THE SIXTH NATIONAL REPORT OF THE REPUBLIC OF BELARUS

FOR THE JOINT CONVENTION ON THE SAFETY OF SPENT FUEL MANAGEMENT AND ON THE SAFETY OF RADIACTIVE WASTE MANAGEMENT

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LIST OF ABBREVIATIONS

NPP - nuclear power plant;
Gosatomnadzor - Department for Nuclear and Radiation Safety of the Ministry for Emergency Situations of the Republic of Belarus;
SIR - source of ionizing radiation;
RHR - research heat reactor;
CSS – Committee for State Security of the Republic of Belarus
IAEA - International Atomic Energy Agency;
MIA - Ministry of Internal Affairs of the Republic of Belarus;
MES - Ministry for Emergency Situations of the Republic of Belarus;
SSI "JIPNR - Sosny" - State Scientific Institution "Joint Institute for Power and Nuclear Research - Sosny" of the National Academy of Sciences of Belarus;
SNF – spent nuclear fuel;
DWDF - decontamination waste disposal facility;
RWDF - radioactive waste disposal facility;
RWSF - radioactive waste storage facility;
RW - radioactive wastes;
STB - State Standard of the Republic of Belarus.

Section A. INTRODUCTION

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (hereinafter referred as to the Convention) was ratified by the Republic of Belarus on July 17, 2002 and entered into force for the Republic of Belarus on February 24, 2003.

The Sixth National Report of the Republic of Belarus on implementation of obligations arising from the Convention encompasses activities and events since 2014.

Some issues of implementation of the Convention presented in details in the five previous National Reports of the Republic of Belarus and remained unchanged over the past period are reviewed in this Report briefly.

Radiation sources, nuclear and radiation methods and technologies generating radioactive waste are widely used in industry, science, medicine and other branches of economy of the Republic of Belarus.

Besides, in future in the Republic of Belarus radioactive waste will also be formed at the Belarusian NPP. The principal decision on the development of the first national nuclear power program was adopted in the beginning of 2008.

Since publication of the previous report the following events related to radioactive waste and spent nuclear fuel management have taken place:

- the Strategy for Management of Radioactive Waste of the Belarusian Nuclear Power Plant was approved by the resolution of the Council of Ministers of the Republic of Belarus No. 460 dated 02.06.2015;
- in November, 2015, the Council of Ministers of the Republic of Belarus approved the Program for decommissioning of storage facility (complex of spent nuclear fuel storage and management systems) "Iskra" at SSI "JIPNR - Sosny";
- IAEA Integrated Regulatory Review Service mission was conducted in Belarus in October, 2016.

In the period under consideration Belarus continued to improve the legal basis of state regulation of nuclear and radiation safety taking into account approaches established in IAEA documents. The most significant changes in the national legislation are:

- adoption of the Decree of the President of the Republic of Belarus No. 62 dated 16.02.2015, which established the procedure for organization and implementation of safety-related supervision activities in the process of construction of the Belarusian nuclear power plant;
- introduction of amendments and additions to the Decree of the President of the Republic of Belarus No. 450 dated 01.09.2010 establishing the procedure for licensing in the sphere of use of atomic energy and ionizing radiation sources;
- adoption of the resolution of the Council of Ministers of the Republic of Belarus No. 479 dated 21.06.2016 approving the Concept of establishment of the system of situational crisis centers;
- adoption of the resolution of the Council of Ministers of the Republic of Belarus No. 991 dated 02.12.2016 defining the list of organizations providing

scientific and technical support to the Ministry for Emergency Situations in the sphere of nuclear and radiation safety;

- adoption of the Decree of the President of the Republic of Belarus No. 361 dated 05.10.2017 on the establishment of the Center on Nuclear and Radiation Safety in the structure of the Ministry for Emergency Situations for providing scientific and technical support in nuclear and radiation safety.

A1. Conclusions of the discussion of the Fifth National Report of the Republic of Belarus at the Fifth Review Meeting

In the course of discussion of the Fifth National Report of the Republic of Belarus for the Convention the following positive aspects were noted:

progress of the Republic of Belarus in activity concerning radioactive waste and spent nuclear fuel management from the moment of the previous review meeting;

scientific programs for research and development, including activities for radioactive waste and spent nuclear fuel management in the Republic of Belarus, approved at the state level;

international cooperation with the IAEA, the European Commission, Regulatory Cooperation Forum (RCF), as well as IAEA Integrated Regulatory Review Service mission (IRRS mission) planned to be held in 2016;

interaction in the area of CIS countries on issues relating to increase safety of near-surface radioactive waste "Radon" type storage facilities;

compliance of the Republic of Belarus to reporting requirements according to the Convention.

The following "challenges" for further development of the safety system of the Republic of Belarus for radioactive waste and spent nuclear fuel management were identified:

further development of legal framework;

development and approval of strategies for management of radioactive waste and spent fuel of the Belarusian nuclear power plant[1];

enhancement of safety of the specialized enterprise for radioactive waste management UE Ekores by withdrawal and conditioning of radioactive wastes from old storages;

decommissioning of the storage facility (complex of spent nuclear fuel storage and management systems) "Iskra" of SSI "JIPNR - Sosny";

performance of work on rehabilitation and monitoring of decontamination waste disposal facilities formed as a result of works on overcoming consequences of the Chernobyl disaster;

construction of a near-surface radioactive waste disposal facility.

The following was presented as measures for increase safety:

completion of reconstruction of the specialized enterprise for radioactive waste management UE Ekores;

decommissioning of storage facility (complex of spent nuclear fuel storage and management systems) "Iskra" of SSI "JIPNR - Sosny";

[1] The Strategy for radioactive waste management of Belarusian NPP was adopted by Resolution of Government No460 dated 02.06.2015

detection of radioactive waste storage facilities at former locations of the Soviet Union military forces as well as their long-term safety assurance;

Information on the current status of recommendations implementation is presented in the respective sections of the National Report.

A2. Survey matrix. General information on radioactive waste and spent nuclear fuel management in the Republic of Belarus

Obligation type	Long-term management policy	Financing of obligations	Existing practices / objects	Planned objects
Spent nuclear fuel	NPP – return to the Russian Federation for reprocessing	Operator's financial assets	MNPP "Pamir" - SNF was dispatched for reprocessing to the Russian Federation in 2010 Spent fuel storage facility "Iskra" is under decommissioning	NPP - 2 spent fuel pools
Nuclear fuel cycle wastes	VLLW, LLW – disposal in near-surface RWDF ILW – long-term storage / disposal in near-surface RWDF HLW – long-term storage / disposal in deep geological formations	Operator's financial assets	MNPP "Pamir" - SNF was dispatched to the Russian Federation for reprocessing without RW return	RWDF for VLLW, LLW, ILW – 2028.
Radioactive wastes not associated with NPP operation	Long-term storage Disposal in planned RWDF	Operator's financial assets or state budget	Specialized enterprise Ekores - storage of a wide range of radioactive wastes DWDF – disposal of Chernobyl wastes	RWDF for VLLW, LLW, ILW – 2028.
Decommissioning	Operating organization developing a decommissioning program	Special fund Operator's financial assets state budget	Spent fuel storage facility "Iskra" is under decommissioning	No
Spent sealed radioactive sources	Return to the producer or long-term storage, disposal Life extension in reasonable cases	Owner pays state pays, if the owner is not established	Specialized enterprise Ekores - long-term storage Life extension in reasonable cases	The same as for RW not associated with NPP operation

Section B. POLICIES AND PRACTICE

Article 32. Reporting
1. In accordance with the provisions of Article 30 each Contracting Party shall submit a national report to each review meeting of Contracting Parties. This report shall address measures taken to implement each of the obligations of the Convention. For each Contracting Party the report shall also address its:
i) spent fuel management policy;
ii) spent fuel management practice;
iii) radioactive waste management policy;
iv) radioactive waste management practices;
v) criteria used to define and categorize radioactive waste.

