian Federation subjects; preparing options for acting in the emergency and reporting them to the Minister of Interior of the Russian Federation;

- organization of activities of regional departments of interior and internal troops of MOI of Russia in condition of emergency and its elimination; operative command of their force and capabilities; interaction with other law enforcement and state authorities;

- preparing proposals on the necessity to involve additional force and capabilities;

- organization of protection of personnel of the departments of interior involved in confining the accident and eliminating its consequences.

7.3.2.7.2. Actions of representative of Staff of Command of the Internal Troops of the MOI of Russia:

- collection, analysis and generalization of data on the situation at the affected NPP, within CA and NPP satellite-city;

- rendering assistance to the commandment of the military detachment (unit) guarding NPP in organization of protection of the facility considering the aggravating radiation situation; arrangement for access control, engineering and technical support of protection of the personnel; arrangements for dosimetry monitoring, medical aid to the injured and evacuation;
- establishing and maintaining of continuous communication with MD COC IT of MOI of Russia; informing of the IT of MOI of Russia Commander and operative team on the situation and measures being taken;
- organization of control over the fulfillment of tasks by the troops; development of proposals on involvement of additional force, procedures for their triggering to protect NPP, and solving other tasks in the accident region;
- preparing for EAG Head the information of the state of guarding of the affected NPP and activities of additionally involved military detachments (units) of IT of MOI of Russia as regards the elimination of the accident consequences;
- coordination of activities of the troops and their support with other EAG members and relevant ministries and agencies.

7.3.2.7.3. Actions of representatives of Main Department of State Road Police Service of MOI of Russia:

- coordination of activities of GAI of MOI of Russia, MDI of MOI of Russia, regional departments of interior as regards the elimination of the accident consequences at NPP;
- road traffic control and rendering practical help in implementing the measures to block the roads and mapping by-pass routes to avoid radioactively contaminated areas;
- rendering practical help in setting road traffic control posts;
- escort of evacuation caravans;
- arrangements for unobstacled passing of the special machinery caravans.

7.3.2.7.4. Actions of representatives of Main Department of Police Force of MOI of Russia:

- oversight of activities of local police force of MOI of Russia and rendering them the practical help in implementing law enforcement measures within CA and in the NPP satellite-city;
- support of operation of check points, equipping them with PPE, dosimetry instrumentation, means of communication;
- involvement of additional force and capabilities for law enforcement;
- coordination of actions of involved and being involved police force for law enforcement duties;
- organization of measures to ensure guarding of evacuation of NPP personnel and satellite-city from the hazardous area and their registration in new places of residence as well as law enforcement in settlements designated for the evacuated citizens;
- organization of interaction of EAG with law enforcement forces. Preparing of information on:
 - crime situation and law enforcement;
 - measures to block access routes to the radioactively contaminated area;
- rendering assistance in mapping posts and routes for patrolling; provisions for their roadblocking by involvement of other regions of the Russian Federation in the event of an emergency considering the triggering the Emergency Transportation Center of HQ MOI of Russia.

7.3.2.7.5. Actions of representatives of Main Department of the State Fire Protection Service of MOI of Russia:

- receipt of information within EAG about the situation at NPP and its reporting to MD SFPS of MOI of Russia;

- informing of EAD head on measures being taken by commandment and units of SFPS in response to the NPP situation;
- preparing requests to EAG head to get supplies of radiation protection equipment, oil and lubricants and other materiel required for SFPS activities;
- advising EAG members on fire safety at NPP and operations associated with the elimination of the accident;
- through EAG members, supporting the interaction of SFPS commandment and units with other organizations, military detachments and units, CD formations involved in accident elimination operations;
- preparing recommendations and proposals on identifying the most safe routes for advancement and deployment of SFPS units in the event of the radioactive contamination;
- rendering practical assistance to the local SFPS commandment and units in prevention and suppression of fires at NPP and in the surveillance zone.

7.3.2.8. Actions of MPH of Russia representatives

7.3.2.8.1. Actions of representatives of the Federal Directorate for Medical, Biological and Extreme Problems and Institute of Biophysics subordinate to MPH of Russia:

- as necessary, preparing proposals for Gossanepidnadzor of Russia as regards planned increased exposure of the personnel during the elimination of the accident consequences;
- assessment of the personnel exposure doses and anticipated radiological consequences;
- drawing out proposals for EAG head as regards protection of the personnel and population basing on the health physics monitoring and forecasts of the emergency development;
- development of measures to protect water supply sources, foodstuff, reduction of the personnel and population

exposure through organization of proper food catering, water supply and household behavior;

- oversight of anti-epidemic measures in the center of accident, during evacuation and in the places of temporary residence of the personnel and population;
- coordination of activities of all medical departments of the NPP medical station and subordinate units as regards rendering the first aid to the personnel affected by the accident;
- if necessary, involvement of medical force and formations of FD Medbioextreme of MPH of Russia (physicians' teams) to render *in situ* medical aid to the injured;
- oversight of timely rendering medical aid in the scope required to the injured in the first aid posts, hospitals, evacuation stations;
- rendering advice to the local establishments and medical facilities in implementing measures to render medical aid to the injured;
- oversight of timely iodine prophylaxis of the NPP personnel and population of the NPP satellite-city;
- oversight of the organization and implementation of medical support to the evacuation activities;
- oversight of activities of Gossanepidnadzor of Russia centers, NPP medical departments and rendering practical assistance to them;
- oversight of the health physics activities for the injured, medical staff and all participants of the accident elimination; dosimetry monitoring of fresh water and foodstuff; availability and use of PPE;
- preparing information for EAG on the situation as regards the medical support to the personnel and population;
- preparing and transmitting information to the MPH of Russia top officials on measures being taken as to the medical support of the NPP personnel and the population of NPP satellite-city;

- participation in the assessment of the radiation situation and development of recommendations as to reduce dose burdens to the NPP personnel and individuals involved in elimination of the accident consequences;
- analysis and assessment of implemented and planned measures to protect the personnel and population;
- assessment of current and anticipated dose burdens to the population and the recommendations regarding the radiation protection;
- compilation medical-dosimetry data bank;
- analysis of adequacy of standard intervention levels and their optimization for a specific radiological situation.