B.1. Spent Fuel Management Policy

In accordance with the Law of the Republic of Belarus "On the Use of Atomic Energy", the use of atomic energy is based on the following principles:

priority of life and health protection of the present and future generations of citizens, environment protection over all other aspects of nuclear energy use;

assurance of prevailing of benefits of the nuclear energy use for citizens and society over harm it may cause;

nuclear and radiation safety assurance;

compensation for harm caused by ionizing radiation or nuclear energy use;

provision of full, credible and timely information on the use of nuclear energy, unless such information contains data which is a state secret, or distribution and (or) provision of which is restricted.

In addition to national legislation, spent fuel management policy is based on provisions of a range of treaties entered into by the Republic of Belarus.

In accordance with the provisions of the Agreement between the Government of the Republic of Belarus and the Government of the Russian Federation on Cooperation in Construction of a Nuclear Power Plant on the Territory of the Republic of Belarus signed in 2011, nuclear fuel spent in the reactors of the NPP's power generating units purchased from Russian shall be returned to the Russian Federation for reprocessing against conditions determined by the Parties in a separate agreement.

B.2. Spent Fuel Management Practices

Since August 1985 the mobile nuclear power plant "Pamir-630D" had been tested in the test complex "Iskra" of SSI "JIPNR - Sosny" (at that time – Nuclear Energy Institute of Academy of Sciences of BSSR).

Resolution of the Council of Ministers of the USSR dated November 1987 stopped the NPP testing and started its decommissioning. Fuel assemblies unloaded from the reactor core from 1990 to 2010 were placed to the pool-type spent assemblies storage facilities within the test complex "Iskra".

In 2010 spent fuel was unloaded from the storage facility and dispatched to the Russian Federation under the intergovernmental agreement. Uranium and radioactive waste obtained from processing shall remain in the Russian Federation.

Currently the Scientific institution "JIPNR - Sosny" is performing decommissioning of the spent nuclear fuel storage facility (complex of spent nuclear fuel storage and management systems).

In 2016 the project of decommissioning of the storage facility was developed, public discussions were carried out, and favorable conclusion of the state ecological appraisal was received. The package of documents was sent to Gosatomnadzor for introduction of amendments and additions to the license of Scientific Institution "JIPNR - Sosny" regarding decommissioning of the storage facility (complex of spent nuclear fuel storage and management systems). License for decommissioning of the storage facility (complex of spent nuclear fuel storage and management systems) issued in September 2017. At the moment Scientific Institution "JIPNR - Sosny" is implementing works on decommissioning of the of spent nuclear fuel storage and management facility «Iskra».

B.3. Radioactive Waste Management Policy

In accordance with the legislation of the Republic of Belarus the basic principles of radiation safety assurance during radioactive waste management shall be as follows:

assurance of adequate level of workers (personnel) and population protection from RW impact in accordance with justification, standardization and optimization principles;

assurance of adequate level of environment protection from RW impact;

expected exposure levels of future generations conditioned by RW disposal shall not exceed permissible levels of population exposure established by normative legal acts, including technical normative legal acts;

consideration of interconnection between RW generation and management stages;

absence of unreasoned burden for future generations in relation to necessity of RW management safety assurance;

RW generation and accumulation shall be kept to the lowest level practicable;

radiation accidents prevention and reduction of possible impacts on their occurrence.

On the basis of the specified principles the following directions of the activity were determined:

development of new radioactive waste management technologies and improvement of existing ones;

functioning of the State system for radioactive waste accounting and control;

scientific, technical and information support of radioactive waste management;

development of documentation for radioactive waste management regulation;

extension of international cooperation in the area of radioactive waste management regulation.

In accordance with legislation, radioactive waste formed only in the Republic of Belarus may be imported for the purpose of storage or disposal on the territory of the Republic of Belarus.

B.4. Radioactive Waste Management Practices

Radioactive waste management shall be performed by specialized enterprises with a respective special permit (license) issued by the Ministry for Emergency Situations of the Republic of Belarus:

Communal Unitary Enterprise Ekores (hereinafter referred to as UE Ekores) performs works on management of radioactive wastes resulting from the use of radioactive substances and materials in industry, science, medicine and other economy areas, as well as their transportation across the republican territory;

Republican Specialized Unitary Enterprises "Polesie" and "Radon" of MES perform disposal of unusable courtyards and buildings, decontamination of territories contaminated as a result of Chernobyl NPP disaster, as well as collection, transportation, storage and disposal of the associated radioactive wastes. In addition, the specified enterprises perform arrangement and maintenance of such waste disposal locations.

Scientific Institution "JIPNR - Sosny" performs reprocessing of liquid radioactive wastes formed as a result of research work at the site of the scientific institution.

B.5. Criteria Used to Categorize Radioactive Waste

In accordance with the Law of the Republic of Belarus "On Radiation Safety of Population", radioactive wastes are sources of ionizing radiation used in the course of economic or other activity of ionizing radiation source users which they have no intention to use or cannot use for the previous purpose, as well as those generated during works for elimination of a radiation accident consequences in which radionuclides content exceeds rates established by normative legal acts, including technical normative legal acts.

For radioactive wastes the waste classification shall be performed in accordance with the Sanitary standards and rules "Requirements to Ensuring Radiation Safety of Personnel and Population at Radioactive Waste Management" approved by the resolution of the Ministry of Health of the Republic of Belarus No. 142 dated 31.12.2015.

By aggregative status radioactive wastes can be divided into liquid, solid and gaseous ones.

Liquid radioactive wastes are liquids meeting the following criteria:

in case of unknown radionuclide content of liquid wastes, polluted by one radionuclide, - excess more than by 10 times of value of reference level of radionuclide content in drinking water given in annex 9 to the Hygienic standard "Criteria for assessing radiation effects";

in case of pollution of liquid wastes by iodine-131 – if specific activity of iodine-131 exceeds 0.62 Bq/g, however the boundary dose of population radiation shall not be exceeded and in coordination with authorities exercising state sanitary inspection;

In case of known radionuclide content, polluted by one radionuclide, – if the sum of ratios of specific activities of radionuclides towards 10-fold value of the relevant reference levels of radionuclide content in drinking water exceeds 1;

in case of unknown radionuclide content of liquid waste, if its specific activity exceeds:

0.05 Bq/g – for alpha-emitting radionuclides;

0.5 Bq/g – for beta-emitting radionuclides.

Solid radioactive wastes are solids meeting the following criteria:

in case of known radionuclide content of solid wastes, polluted by one radionuclide, - if the specific activity of radionuclide exceeds the level of exemption and decontrol, given in annex 4 to the Hygienic standard "Criteria for assessing radiation effects";

in case of known radionuclide content of solid wastes, polluted by one radionuclide, if the sum of ratios of specific activities of radionuclides towards the relevant levels of exemption and decontrol exceeds 1;

in case of known radionuclide content of solid wastes – if:

gamma dose rate at a distance of 0.1 m from the surface exceeds 0.001 mSv/h;

specific activity exceeds: 100 Bq/g – for beta-emitting radionuclides; 1 Bq/g – for alpha-emitting radionuclides.

Gaseous RW are gases polluted by radionuclides with activity higher than the levels regulated by admissible emission of gaseous radioactive substances in the atmosphere, which are established by authorities exercising state sanitary inspection, proceeding from non-excess of the boundary dose of population radiation from this radiation object.