7.3.2.8.2. Actions of ACMC Zashita representatives:

- on the basis of the radiation situation forecasts in the accident area, development of proposals for MPH of Russia and EAG management regarding participation of local medical establishments in elimination of the accident consequences;
- organization of interaction between the local medical establishments involved in elimination of the accident consequences;
- oversight of activities of local medical establishments in the places of temporary residence of the population and rendering practical assistance to them;
- organization of mass medical examination of the population;
- assessment of activities of local medical establishments as regards the elimination of the accident consequences; preparing documents for EAG and MPH of Russia management for COE (local), RCOE and IDC meetings;
- arrangements for alerting detachments of ACMS of MPH of Russia and preparedness of relevant units of ACMC Zashita.

8. EAG EQUIPMENT, DOCUMENTATION AND REPORTING

8.1. EAG equipment

EAG equipment shall include the equipment placed in storage in RCC and the Civil Defense equipment of NPP stored in a special room outside the territory of each NPP.

8.1.1. List of EAG equipment stored in RCC

The list of portable radiological survey and dosimetry instrumentation, means of decontamination and PPE, special clothing and other equipment of the Emergency Assistance Group for NPPs is given in Attachment 5.

8.1.2. Maintaining EAG equipment constantly available for use in emergencies
The availability of EAG equipment for the use in emergencies shall be assured by Rosenergoatom Concern through:

8.1.2.1. Arranging for proper storage conditions:

- separate room equipped with guarding alarm;
- exclusion of unauthorized individual access to EAG equipment;
- storage racks;
- general ventilation.

8.1.2.2. Timely replacement of medical supplies exhausted their shelf life.

8.1.2.3. Scheduled maintenance of EAG equipment in accordance with requirements of operating manuals.

8.1.3. List of EAG Civil Defense equipment stored in a special room outside the territory of NPP

The list of EAG Civil Defense equipment stored in a special room outside the territory of NPP is given in Attachment 6.

8.2. EAG documentation

EAG documentation includes regulatory documentation stored in RCC of NPP and SEROCs of nuclear power plants, operative documentation, special passes of EAG members to access nuclear power plants, and records.

8.2.1. EAG RDs

The list of design and regulatory documents for the Emergency Assistance Group for NPPs stored in the Crisis Center of Rosenergoatom Concern and SEROC (on site of NPP and in the NPP satellite city) at each NPP is given in Attachment...

NPP shall be responsible for supplying such documents to RCC and SEROC and timely updating thereof.

Each NPP Director shall designate an individual responsible for compiling RDs for EAG subject to storing in RCC and SEROC NPP.

8.2.2. EAG operative documentation

The EAG operative documentation consists of lists of EAG members, EAG members notification and gathering schemes in various options enabling Rosenergoatom Concern to notify and gather EAG members within the shortest time possible. The operative documentation is kept in RCC and shall be subject to immediate updating should any changes occur.

8.2.3. EAG members' special passes to access NPPs

The special passes shall be arranged for by Rosenergoatom Concern as the EAG members submit their photographs of 3x4 cm in size.

8.2.4. EAG reporting

8.2.4.1. The EAG work at the affected NPP shall be formalized by a record.

8.2.4.2. EAG members shall duly prepare required technical reports for the EAG Head.

8.2.4.3. All EAG documentation shall be duly formatted, registered and placed to EAG archive.

9. List of documents used for development of these Provisions

1) Federal Law “On the Use of Atomic Energy” (adopted by the State Duma on October 20, 1995).

2) Federal Law “On Radiation Safety of the Population” (adopted by the State Duma on December 5, 1995).

3) Federal Law “On Protection of the Public and Territories Against Natural and Man-Induced Emergencies” (adopted by the State Duma on November 11, 1994).

4) Federal Law “On Internal Troops of the Ministry of Interior of the Russian Federation” (adopted by the State Duma on December 25, 1996).

5) Decree of the Council of Ministers of the USSR “On Measures to Ensure Protection of the Personnel of Nuclear Power Plants and Population in the Event of Radiation Hazardous Accidents at These Plants” (approved on October 23, 1989, № 882).

6) Provisions for the United State System For Prevention And Elimination Of Emergencies (approved by decree of the Government of the Russian Federation of November 5, 1995, №1113).

7) Rules of Physical Protection of nuclear materials, Nuclear Installations and Nuclear material Storage Facilities approved by decree of the Government of the Russian Federation of March 7, 1997, № 264).

8) Radiation Safety Standards NRB-76/87 (NRB-96).

9) General safety Provisions of Nuclear Power Plants OPB-88/97. PNAE G-01-011-97.

10) Unified content of the “Plan for Protection of the Personnel in the Event of Accident at Nuclear Power Plant” (RD-EO-0030-94).

11) Sanitary Rules of Design and Operation of Nuclear Power Plants SP-AS-88/93 (made effective by order of Minatom of Russia of December 28, 1993, №773).

12) Provisions for the System of Prevention and Elimination of Emergencies of Rosenergoatom Concern (SPEE) (made

effective by order of Rosenergoatom Concern of August 13, 1996, №150).

13) Provisions for the Emergency Commission of Rosenergoatom Concern (approved by Rosenergoatom Concern President on July 31, 1996).

14) Crisis Center of Rosenergoatom Concern. General provisions (approved by Rosenergoatom Concern President on July 8, 1996).

15) Convention on Early Notification of Nuclear Accident. Vienna. IAEA, 1986.

16) Convention on Assistance in the case of a Nuclear Accident or Radiological Emergency, Vienna: IAEA, 1986.