By specific activity liquid and solid radioactive wastes are divided into 4 categories: very low-level, low-level, intermediate-level and high level, and liquid radioactive wastes are divided into 3 categories: low-level, intermediate-level and high level ones. Where wastes can be attributed to different categories against radionuclides properties specified in the table, a higher category shall be applied to it. Numerical values are given in table B.5.1

Table. B.5.1. Classification of solid and liquid radioactive waste by radioactive-specific activity

RW category	Specific activity, Bq/g			
	tritium [2]	beta-emitting radionuclides (excluding tritium)	alpha-emitting radionuclides (excluding transuranic)	transuranic radionuclides
Solid RW				
Very low-level	up to 10^7	up to 10^3	up to 10^2	up to 10^1
Low-level	from 10^7 to 10^8	from 10^3 to 10^4	from 10^2 to 10^3	from 10^1 to 10^2
Intermediate-level	from 10^8 to 10^{11}	from 10^4 to 10^7	from 10^3 to 10^6	from 10^2 to 10^5
High-level	over 10^{11}	over 10^7	over 10^6	over 10^5
Liquid RW				
Low-level	up to 10^4	up to 10^3	up to 10^2	up to 10^1
Intermediate-level	from 10^4 to 10^8	from 10^3 to 10^7	from 10^2 to 10^6	from 10^1 to 10^5
High-level	over 10^8	over 10^7	over 10^6	over 10^5

[2] For radioactive wastes formed on nuclear facilities.

Section C. **SCOPE OF APPLICATION**

Article 3. Scope of application

1. This Convention shall apply to the safety of spent fuel management when the spent fuel results from the operation of civilian nuclear reactors, except for spent fuel held at reprocessing facilities as part of spent fuel management.

2. This Convention shall also apply to the safety of radioactive waste management when the radioactive waste results from civilian applications. However, this Convention shall not apply to waste that contains only naturally occurring radioactive materials and that does not originate from the nuclear fuel cycle, unless it constitutes a disused sealed source or it is declared as radioactive waste for the purposes of this Convention by the Contracting Party.

3. This Convention shall not apply to the safety of management of spent fuel or radioactive waste within military or defense programs, unless declared as spent fuel or radioactive waste for the purposes of this Convention by the Contracting Party. However, this Convention shall apply to the safety of management of spent fuel or radioactive waste within military or defense programs, if and when such materials are transferred permanently to and managed within exclusively civilian programs.

4. This Convention shall also apply to discharges as provided for in Articles 4, 7, 11, 14, 24 and 26..

The provisions of the Convention shall apply in the Republic of Belarus to the following issues:

safety of decommissioning of the storage facility (complex of spent nuclear fuel storage and management systems), located at the site of SSI "JIPNR - Sosny";

safety of radioactive waste and spent fuel management at the Belarusian NPP under construction;

safety of management of radioactive waste resulting from the use of radioactive materials in industry, medicine, scientific research, education and other economy branches on the territory of the Republic of Belarus;

safety of management of disused sealed sources;

safety of radioactive waste storage facilities located on the territory of the Republic of Belarus at former locations of the USSR Military Forces;

safety of management of radioactive waste resulting from liquidation of consequences of the Chernobyl NPP disaster.

Section D. **LISTS AND INVENTORIES**

Article 32. Reporting

32-2. This report shall also include:

i) a list of the spent fuel management facilities subject to this Convention, their location, main purpose and essential features;

ii) an inventory of spent fuel that is subject to this Convention and that is being held in storage and of that which has been disposed of. This inventory shall contain a description of the material and, if available, give inforation on its mass and general level of activity;

iii) a list of the radioactive waste management facilities subject to this Convention, their location, main purpose and essential features;

iv) an inventory of radioactive waste that is subject to this Convention that is being held in storage at radioactive waste management and nuclear fuel cycle facilities and waste that has been disposed of as well as waste that has resulted from past practices. This inventory shall contain a description of the material and other appropriate information available, such as volume or mass, activity and specific radionuclides;

v)a list of nuclear facilities in the process of being decommissioned and the status of decommissioning at those facilities.

D.1. List of Spent Fuel Management Facilities

Spent nuclear fuel management facility "Iskra"

Spent fuel storage facility "Iskra" (complex of spent nuclear fuel storage and management systems) of SSI "Joint Institute for Power and Nuclear Research - Sosny" after dispatching under the intergovernmental agreement of spent fuel in the late 2010 to the Russian Federation is under decommissioning. It is planned to be decommissioned in 2018.

Belarusian NPP

The Decree of the President of the Republic of Belarus No. 499 on Construction of the Belarusian Nuclear Power Plant was signed on November 2, 2013. It approved the construction of the Belarusian NPP in Ostrovets district of Grodno region.

Expected commissioning:

Power unit 1 - 2019;

Power unit 2 - 2020.

D.2. List of Radioactive Waste Management Facilities

D.2.1 Specialized radioactive waste management enterprise UE Ekores

Specialized radioactive waste management enterprise UE Ekores is located in 2 km from Minsk. The facility was created in 1963 to provide operation of research reactor of the former Nuclear Energy Institute of the Academy of Sciences of BSSR. Subsequently, being the only enterprise of this type, the facility performed storage of a wide inventory of radioactive waste resulting from radioactive isotopes used on the territory of the republic.

Initially radioactive wastes were placed in special facilities – typical near-surface storage facilities, being monolithic constructions (tanks) from reinforced concrete.

Similar constructions in CIS countries and countries of Eastern Europe are referred to near-surface "Radon" type storages. Radioactive wastes were placed in

storages in the original package without preliminary sorting and processing. In total about 2,000 m^3 of radioactive wastes are placed in storages of this type.

Since 1997 the object has been reconstructed for the purpose to bring the object into a status conforming to modern safety requirements.

At the present time the following objects are located on the site of the facility:

two near-surface deep storages of the first generation (operated from 1963 to 1978, preserved in 1979);

two near-surface deep storages of the second generation (operated since 1978 till 2013, now are decommissioned), in which there are four wells for disused sealed radiation sources placement;

storage facility for sealed radiation sources with 11 well-type capacities (operated since 2003);

conditioned solid radioactive waste storage facility (operated since 2013);

unit for radioactive waste processing with laboratories (built in 2013).

Annually UE Ekores accepts up to 3 tons of solid radioactive wastes and up to 3 tons of sealed radionuclide sources (including radionuclear smoke announcers, calibration and control sources for dosimetric devices).

Information on radioactive wastes and sealed radionuclide sources arrived for storage to the specialized radioactive waste management enterprise UE Ekores for the period from 2014 to 2016 is given in Annex 1.

D.2.2 SSI "JIPNR - Sosny" facility for liquid radioactive waste processing

Liquid radioactive waste processing facility (commissioned in 2012) is located on the territory of the State Scientific Institution "JIPNR - Sosny" of the National Academy of Sciences of Belarus which is 1.2 km from Minsk.

The facility is intended for processing of liquid radioactive waste resulting from research activity on the site of SSI "JIPNR - Sosny".

The facility is intended for processing of low- and intermediate-level liquid radioactive wastes.

The facility consists of four parts:

- liquid radioactive waste acceptance unit;
- liquid radioactive waste cleaning and concentration unit;
- cementing unit;
- temporary storage unit.

An inventory of radioactive wastes in the temporary storage unit of the liquid radioactive waste processing facility is given in Table D.2.1.

Table D.2.1. Inventory of liquid radioactive wastes of the liquid radioactive waste processing facility (as of 01.01.2017).

RW name	Quantity, liters	Basic radionuclides	Specific activity, Bq/l	Total activity, Bq
Liquid radioactive waste	~ 1.304	Pu-239 Pu-240 Am-241	9.0±2,0 5.0±1,5 38.8±3,9	$7.85 \cdot 10^4$

D.2.3 Decontamination waste disposal facilities

Disposal of solid decontamination waste resulting from elimination of consequences of the Chernobyl NPP Disaster shall be performed in decontamination waste disposal facilities (hereinafter referred to as DWDF). In terms of engineering arrangement, DWDF are divided into three categories with regard to specific activity level or surface contamination of decontamination waste.