17) IAEA Safety Guides.

18) Preparedness of Public Authorities for Emergencies at Nuclear Power Plants, Vienna: IAEA, N 50-SG-66, 1982.

19) Preparedness of the Operating Organization (Licensee) for Emergencies of Nuclear Power Plants, №50-SG-06, Vienna: IAEA, 1982.

20) Planning of Off-site Response to Radiation Accidents in Nuclear Facilities, №55, Vienna: IAEA, 1981.

21) Management of Nuclear Power Plants Safe Operation, №50-SG-09, Vienna: IAEA, 1986.

22) Systems of Information on Unusual Events at Nuclear Power Plants, 1990, Vienna: IAEA, 1990.

23) Provisions On Procedure For Declaring An Emergency, Fast Communication Of Information, And Prompt Aid To The Fuel Cycle Enterprises In The Event Of Radiation Hazard, Moscow, 1992. Approved by Gosatomnadzor of Russia, Minatom of Russia, MOD of Russia, MOC of Russia, MPH of Russia, and Rosgidromet of Russia.

24) Provisions for Investigation and Accounting of Operational Violations of Nuclear Power Plants (PNAE G-12-005-97).

ATTACHMENTS

Attachment 1

List of EAG Civil Defense Equipment Stored in Special Room Off-Site Nuclear Power Plant

No	Equipment	Unit of measure	Required amount	Note
1	Winter menswear "Taiga"	set	60	
2	Bootee	pair	60	
3	Weather-proof jacket	pcs	60	
4	Felt boots	pair	60	
5	Rubber high boots	pair	60	
6	Rechargeable electric lantern	pcs	20	
Personal protective equipment				
1	Dust mask ShB-1 "Lepestok-200"	pcs	200	
2	Dust mask "Lepestok-Apan" (RM-2, RU-92SN)	pcs	200	
3	Dust-fighting respirator GP-7	pcs	60	
4	Hard cap "Trud"	pcs	60	
5	Rubber gloves (for technical applications)	pair	200	
6	Cloth gloves (inner)	pair	200	
7	Protective plastic overalls, oversleeves, boots	set	100	
8	Goggles	pcs	100	
9	Special clothes (one-piece suit or jumpsuit)	pcs	60	
10	Special footwear (lavsan-lined boots)	Pair	60	
Means of decontamination and personal hygiene				
1	Skin cleaning agent (from	kg	20	

No	Equipment	Unit of measure	Required amount	Note
	radioactive contamination) “Zashita”			
2	First aid kit AI -2	pcs	20	
3	Bandage kit PPI	pcs	60	
4	Chemical antidote kit IPP-10	pcs	60	
5	Potassium iodine pills	pack	10	
6	Body soap	pcs	60	
7	Towel	pcs	60	
8	Labeled plastic sack for EAG members' clothes	pcs	60	
Dosimetry and survey instrumentation				
1	Radiometer DP-5V (IMD-1r)	pcs	15	
2	Radiometer DRG-01T	pcs	15	
3	Dosimeter DKS-04	pcs	5	
4	Contamination monitor UIMCh-2	pcs	5	
6	Dosimeter KID-6 with measuring panel	pcs	60	
7	Radiometer “Tsna”	pcs	15	
8	Radioactive iodine air monitor	pcs	2	
9	Dose rate meter IMD-21B	pcs	2	
Means of communication				
1	Portable radio station (Motorola, RS, FM, etc.) to operate within 5-km zone around NPP (Radionetwork № 1)	pcs	10	
2	Mobile radio station (RS-200/m and the like) to operate within 30-km zone around NPP (Radionetwork № 2)	pcs	2	

Attachment 2

List of Design and Regulatory Documentation for Emergency Assistance Group for NPP Kept in the Crisis Center of Rosenergoatom Concern and SEROC (on site of NPP and in the NPP satellite-city) at each NPP

1. Provisions On Procedure For Declaring An Emergency, Fast Communication Of Information, And Prompt Aid To The Fuel Cycle Enterprises In The Event Of Radiation Hazard.
2. Plan of Measures to protect the Personnel in the Event of an Accident at Nuclear Power Plant.
3. Radiation Monitoring Schemes for NPP, CA, NPP Satellite-City and SZ of NPP.
4. Map of Access Roads in NPP Region.
5. NPP Design and Technical Documentation.
 - 5.1. Views of main building of NPP with elevations and cross-sections.
 - 5.2. List of operations and technical documentation.
 - 5.2.1. For NPPs with VVER-440 and VVER-1000 reactors (for each power unit).

N	Document	Building	Document title
1.	Process flow diagram	Reactor hall	Process flow diagram of the primary circuit including make-up-blowdown system, emergency and scheduled cooldown systems, WT-1, WT-2
1.1.	same	same	Emergency feedwater system
1.2.	- “ -	- “ -	Emergency boron injection system
1.3.	- “ -	- “ -	Flow diagrams of ECCS, SCS, water tanks
1.4.	- “ -	- “ -	Accident confining scheme
1.5.	- “ -	- “ -	Service water supply system
1.6.	- “ -	- “ -	Hold-up pool cooling system
1.7.	- “ -	- “ -	RW storage layout
1.8.	- “ -	- “ -	RI and FC equipment drawings (general view)

N	Document	Building	Document title
1.9.	- “ -	- “ -	RI general arrangement drawing (general view)
2.	Process flow diagram	Turbine hall	Layout of main steam lines, including BRU-A, BRU-K, BRU-RTD, BRU-SN
2.1.	same	same	Feedwater supply layout including deaerators and their tubing
2.2.	- “ -	- “ -	Main condensate flow diagram
2.3.	- “ -	- “ -	Secondary circuit cooldown flow diagram
2.4.	- “ -	- “ -	Steam generator emergency power supply circuitry
2.5.	- “ -	- “ -	Steam generator blow-down flow diagram
2.6.	- “ -	- “ -	Tank system flow diagrams
3.	Process flow diagram	Plant layout	Main power supply circuitry
3.1.	same	same	In-house 6 kV electric circuitry
3.2.	- “ -	- “ -	In-house reliable power supply circuitry 6 kV and 0.4 kV
3.3.	- “ -	- “ -	Diesel generator layout
3.4.	- “ -	- “ -	NPP site general layout
3.5.	- “ -	- “ -	NPP buildings plans and cross-sections
3.6.	- “ -	- “ -	NPP satellite-city description
4.	Procedure	NPP power unit	Process regulations of the power unit
4.1.	same	same	RI operating procedure
4.2.	- “ -	- “ -	Emergency and accident elimination procedure for the power unit

N	Document	Building	Document title
4.3.	- “ -	- “ -	RI safety systems operating procedure
4.4.	- “ -	- “ -	Accident elimination procedure for electric section of NPP
4.5.	- “ -	- “ -	Beyond design basis accident management guide
4.6.	- “ -	- “ -	Plan of measures to protect personnel in the event of accident at NPP
4.7.	- “ -	- “ -	Fire suppression plan for NPP

5.2.2. NPPs with RBMK-1000 reactors (for each power unit)

N	Document	Building	Document title
1.	Process flow diagram	Reactor hall	MFCC process flow diagram
1.1.	same	same	Flow diagrams of ALS, SCS, ECCS, BCS
1.2.	- “ -	- “ -	Feedwater flow diagram
1.3.	- “ -	- “ -	Service water flow diagram
1.4.	- “ -	- “ -	Gas circuit system
1.5.	- “ -	- “ -	CASS layout
1.6.	- “ -	- “ -	CPS cooling circuit
1.7.	- “ -	- “ -	RI equipment and FC drawings (general view)
1.8.	Process flow diagram	Reactor hall	RI general arrangement drawing (general view)
2.	Process flow diagram	Turbine hall	Main steam and in-house steam lines
2.1.	same	same	Main condensate flow diagrams

N	Document	Building	Document title
2.2.	- “ -	- “ -	Emergency steam sump flow diagram
3.	Process flow diagram	Water chemistry hall	WT-1 flow diagrams
3.1.	same	same	Tank system layout
3.2.	- “ -	- “ -	RW storage system
3.3.	- “ -	- “ -	Condensate clean-up system
4.	Process flow diagram	Plant layout	Main power supply circuitry
4.1.	same	same	In-house 6 kV electric circuitry
4.2.	- “ -	- “ -	In-house reliable power supply circuitry 6 kV and 0.4 kV
4.3.	- “ -	- “ -	Diesel generator layout
4.4.	- “ -	- “ -	NPP site general layout
4.5.	- “ -	- “ -	NPP buildings plans and cross-sections
4.6.	- “ -	- “ -	NPP satellite-city description
5.	Procedure	NPP power unit	Process regulations of the power unit
5.1.	same	same	Operating procedures for RI, MFCC and CPS cooling circuit
5.2.	- “ -	- “ -	Safety systems operating procedures (ECCS, SCS, ALS)
5.3.	- “ -	- “ -	Accident elimination procedure for electric section of NPP
5.4.	- “ -	- “ -	Beyond design basis accident management guide
5.5.	- “ -	- “ -	Plan of measures to protect personnel in the event of accident at NPP

N	Document	Building	Document title
5.6.	- “ -	- “ -	Fire suppression plan for NPP

5.2.3. Bilibino NPP with EGP-6 reactor

N	Document	Building	Document title
1.	Process flow diagram	Reactor hall	Main circuit flow diagram
1.1.	same	same	Feedwater flow diagram
1.2.	- “ -	- “ -	WT system and RW storage layouts
13.	- “ -	- “ -	Cooling water emergency make-up system (CWEMS) flow diagram
1.4.	- “ -	- “ -	Emergency cooldown system (ECS)
1.5.	- “ -	- “ -	RI equipment and FC drawings (general view)
1.6.	- “ -	- “ -	RI general arrangement drawing (general view)
2.	Process flow diagram	Turbine hall	Steam line flow diagrams
2.1.	same	same	Main condensate flow diagram
2.2.	- “ -	- “ -	Emergency steam sink system
3.	Process flow diagram	Plant layout	Main power supply circuitry
3.1.	same	same	In-house 6 kV electric circuitry
3.2.	- “ -	- “ -	In-house reliable power supply circuitry 6 kV and 0.4 kV
3.3.	- “ -	- “ -	In-house reliable power supply of categories 1 and 2
3.4.	- “ -	- “ -	Diesel generator layout

N	Document	Building	Document title
3.5.	- “ -	- “ -	NPP site general layout
3.6.	- “ -	- “ -	NPP buildings plans and cross-sections
3.7.	- “ -	- “ -	NPP satellite-city description
4.	Procedure	NPP power unit	NPP process regulations
4.1.	same	same	EGP-6 operating procedure
4.2.	- “ -	- “ -	Procedure for prevention and elimination of operational events at power units of Bilibino NPP
4.3.	- “ -	- “ -	EGP-6 operating procedures for FA , CPS channels and MC reloading
4.4.	- “ -	- “ -	Operating procedures for ECS and turbine protective features
4.5.	Procedure	NPP power unit	Accident elimination procedure for electric section of NPP
4.6.	Procedure	NPP power unit	Beyond design basis accident management guide
4.7.	same	same	Plan of measures to protect personnel in the event of accident at NPP
4.8.	- “ -	- “ -	Fire suppression plan for NPP

5.2.4. Beloyarsk NPP with BN-600 reactor

N	Document	Building	Document title
1.	Process flow diagram	Reactor hall	Process flow diagrams of 1, 2, 3 circuits
1.1.	same	same	Unit feedwater flow diagram
1.2.	- “ -	- “ -	Unit main steam flow diagram
1.3.	- “ -	- “ -	RW storage layout