DWDF of category I (hereinafter referred to as DWDF-I) - a special engineering structure (tank) aimed for disposal of decontamination waste with specific activity of Cs-137 from 100 kBq/kg and higher, which provides for its secure isolation by using special engineering protective barriers and hydrotechnical arrangement, equipped with a system of permanent monitoring of its status and impacts to the environment. At the present time there is one DWDF of this type in the Republic of Belarus - "Khatki". It is located in Narovlyany district in the south of exclusion zone within Polesie State Radioecological Reserve in 2 kilometers from the Ukrainian border and constitutes 8 trenches complete with concrete cells (3x3x3m).

By now, 7 trenches, in which (according to the reporting data) in 1991 3,088 tons of radioactive meat were disposed. The total activity of waste at the moment of disposal was 74.5x1,010 Bq (20.14 Cu). One trench consisting of 60 cells is modernized. An easily assemblable structure for prevention the entry of rainfall is located under it, the crane beam for loading of wastes is mounted.

DWDF of category II (hereinafter referred to as DWDF-II) - an engineering structure for near-surface disposal of decontamination waste with specific activity of Cs-137 from 1.0 kBq/kg to 100 kBq/kg, which prevents the radionuclides transfer to the environment by using elementary clay protection barriers. DWDF-II equipment provides for monitoring of its status and impacts to the environment. There are 9 storage facilities of this type: in Mogilev region - 4, in Gomel region - 4, in Brest region - 1. The summary of Chernobyl originated decontamination waste at DWDF-II is given in Annex 2.

DWDF of category III (hereinafter referred to as DWDF-III) - near-surface decontamination waste storage facilities organized during initial post-disaster period, generally, with no design and no hydrogeological restrictions taken into account, which require additional works on engineering arrangement and monitoring of its status and impacts to the environment. Nearly all of them were created in extreme conditions and arranged, as a rule, in the former pits, ravines, depressions, sometimes in specially dug trenches or even sites. Only three of them have the foundation protection in the form of a layer of clay or polymer film, 11 - holes for ground waters contamination control.

Collection, transportation and disposal of waste resulting from the territory cleaning, as well as arrangement, maintenance and radiation control of DWDF shall be performed by specialized enterprises "Polesie", "Radon".

As of 01.07.2017 there are 86 DWDFs in the Republic of Belarus, including:

in Brest region - 3 DWDFs (DWDF- II - 1, DWDF- III - 2);

in Gomel region - 79 DWDFs (DWDF- I - 1, DWDF- II - 4, DWDF- III - 74);

in Mogilev region - 4 DWDFs - III.

For the purposes of optimization of storage system and costs of monitoring,

servicing and maintenance within the State Program for Elimination of Consequences of the Chernobyl NPP Disaster for 2011-2015 and for a Period up to 2020 in Gomel region since 2012 works have been performed on decontamination waste compacting by means of their displacement to other DWDF with subsequent liquidation of certain DWDFs - III.

In addition to works on transfer of wastes from DWDF-III "Usov", Lyelchytsy district, and DWDF-III "Morozovka-2", in 2014 DWDF-III "Chechersk-2", Chechersk district, was liquidated with decontamination waste disposed to DWDF "Shepetovichi-1", Chechersk district, in 2017 DWDF-III «Podkamenje-1», Vetka district was liquidated with decontamination waste disposed to DWDF-II «Podkamenje», Vetka district.

The territories which became free due to the works have radioactive-contamination levels not exceeding those of adjacent territories. Land plots which became free were transferred under jurisdiction of the relevant districts.

D.2.4 Radioactive waste storage facilities at former locations of the USSR Military Forces

So far, the only radioactive waste storage facility in the Republic of Belarus located at former locations of the USSR Military Forces is "Gomel-30" facility.

RWSF "Gomel-30" is located in Rechitsa district, Gomel region, on the territory of an object under jurisdiction of the Ministry of Internal Affairs of the Republic of Belarus. "Gomel-30" was built in 1964 at a station of Military Forces for the purpose of placement of spent radionuclide sources.

RWSF "Gomel-30" is a well-type object. The outer diameter of the structure is 1,800 mm, height - 2,500 mm. Building structures of walls, foundation plate and covering are made of prefabricated reinforced concrete elements 150 mm thick. The foundation plate and walls have metal cladding with 4 mm thickness made of steel. There is 2-layer bitumen insulation inside the structure along the metal surface and outside along the concrete surface. Along the exterior contour perimeter there is a waterproof lock of pugged clay. The RWSF interior, where sources of ionizing radiation are placed, is cemented.

D2.5 Belarusian NPP

The NPP radioactive waste management system is intended for collection, treatment, processing (including conditioning), transportation and storage of radioactive wastes generated in the course of a nuclear power plant operation.

In the course of NPP operation gaseous, liquid and solid radioactive wastes will be generated. This waste generally belongs, at large, to very low-level, low- and intermediate- level RW categories. The number of high-level operational RW will be about 1 % of the total wastes.

The expected average volume of annually formed solid radioactive wastes taking into account their processing per nuclear power plant unit will be:

8 cubic meters – for very low-active RW (17.6%);

32 cubic meters – for low-active RW (70.4%);

5 cubic meters – for intermediate-active RW (11%);

0,5 cubic meters – for high-active RW (1%).

The volume of expected formation of solidified liquid radioactive wastes in the year per NPP unit – 33 cubic meters.

During the operation term of the nuclear power plant (60 years) the formation of 9,360 cubic meters of solid radioactive wastes of various categories and 60 cubic meters of high-active radioactive wastes is predicted.

In case of decommissioning of NPP the predicted volume of RW makes up 2,135 cubic meters (including high- active ones - 85 cubic meters).

Section E. LEGISLATIVE AND REGULATORY FRAMEWORK

E.1. Implementing Measures

Article 18. Implementing measures

Each Contracting Party shall take, within the framework of its national law, the legislative, regulatory and administrative measures and other measures necessary for implementing its obligations under this Convention.

Nuclear and radiation safety regulatory requirements are established by laws, decrees of the President of the Republic of Belarus, resolutions of the Council of Ministers of the Republic of Belarus, documents of the government bodies, as well as accepted international obligations.

The Republic of Belarus continues improvement of legislative and regulatory infrastructure in the area of nuclear and radiation safety, including ensuring safety for radioactive waste and spent nuclear fuel management.

The Resolution of the Council of Ministers of the Republic of Belarus No. 460 dated June 2, 2015 approved the Strategy for Belarusian nuclear power plant radioactive waste management.

The Strategy includes the ways of development of the system of Belarusian NNP radioactive waste management, as well as provisions on management of different types of radioactive wastes at all stages of their life cycle, including disposal. The strategy establishes terms for implementation of planned measures, as well as determines resources necessary for achievement of goals.

In the Republic of Belarus the preparatory work on development of the Strategy for radioactive waste management, determining main areas of activity on safe management of radioactive wastes which is formed in all fields of economic activity, was begun.

Besides, work on preparation of the Strategy for management of the Belarusian nuclear power plant spent nuclear fuel is carried out in the country. Submission of the specified strategy for approval to the Government in planned for 2019.

By invitation of the Government of the Republic of Belarus, the IAEA Integrated Regulatory Review Service mission (IRRS) was held from October 2 to October 14, 2016.

Following the results of work in Belarus, IRRS mission positively assessed:

transformation of the Belarusian regulatory body taking into account development in the country of the first nuclear power program;

approaches to strategic planning of the regulating activity and strategic documents developed by Gosatomnadzor;

commitment of the Republic of Belarus to unconditional compliance with international obligations in the field of nuclear and radiation safety.