N	Document	Building	Document title
1.4.	- “ -	- “ -	RI equipment and FC drawings (general view)
1.5.	- “ -	- “ -	RI general arrangement drawing (general view)
2.	Process flow diagram	Turbine hall	TG main condensate flow diagram
2.1.	same	same	Main steam line layouts
2.2.	- “ -	- “ -	Secondary coolant clean-up system (from oxides)
3.	Process flow diagram	Plant layout	Main power supply circuitry
3.1.	same	same	In-house 6 kV electric circuitry
3.2.	- “ -	- “ -	In-house reliable power supply circuitry 6 kV and 0.4 kV
3.4.	- “ -	- “ -	Diesel generator layout
3.5.	- “ -	- “ -	NPP site general layout
3.6.	- “ -	- “ -	NPP buildings plans and cross-sections
3.7.	- “ -	- “ -	NPP satellite-city description
4.	Procedure	NPP power unit	Process regulations for power unit 3 of Beloyarsk NPP
4.1.	same	same	Technical description of RI BN-600
4.2.	Procedure	NPP power unit	RI operating procedure
4.3.	Procedure	NPP power unit	RI safety systems operating procedure

N	Document	Building	Document title
4.4.	Procedure	NPP power unit	Procedure for prevention and elimination of accidents at RI
4.5.	same	same	Accident elimination procedure for electric section of NPP
4.6.	- “ -	- “ -	Beyond design basis accident management guide
4.7.	- “ -	- “ -	Plan of measures to protect personnel in the event of accident at NPP
4.8.	- “ -	- “ -	Fire suppression plan for NPP

Attachment 3

List of means of communications required for EAG functioning

1.	Mobile communication station (MSC) based on off-road vehicle	1
2.	“Rosa” special mobile radio station	2
3.	Portable emergency satellite communication set	2
4.	Portable radio station for communication within 5-km zone around NPP	15
5.	Mobile radio station for communication within 30-km zone around NPP	4
6.	Pager	60
7.	Automated notification equipment	1
8.	Sound recorder	1
9.	Flasher-and-fuzz system for operative cars	5
10.	Radio extension	5
11.	Voice recorder	5
12.	Cellular telephone set	10
13.	Home telephone set connected to the Moscow City Telephone Network	For all EAG members
14.	Portable Xerox machine	2
15.	Telephone set for EAG conference room	5
16.	Portable facsimile machine	2
17.	Small-size gas-fueled power station	1

- | | |
|--|---|
| 18. Portable switch-board for 10 telephone numbers | 1 |
| 19. Spare set of storage batteries and regular batteries | 1 |

Attachment 4

NPP operational event categories

Category code	Characteristics and consequences of event
Accidents A01	Radioactive substance release into the environment resulted from a beyond design basis accident, which can lead to possible acute radiation disease among the NPP personnel (employees) and members of the public, damage to their health, contamination of a large territory with radioactive substances. Transboundary migration of radioactive substances is possible. Prolonged effects to the environment.
A02	Radioactive substance release into the environment which resulted in achieving or exceeding Level B criteria for immediate decision-making at the initial stage of the accident outside the NPP controlled area: predicted exposure dose during the first 10 days is 500 mGy to the whole body or 5,000 mGy to thyroid, lungs, and skin.
A03	Radioactive substance release into the environment which resulted in achieving or exceeding Level A criteria for immediate decision-making at the initial stage of the accident outside the NPP controlled area: predicted exposure dose during the first 10 days is 50 mGy to the whole body or 500 mGy to thyroid, lungs, and skin.
	Notes. <ol style="list-style-type: none"> 1. Accidents pertaining to Categories A01, A02, A03 are characterized by situation where the maximum design fuel damage limit is exceeded. 2. Levels "A" and "B" of criteria for immediate decision-making at the initial stage of the accident correspond to NRB-96.

<p>Category code A04</p>	<p>Characteristics and consequences of event Radioactive substance release into the environment which resulted in exceeding the main exposure dose limit of 5 mSv per year for members of the public within the controlled area. One-time external and/or internal exposure of individuals of the personnel where the exposure dose exceeds the potentially hazardous dose (200 mSv). Fuel rod damage where the safe operation limit as regards number and size of fuel rod defects is exceeded but the maximum design limit is not exceeded.</p>
<p>Occurrences O01 O02 O03 O04 O05</p>	<p>Ingress into the permanently attended premises, NPP site or environment of radioactive substances as a result of failures of systems (components), operating procedure deficiencies, erroneous personnel actions, which have led to: contamination of permanently attended premises with beta-active nuclides up to 10,000 ptcls/(min*cm²) and/or alpha-active nuclides up to 200 ptcls/(min*cm²); contamination of the controlled area lead to exposure dose which does not exceed 5 mSv per year. One-time external or internal exposure of individuals of the personnel where dose exceeds the basic dose limit but is less than the potentially hazardous dose (200 mSv). Violation of safe operation limits (except for radiation limits). Violation of safe operation conditions. Failure of one or several safety system trains detected during the scheduled tests or visual examination during NPP power unit operation. Actuation of a safety system triggered by the necessity to perform the safety function in the course of NPP power unit operation and accompanied by</p>