The IRRS mission developed a set of recommendations and suggestions for the Republic of Belarus on improvement regarding improvement of regulating infrastructure of nuclear and radiation safety, including regarding radioactive waste management.

Measures aimed at improvement of the radioactive waste management system are:

development of the management strategy for all types of radioactive wastes, formed in the country;

determination of financing mechanisms in the area of radioactive waste management;

introduce into the legislation provisions on:

• licensing of radioactive waste disposal objects at all stages of life cycle;

• establishment of requirements to carrying out by operating organizations of periodic assessment of safety at radioactive waste management, as well as performance of assessment of long-term safety of disposal objects;

• prioritizing the application of passive safety means when disposing radioactive wastes;

• establishment of radioactive waste acceptance criteria.

The report of the IRRS mission is posted on the website of Gosatomnadzor www.gosatomnadzor.gov.by.

E.2. Legislative and Regulatory Framework

Article 19. Legislative and regulatory framework

1. Each Contracting Party shall establish and maintain a legislative and regulatory framework to govern the safety of spent fuel and radioactive waste management.

2. This legislative and regulatory framework shall provide for:

i) the establishment of applicable national safety requirements and regulations for radiation safety;

ii) a system of licensing of spent fuel and radioactive waste management activities;

iii) a system of prohibition of the operation of a spent fuel and radioactive waste management facility without a license;

iv) a system of appropriate institutional control, regulatory inspection and documentation and reporting;

v) the enforcement of applicable regulations and of the terms of a license;

vi) a clear allocation of responsibilities of the bodies involved in the different steps of spent fuel and radioactive waste management.

3. When considering whether to regulate radioactive materials as radioactive waste, Contracting Parties shall take due account of the objectives of this Convention.

Legal regulation in the area of nuclear and radiation safety has a hierarchical structure, provides submission of low validity documents to the relevant requirements of high validity documents.

The key legislative act establishing radioactive waste safety requirements is the Law of the Republic of Belarus "On Radiation Safety of Population".

According to the Plan approved by the President of the Republic of Belarus in 2016, work on introduction of amendments and additions to the specified law is carried out, including on radioactive waste management.

The law is processed for the purpose of accounting of updated requirements of the IAEA in the area of radiation safety:

General safety requirements. GSR Part 3. Radiation protection and safety of radiation sources: International basic safety standards for protection (2014);

General safety requirements. GSR Part 5. Radioactive waste management (2009);

General safety requirements. GSR Part 7. Readiness and reaction in case of nuclear or radiological emergency (2015).

When preparing the draft of law, the recommendations of the Integrated Regulatory Review Service mission held in the Republic of Belarus in October, 2016 were also considered.

The draft of law establishes provisions on vesting the Council of Ministers of the Republic of Belarus with powers to approve the Strategy for radioactive waste management and to determine the state authority in charge of radioactive waste management.

The state authority in charge of radioactive waste management is determined for general coordination of activity in the specified sphere. The main objectives of this authority are creation in the country of the system of long-term storage and disposal of radioactive wastes, organization of research and development works in the area of radioactive waste management, development of financing mechanisms for measures for radioactive waste management.

The draft of law agreed with interested state bodies is introduced to the Council of Ministers of the Republic of Belarus.

The Law of the Republic of Belarus "On the Use of Atomic Energy" establishes requirements to the management of spent nuclear materials, operational radioactive waste, as well as storage facilities.

The Law of the Republic of Belarus "On Sanitary and Epidemiological Well-Being of Population" establishes legal and organizational frameworks to prevent adverse impact of the environment factors to human organism for the purpose of sanitary and epidemiological well-being of population assurance. Article 31 of this Law specifies obligations of organizations dealing with sources of ionizing radiation, including radioactive wastes.

Management of Chernobyl originated radioactive waste is governed by the Law of the Republic of Belarus "On Legal Status of Territories Contaminated by Radiation as a result of Chernobyl NPP Disaster".

Licensing relations in the field of use of nuclear energy and sources of ionizing radiation application, including radioactive waste and spent nuclear materials management, are governed by the Decree of the President of the Republic of Belarus of September 1, 2010 No. 450 (as amended of 20.10.2016) "On Licensing of Certain Types of Activity".

Procedure for arrangement and execution of inspections is determined by the Decree of the President of the Republic of Belarus of 16.10.2009 No. 510 (as amended of 13.02.2017) "On Improvement of Control (Supervisory) Activity in the Republic of Belarus". The document states that the Department for Nuclear and Radiation Safety of MES of the Republic of Belarus (Gosatomnadzor) shall perform state supervision of nuclear and radiation safety assurance.

The Decree of the President of the Republic of Belarus No. 62 dated February 16, 2015 establishes the special procedure for organization and implementation of supervision over safety when constructing and commissioning the Belarusian nuclear power plant, that allows supervisory authorities to exercise permanent control (supervision) in their area with application of sanctions and other corrective actions. This Decree also determines the list of state bodies and organizations exercising

supervision over safety when constructing and commissioning the Belarusian nuclear power plant.

Resolution of the Council of Ministers of the Republic of Belarus of December 31, 2008 No. 2056 (as amended of 29.06.2016) approved Regulations on the procedure of state supervision of nuclear and radiation safety.

Resolution of the Council of Ministers of the Republic of Belarus of April 30, 2009 No. 562 (as amended on 16.11.2015) approved the Regulations on the procedure for state registration of ionizing radiation sources and implementation of the united State system for accounting and control of ionizing radiation sources. The Regulation establishes procedure as well as periodicity of data submission for state registration of radioactive waste in the united State system for accounting and control of sources of ionizing radiation.

Regulation on the procedure for the State system of accounting and control of nuclear materials of the Republic of Belarus approved by the Resolution of the Council of Ministers of the Republic of Belarus of 17.03.2014 No. 224 entered into force in 2014. The System of accounting and control of nuclear materials of the Republic of Belarus covers nuclear materials produced, used and stored on the territory of the Republic of Belarus, as well as activities in the area of nuclear energy use.

Objectives and principles of radioactive waste management safety assurance, as well as general requirements to radioactive waste management safety assurance are established by Norms and Rules for Nuclear and Radiation Safety Assurance "Safety of Radioactive Waste Management. General Provisions" (approved by the resolution of the Ministry for Emergency Situations of the Republic of Belarus No. 47 dated September 28, 2010). These norms and rules were amended by the Resolution of the Ministry for Emergency Situations of the Republic of Belarus No. 33 dated July 24, 2017.

Norms and rules were processed for improvement of the regulatory legal base in the area of radioactive waste management and consider recommendations made by the IAEA: "Fundamental safety principles. Safety fundamentals" (SF-1), "Radioactive waste management before disposal" (GSR, part 5) and "Radioactive waste disposal" (SSR-5).

The document also considers the recommendations of the IAEA Integrated Regulatory Review Service mission (IRRS). In particular, the norms and rules establish the priority of application of passive safety means for radioactive waste disposal, as well as need to assess of long-term safety of disposal objects.

The document introduces the requirement for the operating organization to carry out periodic safety assessment for radioactive waste management.

With the objective of ensuring safety for radioactive waste management the specified norms and rules introduce the requirements to establishment of acceptance criteria for radioactive wastes for disposal and radioactive waste classification for ensuring long-term safety for their disposal.

The Resolution of the Ministry for Emergency Situations of the Republic of Belarus dated 12.10.2017 No. 43 approved the norms and rules on nuclear and radiation safety "Safety rules for management of radioactive wastes of nuclear power plants".

This document establishes the safety requirements implemented in case of design and operation of systems of radioactive waste management on nuclear power plants. The norms and rules are used instead of TCP 565-2015 "Safety rules for management of radioactive wastes of nuclear power plants" approved by the Resolution of the Ministry of Emergency Situations of the Republic of Belarus No. 19 dated April 25, 2015.