<p>Category code</p> <p>O06</p> <p>O07</p> <p>O08</p> <p>O09</p>	<p>Characteristics and consequences of event additional, as compared with failures considered for design basis accidents, failures of safety system components in excess of single failure and/or erroneous personnel actions.</p> <p>Actuation of a safety system triggered by the necessity to perform the safety function in the course of NPP power unit operation and is not accompanied by additional, as compared with failures considered for design basis accidents, failures of safety system components in excess of single failure and/or erroneous personnel actions.</p> <p>Actuation of a safety system of safety train which does not associate with performing the safety function including a failure of that fire suppression section that ensures conditions for safety systems' functioning.</p> <p>Trip of reactor installation or disconnection of the power unit from the grid without actuation of emergency protection during NPP power unit operation due to a failure of systems (components) and/or erroneous personnel actions or external impacts.</p> <p>NPP load drop by 25% and more from the preceded power level due to a failure of systems (components) and/or erroneous personnel actions or external impacts (excluding the events listed in para 2.2 of the provisions for Investigation and Accounting of Nuclear Power Plant Operational Events (PNAE G-12-005-97)).</p>
<p>O10</p>	<p>Drop and/or damage of FA, fuel rods during handling operations with fresh or spent nuclear fuel due to failures of systems, components (including NPP hoisting equipment used for handling of nuclear fuel) and/or erroneous personnel actions.</p>

Category code O11	Characteristics and consequences of event Damages or defects of NPP components pertaining to safety classes 1 and 2 occurred or detected during NPP power unit operation but have not led to an initiating event.
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NPP event reporting format **)

Primary, additional (underline)

Section 1

1.1. Date of emergency, OE _____/
day, month, year/

1.2. Moscow time _____ / hour,
min/

1.3. Local time _____ /hour,
min/

1.4. Type
emergency _____

1.5. Kind
OE _____

1.6. Place of emergency, OE

1.7. Name of enterprise (facility) and its structural unit

Section 2

2.1. Number of affected (radiation decease, acute
poisoning, injuries)

2.1.1. Lethality

2.1.2. Personnel exposed to ionizing radiation (no, yes, number, degree of injury) _____

2.1.3. Personnel exposed to noxious substances (no, yes, number, degree of injury) _____

2.1.4. Personnel exposed to other types of impacts (no, yes, number, degree of injury)

(last name, initials of injured)

(date of birth) (position)

2.2. Number of individuals exposed in excess of the permissible levels

Section 3

3.1. Characteristics and scale of emergency, OE (within facility, shop, plant, industrial site, CA, SZ)

3.2. Magnitudes of accident releases, discharges, names of substances

3.3. Calculated values of doses of additional exposure due to emergency of NPP territory, in CA and NPP satellite-city

3.4. Leaks of process equipment, leading to contamination of environment (no, yes, PC values) _____

3.5. Safety of installation (processes) under control (yes, no)

3.6. Loss (detection) of ionizing radiation sources (type, activity)

3.7. Brief description of event

3.8. Causes of emergency, OE (assumed, identified)

3.9. Impact to other industries

3.10. Possibility to cope with emergency, OE using own capabilities (yes, no, necessity in seconding external experts, operative team)

3.11. Additional force and capabilities required

3.12. Brief description of works to confine and eliminate the emergency consequences, planned and being taken measures

Section 4

4.1. Notification of local administrations (yes, no, when, what)

4.2. Information to mass media (yes, no, when, what)

5. Emergency response center head telephone (cable) number

6. Position, name, initials of officer signed the report, name of enterprise

(position) (name, initials) (enterprise)

7. Name, initials of report sender

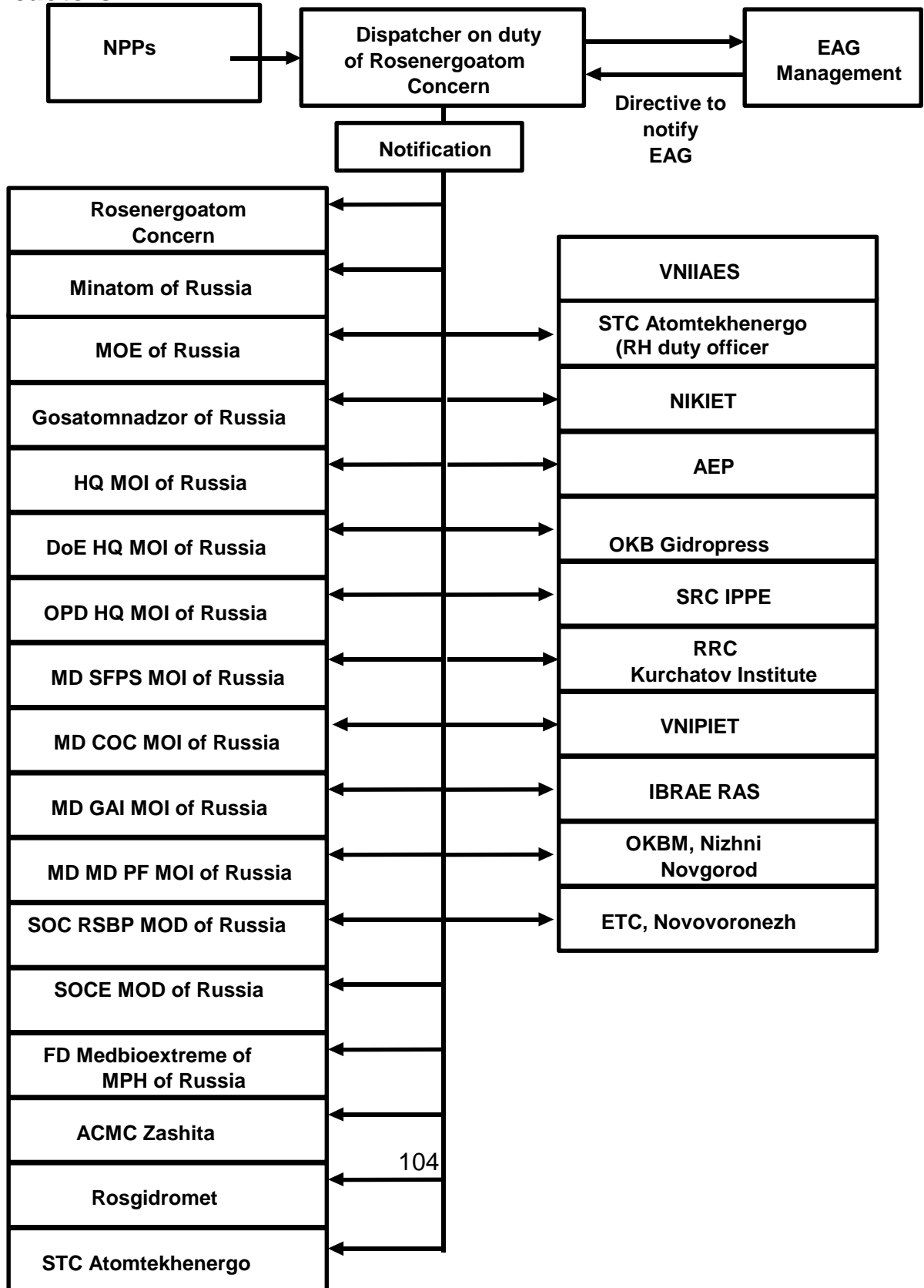
8. Name, initials of report receiver

*) Filled out in accordance with the Memo on preparing and transmitting prompt (in the event of emergency – immediate; in the event of OE – within one day) reports as per Attachment 3 to the order by the Minister of the Russian Federation of Atomic Energy of April 30, 1993, № 300.

**) The report may be attached with other necessary information describing the emergency, OE; working conditions; texts of notifications to the local administrations; press-releases and the like.

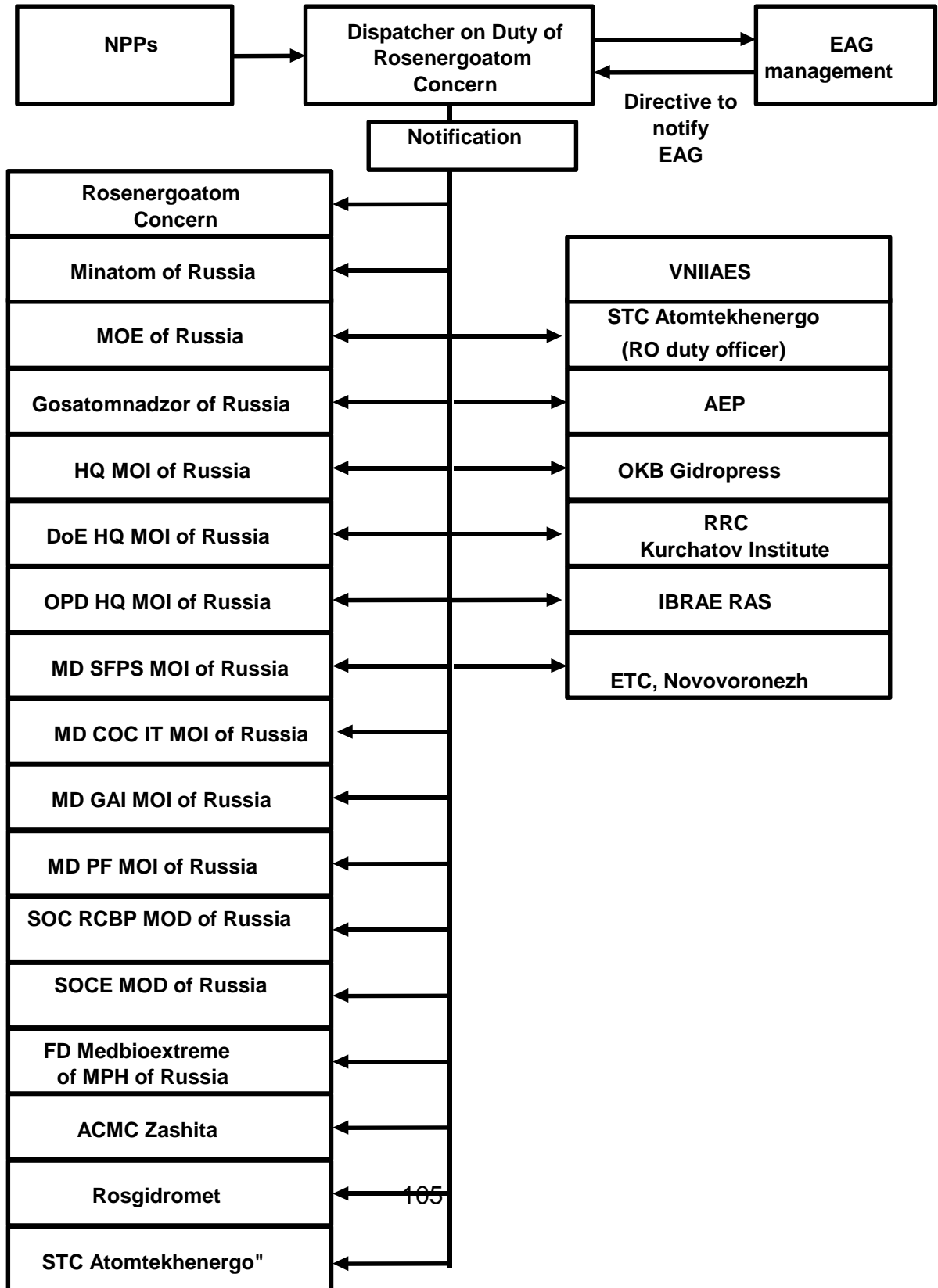
Attachment 6

General notification schemes of organizations constituting EAG in the event of an accident at NPP with RBMK, BN, EGP reactors