The Resolution of the Ministry of Health of the Republic of Belarus No. 142 dated 31.12.2015 approved Sanitary standards and rules "Requirements to Ensuring Radiation Safety of Personnel and Population for Radioactive Waste Management" which replaced earlier existing Sanitary rules for radioactive waste management 2.6.6.11-7-2005 SPORO-2005.

Sanitary standards and rules regulate requirements to radiation protection of personnel and population during radioactive waste management in the organization when using sources of ionizing radiation, in the specialized organization for radioactive waste management, as well as during disposal.

The document establishes criteria for categorizing wastes as radioactive ones, as well as categorizing of solid and liquid radioactive wastes by specific activity of radionuclides.

According to requirements of the specified sanitary rules the project dose of population radiation caused by disposed RW shall not exceed 0.3 mSv per year. The risk for a representative person who can be radiated in future as a result of natural processes, breaking protective barriers of the radioactive waste disposal point shall not exceed the risk of 10^{-5} per year.

A list of legislative acts in the field of nuclear and radiation safety governing spent fuel and radioactive waste management is given in Appendix 3.

E.2.1. Licensing of Spent Fuel and Radioactive Waste Management

In accordance with the Decree of the President of the Republic of Belarus of September 1, 2010 No. 450 "On Licensing of Certain Types of Activities" the use of nuclear energy and sources of ionizing radiation is subject to licensing. The licensing body is the Ministry for Emergency Situations.

Licensed activities in terms of radioactive waste and spent fuel management includes the following works and services:

1. For nuclear energy use:

design, siting, construction, operation, decommissioning of nuclear materials storage facilities;

management of nuclear materials, nuclear fuel, spent nuclear materials, spent nuclear fuel, operational radioactive wastes.

2. For radioactive waste management:

decontamination, processing, storage, disposal of radioactive wastes;

design, siting, operation, decommissioning of radioactive waste storage facilities.

Activity on safety review in the field of nuclear energy and ionizing radiation sources application is also subject to licensing.

Prior to decision to issue a license the licensing body shall perform assessment

and (or) assign an examination of the license applicant's (licensee's) ability to meet license requirements and conditions. Examination shall be assigned if special knowledge of science, engineering and other fields is required.

Procedure for review of documents which justify nuclear and radioactive safety assurance in the use of nuclear power and ionizing radiation sources is determined by the Resolution of the Council of Ministers of the Republic of Belarus No. 1781 dated December 7, 2010.

License is issued in case of positive assessment of safety assurance only.

For the period since submission of the previous National report the signature of the Decree of the President of the Republic of Belarus No. 475 on November 26, 2015 became an important change in the regulatory legal base of licensing of works in the area of use of atomic energy and ionizing radiation sources.

The Decree of the President of the Republic of Belarus No. 475 introduced amendments to the Decree of the President of the Republic of Belarus No. 450 dated September 1, 2010. The document determines license requirements and conditions to economic entities, that implement activity in the area of atomic energy use.

In particular:

al list of license requirements and conditions was expanded;

a list of special requirements and conditions, violation of which will be the basis for suspension of a license, was determined;

a list of works and services making activity in the area of atomic energy use was modified. Performance of works and rendering of services to operating organizations, affecting the safety, including construction of facilities, shall be subject to licensing.

E.3. State Administration and Regulation of Nuclear and Radioactive Safety

Article 20. Regulatory body

1.Each Contracting Party shall establish or designate a regulatory body entrusted with the implementation of the legislative and regulatory framework referred to in Article 19, and provided with adequate authority, competence and financial and human resources to fulfill its assigned responsibilities.

2.Each Contracting Party, in accordance with its legislative and regulatory framework, shall take the appropriate measures to ensure the effective independence of the regulatory functions from other functions where organizations are involved in both spent fuel or radioactive waste management and in their regulation.

According to Article 6 of the Law of the Republic of Belarus "On Radiation Safety of Population", state governance in the area of radiation safety assurance is performed by the President of the Republic of Belarus, the Council of Ministers of the Republic of Belarus, the Ministry for Emergency Situations of the Republic of Belarus, the Ministry of Health of the Republic of Belarus, the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, local executive and regulatory authorities, other state bodies and organizations within their competence determined by the legislation (see Annex 4).

According to Article 6 of the Law "On the Use of Atomic Energy", the Ministry for Energy of the Republic of Belarus shall establish requirements for ensuring nuclear and radiation safety when implementing activities for nuclear power use.

The President of the Republic of Belarus, in the area of nuclear and radiation safety assurance, shall:

determine the united state policy;

exercise other powers under the Constitution of the Republic of Belarus, this Law and other legislative acts.

The Council of Ministers of the Republic of Belarus, in the area of nuclear and radiation safety assurance and within its competence, shall:

arrange for development, approve and ensure implementation of republican programs for nuclear and radiation safety assurance;

determine, as agreed with the President of the Republic of Belarus, procedure and terms of licensing of import and (or) export of ionizing radiation sources restricted for movement across the State Border of the Republic of Belarus for non-economic reasons;

establish procedure for coordination among republican authorities, other state bodies and organizations in case of ionizing radiation sources detection, as well as their arrest at the State Border of the Republic of Belarus;

establish procedure for arrangement and performance of state supervision in the area of nuclear and radiation safety assurance, except for the procedure for arrangement and performance of inspections and monitoring of compliance with the normative legal acts in the area of radiation safety assurance, including technical normative legal acts, in the course of ionizing radiation sources management (hereinafter referred to as inspections and monitoring);

make decisions on siting of radioactive waste management facilities;

coordinate and organize fulfillment of obligations of the Republic of Belarus under the international agreements of the Republic of Belarus on radiation safety assurance;

exercise other powers under the Constitution of the Republic of Belarus, this Law, other laws and acts of the President of the Republic of Belarus.

The Ministry for Emergency Situations of the Republic of Belarus, in the area of nuclear and radiation safety assurance and within its competence, shall:

perform coordination of republican authorities, other state bodies and organizations;

provide for state supervision;

adopt normative legal acts in the area of nuclear and radiation safety assurance, including approval (implementation) of technical normative legal acts;

issue and withdraw permits for import and (or) export of ionizing radiation sources restricted for movement across the State Border of the Republic of Belarus for non-economic reasons, as well as suspend them;

establish procedure for development, agreement and approval of radioactive waste management scheme;

establish a form of accompanying certificate for radioactive waste transportation, as well as its execution procedure;

exercise other powers under this Law and other legislative acts.

The Ministry of Health of the Republic of Belarus, in the area of nuclear and radiation safety assurance and within its competence, shall:

perform state sanitary and epidemiological standardization, including sanitary norms and rules, and sanitary-hygienic standards approval;

arrange and perform state sanitary supervision of compliance with legislation in

the area of sanitary and epidemiological well-being of population;

exercise other powers under this Law and other legislative acts.

Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, in the area of nuclear and radiation safety assurance and within its competence, shall:

perform environmental protection control;

arrange for radiation monitoring;

exercise other powers under this Law and other legislative acts.

The National Commission of Belarus for Radiation Protection under the Council of Ministers of the Republic of Belarus is an intersectoral scientific expert and advisory body for radiation safety, radiation protection and radiation control assurance.

The National Academy of Sciences of Belarus performs scientific support of activities on improvement of technologies and justification of RW management safety, as well as participates in creation of normative legal acts.

E.3.1 Regulatory body

The Ministry for Emergency Situations of the Republic of Belarus is defined as a regulatory body for the prevention and liquidation of natural and man-made emergency situations and civil defense, fire, industrial, nuclear and radiation safety assurance.