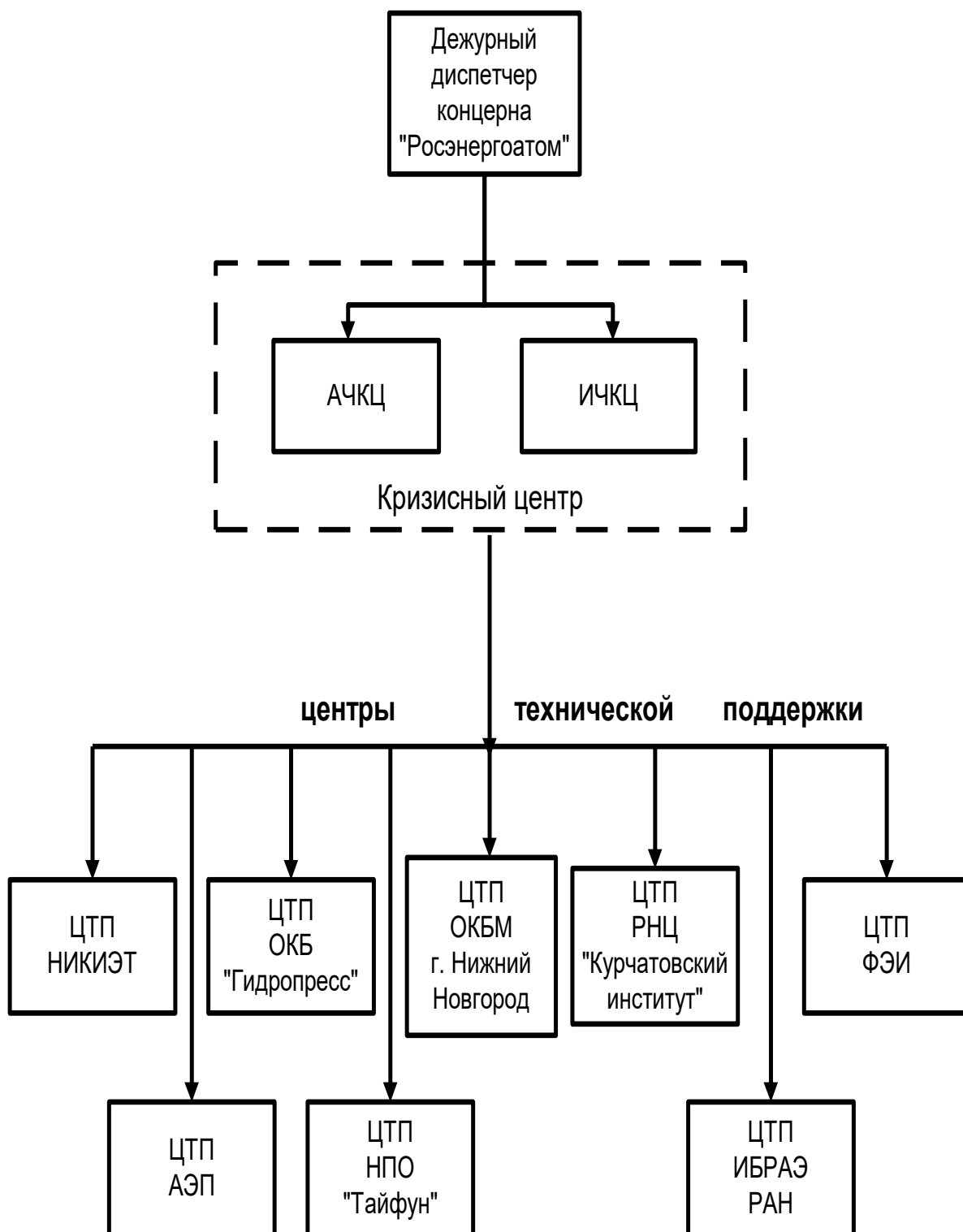
Attachment 7

General notification schemes of organizations constituting EAG in the event of an accident at NPP with VVER reactors



Attachment 8

Scheme of notifying and triggering Technical Support Centers of RCC and EAG in the event of an accident or radiation zardous situations



Attachment 9

List of portable radiation survey and dosimetry instrumentation, means of decontamination, special clothing and equipment of EAG

№	Equipment	Unit of measure	Required amount	Note
	Personal protective equipment			
1	Dust mask ShB-1 "Lepestok-200"	pcs	1000	
2	Dust mask "Lepestok-Apan" (RM-2, RU-92SN)	pcs	1000	
3	Dust-fighting respirator GP-7	pcs	60	
4	Hard cap "Trud"	pcs	60	
5	Rubber gloves (for technical applications)	pair	1000	
6	Cloth gloves (inner)	pair	1000	
7	Protective plastic overalls, oversleeves, boots	set	100	
8	Main overalls (one-piece suit, suit, lab coat, cap)	set	100	
9	Special footwear (lavsan-lined boots, rubber highboots)	set	100	
10	Goggles	pcs	100	
11	Winter clothes and footwear	set	100	
12	Iodine filter-box	pcs	100	
	Dosimetry and survey instrumentation			
1	Radiometer DRG-01T	pcs	40	
2	Personal dosimeter DKP-50 (along with DP-22V)	шт.	50	
	Means of decontamination and personal hygiene			

No	Equipment	Unit of measure	Required amount	Note
1	Skin cleaning agent (from radioactive contamination) "Zashita"	kg	20	
2	First aid kit AI -2	pcs	20	
3	Bandage kit PPI	pcs	60	
4	Chemical antidote kit IPP-10	pcs	60	
5	Potassium iodine pills	pack	10	
6	Body soap	pcs	60	
7	Towel	pcs	100	

Note: The listed EAG means and equipment are stored in a special room of Rosenergoatom Concern of Minatom of Russia (for each EAG member the means and equipment are arranged for in a special suitcase).

Legend to Attachment 8:

(top-to-bottom; left-to-right)

1. Dispatcher on Duty of Rosenergoatom Concern
2. CCA
3. ES RCC
4. Crisis Center
5. Technical Support Centers
6. TSC NIKIET
7. TSC OKB Hidropress
8. TSC OKBM Nizhni Novgorod
9. TSC RRC Kurchatov Institute
10. TSC IPPE
11. TSC AEP
12. TSC SPA Taifun
13. TSC IBRAE RAS