The Ministry for Emergency Situations of the Republic of Belarus, within its competence in accordance with a regulation approved by the Decree of the President of the Republic of Belarus, shall:

provide state supervision and control in the field of population and territories protection from natural and man-made emergency situations, state supervision and control in nuclear and radiation safety, state supervision in dangerous goods transportation safety, state fire supervision, state supervision of protection and use of territories exposed to radioactive contamination, state supervision in industrial safety;

within its competence evaluate the compliance of goods, works and services with requirements of technical normative legal acts in the area of prevention and liquidation of natural and man-made emergency situations and civil defense, fire, industrial, nuclear and radiation safety assurance.

ensure maintenance of instant readiness of the forces and means of the emergency bodies and subdivisions to natural and man-made emergency situations;

adopt normative legal acts in the field of fire, industrial, nuclear and radiation safety assurance;

carry out licensing of activity types stipulated by legislative acts;

exercise other powers.

The structure of the Ministry for Emergency Situations, participating in nuclear and radiation safety assurance, is given in Annex 5.

For the purpose of state supervision in nuclear and radiation safety, the Ministry for Emergency Situations established the **Department for Nuclear and Radiation Safety (Gosatomnadzor)**. The main tasks of Gosatomnadzor are:

• state supervision of nuclear and radiation safety assurance;

• control of compliance with legislation on nuclear and radiation safety assurance.

• participation in issuing by MES to companies and individual entrepreneurs of special permits (licenses);

• arrange safety review of nuclear plants, nuclear energy industry objects, radiation sources and storage facilities, including with the involvement of independent experts, as well as review of their design and engineering design documentation;

• ensure operation of the State system for accounting and control of nuclear materials, the unified State system for accounting and control of ionizing radiation sources.

Increase in 2013 of the number of staff of Gosatomnadzor by more than twofold, from 39 to 82 units, with creation of a territorial subdivision directly on the construction site of the Belarusian of the NPP became a significant event.

In 2017 the structure of Gosatomnadzor was reconsidered without change of the number of staff taking into account the existing practice of regulating activity. The structure of Gosatomnadzor acting since September 1, 2017 is given in Annex 6.

State sanitary supervision of compliance with the legislation on sanitary and epidemiological well-being of population in the area of radiation safety is performed by bodies and institutions authorized for state sanitary supervision according to procedure established by the legislation covering sanitary and epidemiological well-being of population.

E.3.2 Technical support arrangement

In the Republic of Belarus the work on improvement of the system of technical support of regulating activity in the area of nuclear and radiation safety.

The Resolution of the Council of Ministers of the Republic of Belarus 02.12.2016 No. 991 defined the list of organizations providing scientific and technical support to the Ministry for Emergency Situations.

The adoption of the resolution allowed to use the capacity of leading organizations of the country for rendering technical support to the regulatory body in the area of nuclear and radiation safety, including issues of assessment of seismic stability, welding, non-destructive control, assessment of reliability of buildings and constructions, emergency preparedness, fire safety, etc.

In the purpose of scientific and technical support in the area of nuclear and radiation safety provision, by the Decree of the President of the Republic of Belarus dated 05.10.2017 No 361, the State scientific and technical institution “Center on Nuclear and Radiation Safety” created in the structure of the Ministry for Emergency Situations.

The Center will carry out activities on safety review of nuclear facilities and ionizing radiation sources, including radioactive waste and spent nuclear fuel management.

E.3.3 Status of the regulatory body

Ministry for Emergency Situations of the Republic of Belarus is subordinated to the Council of Ministers of the Republic of Belarus.

When using nuclear energy and sources of ionizing radiation, state bodies for safety regulation, in terms of exercise of their powers related to state regulation of safety, control and state supervision of the use of nuclear energy and ionizing radiation sources, are independent of the republican authorities and other state organizations which perform state governance of the use of nuclear energy and ionizing radiation sources (Article 6-2 of the Law of the Republic of Belarus "On Radiation Safety of Population", Article 7 of the Law "On the Use of Atomic Energy").

Within its powers, Ministry for Emergency Situations of the Republic of Belarus is a regulatory body in the area of nuclear and radiation safety assurance.

Ministry for Emergency Situations of the Republic of Belarus is in direct contact with the state (government) bodies of a higher level whenever such contact is necessary for efficient performance of the regulatory body functions.

The regulatory body's personnel have no direct or indirect interest in a contact with the facilities and activity or parties having an official permit, except one that is necessary for regulatory goals achievement.

The Ministry for Emergency Situations of the Republic of Belarus has all the attributes of an independent regulatory body.

Financial and material support of the structures, subdivisions and organizations of the Ministry for Emergency Situations of the Republic of Belarus system is envisaged from the republican budget and local budgets resources, as well as other legal sources.

For the purpose of its tasks and functions implementation, the Ministry for Emergency Situations of the Republic of Belarus is entitled to:

inspect compliance of the republican authorities, local executive and regulatory authorities, other organizations, as well as citizens, with legislation on prevention and liquidation of natural and man-made emergency situations and civil defense, fire, industrial, nuclear and radiation safety assurance, liquidation of consequences of the Chernobyl NPP disaster, creation and safety assurance of mobilization material reserve, listen to the representatives of organizations on issues within the MES competence, make obligatory regulations for elimination of failures detected;

request and obtain, according to established procedure, from the republican authorities, local executive and regulatory authorities, other organizations information required to perform the tasks MES is entrusted with.

Direct management of activity of the Ministry for Emergency Situations of the Republic of Belarus is performed by the Minister for Emergency Situations (hereinafter referred to as the Minister), who is personally responsible for the performance of the tasks MES is entrusted with.

The Minister reports directly to the President of the Republic of Belarus, while on issues defined by the Constitution of the Republic of Belarus, the laws of the Republic of Belarus and acts of the President of the Republic of Belarus as a competence of Council of Ministers of the Republic of Belarus - to the Prime Minister of the Republic of Belarus.

Section F. OTHER GENERAL SAFETY PROVISIONS

F.1. Responsibility of the License Holder

Article 21. Responsibility of the license holder

1.Each Contracting Party shall ensure that prime responsibility for the safety of spent fuel or radioactive waste management rests with the holder of the relevant license and shall take the appropriate measures to ensure that each such license holder meets its responsibility.

2.If there is no such license holder or other responsibility party, the responsibility rests with the Contracting Party which has jurisdiction over the spent fuel and over the radioactive waste.

Article 32 of the Law of the Republic of Belarus "On the Use of Atomic Energy" determines obligations and responsibility of the operating organization for assurance of safety of nuclear facilities.

The operating organization shall develop and take measures to maintain and improve safety of the nuclear facilities, establish, if necessary, the corresponding services which perform safety control, submit information of safety status of these facilities to the state bodies for safety regulation in the use of nuclear energy within the established time limits.

The operating organization shall ensure:

that nuclear facilities are used for their direct purposes only;

organization and performance of works of such scope and quality as to meet the requirements of technical normative legal acts at all the stages of placement, design, construction, commissioning, operation, operational characteristics limitation, life extension, decommissioning of nuclear energy use facilities;

development and implementation of measures to prevent a radiation accident in the course of the use of nuclear energy and reduce its adverse impacts to the workers (personnel), citizens and environment;

safe for employees (personnel) and citizens management of nuclear materials, spent nuclear materials and (or) operational radioactive waste;

formation and targeted use of the nuclear energy use facilities decommissioning fund and the fund of financing of maintenance and improvement of the nuclear energy use facilities safety;

accounting and control of nuclear materials, spent nuclear materials, operational radioactive waste and other sources of ionizing radiation;

physical protection of nuclear facilities;

development and implementation of the storage facility fire safety measures;

radiation control and radiation monitoring in the buffer zone and observation areas;

recruitment, training, retraining and skill improvement of employees (personnel), as well as maintenance of their required numbers;

informing of citizens in the observation area on the radiological situation;

fulfillment of other obligations determined by the legislation.

In accordance with legislation, the operating organization is responsible for non-compliance with the nuclear facilities safety requirements.

In case a decision is taken according to established procedure to suspend, terminate or withdraw a special permit (license) for nuclear facilities operation, the

republican authority or other state organization in charge of the specified facilities shall take measures for their safety assurance. In case renewal of such special permit (license) is impossible, the respective republican authority or other state organization in charge of the specified facilities shall take measures to create another operating organization.

Article 33 of the Law of the Republic of Belarus "On the Use of Atomic Energy" determines obligations and responsibility of organizations performing works and (or) rendering services when carrying out activities on use of atomic energy.

Organizations which carry out design and survey, research, development and process works, engineering and production of equipment for the facility, scientific support, other works and (or) services concerning the use of atomic energy, shall ensure works performance and (or) services provision in such scope and quality as to meet the requirements of technical normative legal acts, and are responsible for the quality of the works performed and (or) services provided within the statutory service life determined for the nuclear and (or) storage facility by the project.

The abovementioned organizations performing works and (or) rendering services directly on the facility or with nuclear materials, spent nuclear materials and (or) radioactive waste, are covered by the requirements of this Law in relation to operating organizations regarding their observance of requirements for ensuring nuclear and radiation safety.

Article 38 of the Law of the Republic of Belarus "On the Use of Atomic Energy" establishes responsibility for violation of the nuclear energy use legislation.

In accordance with Article 12 of the Law "On Radiation Safety of Population", the operating organization shall:

comply with the legislation;

plan and implement measures to ensure radiation safety;

control radiation situation at work places, in premises, on the territories of organizations, in buffer zones and observation areas, as well as release, discharge of radioactive wastes;

perform control and accounting of individual exposure doses of employees (personnel);

perform training and attestation of officials and performers of works, radiation safety assurance supervisory services specialists, other persons permanently or temporarily dealing with the sources of ionizing radiation, on radiation safety assurance;

organize preliminary (at the commencement of employment) and periodic medical examinations of employees (personnel);

inform employees (personnel), on a regular basis, of levels of ionizing radiation at their work places and the value of their individual exposure doses;

inform in the established procedure the Ministry for Emergency Situations of the Republic of Belarus of radiation accidents, other situations which influence the radiation safety;

perform decommissioning of ionizing radiation sources;

follow the instructions on radiation safety assurance of the officials of the Ministry for Emergency Situations of the Republic of Belarus, bodies and institutions performing state sanitary supervision;

ensure radioactive waste registration in accordance with procedure stated by the legislation of the Republic of Belarus;

take measures to ensure radioactive waste safety;

assess effectiveness of radiation safety assurance measures;

ensure the exercise of rights of citizens in the area of radiation safety.

In accordance with the specified law provisions, the operating organization, when performing radioactive waste management with regard to peculiarities and terms of planning and taking measures to assure radiation safety, shall have an approved radioactive waste management scheme agreed with the Ministry for Emergency Situations, the Ministry of Natural Resources and Environmental Protection, authorized state bodies and institutions performing state sanitary supervision, local executive and regulatory authorities.

The officials of state bodies, including the republican authority for the nuclear energy use, state bodies for safety regulation in the use of nuclear energy, local government and self-government authorities, as well as employees (personnel) of operating organizations, organizations performing works and (or) providing services in the course of nuclear energy use, as well as other persons, shall bear disciplinary, administrative, criminal and (or) other responsibility for violation of the nuclear energy use legislation.

In accordance with licensing legislation, the licensing body or other state bodies, other state organizations, within their competence, shall control the compliance of the licensees with the licensing legislation, license requirements and conditions. Control of compliance with the legislation is ensured in the framework of the established system of state supervision of safe performance of works in the area of nuclear and radiation safety and system of state sanitary supervision. The state system of supervision involves regular inspections to check compliance with the requirements of regulatory documents and license terms.

Gosatomnadzor, within its tasks and competence, shall organize and perform state supervision over compliance with the license requirements and terms in the use of nuclear energy and sources of ionizing radiation by licensees, including over management of spent nuclear materials and radioactive waste.

In case of violations by the licensee of the licensing legislation or license requirements and conditions detected by the licensing or other state body authorized for the control (supervision) of the licensed activity, the licensee shall be given a request (order) and a time period to eliminate such violations. Such period shall not exceed 6 months.

In case the licensee fails to eliminate within the stated period all the violations specified in the request (order), or submit to the licensing or other control (supervision) body a written notice on elimination of such violations, or violation by the licensee (its employee, separate division) of special license requirements and conditions, the licensing body shall make a decision to suspend the license for up to six months.

In case the licensee fails to eliminate within the stated period the violations resulting in the license suspension, or submit to the licensing or other control (supervision) body a written notice on elimination of such violations, the licensing body shall make a decision to terminate the license.

In case the licensee continues to perform the licensed activity during suspension period, the licensing body shall also make a decision to terminate the license.

In case of repeated or serious violation of the licensing legislation, license requirements and conditions or other violations which cause the license termination, the licensing body shall make a decision to terminate the license.

Persons responsible for or guilty of violation of safety regulations, license requirements and conditions can be brought to administrative (a fine or deprivation of the right to engage in a determined activity) or criminal responsibility (arrest, limitation or deprivation of freedom) (see Annex 7).

Under the court decision the license may be terminated:

if the licensing body made illegal decision on introduction of amendments and (or) additions into the license;

if violation by the licensee of license requirements and terms caused damage to national security, public order, morals, rights and freedoms, life and health of citizens, and environment;

if the licensee hinders the activity of the licensing or other control (supervisory) body on the control of compliance of the licensee with the licensing legislation, license requirements and conditions, including failure of the licensee to comply with legal instructions or requirements of the officials of such bodies in the exercise of their powers, or submits to the officials unreliable documents or other information in relation to the licensed activity;

in case of introduction into the license of amendments and (or) additions on the basis of false information necessary (important) for making decision on introduction of amendments and (or) additions into the license.

F.2. Human and Financial Resources

Article 22. Human and financial resources

Each Contracting Party shall take the appropriate measures to ensure that:

i) qualified staff are available as needed for safety-related activities during the operating lifetime of a spent fuel and a radioactive waste management facility;

ii) adequate financial resources are available to support the safety of facilities for spent fuel and radioactive waste management during their operating lifetime and for decommissioning;

iii) financial provision is made which will enable the appropriate institutional controls and monitoring agreements to be continued for the period deemed necessary following the closure of a disposal facility.

Human resources

The operating organization shall provide the radioactive waste management facilities with skilled personnel in the area of nuclear and radiation safety assurance.

Availability of skilled personnel in the area of nuclear and radiation safety assurance is the general requirement for obtaining a special permit (license) for the activity in the use of nuclear energy and sources of ionizing radiation.

The Instruction on the Procedure of training, instructing and evaluation of knowledge of normative legal acts, including technical normative legal acts, in nuclear and radiation safety assurance was approved by the Resolution of the Ministry for Emergency Situations of the Republic of Belarus dated November 30, 2010 No. 55.

According to requirements of this instruction employees (technical leads,

experts) shall be obliged to take trained on nuclear and radiation safety assurance no later than within one month of appointment to the position and periodically according to requirements of regulations, but at least once every five years.

The specified training is carried out in education institutions (centers) having the permission issued by the Department for Nuclear and Radiation Safety of MES.

According to requirements of Norms and rules for nuclear and radiation safety assurance "Safety of Radioactive Waste Management. General Provisions", the operating organization shall have employees (personnel) with the necessary qualification and admitted in accordance with the established procedure to independent work.

The system of recruitment and training of employees (personnel) performing works on radioactive waste management shall be aimed at achievement, control and maintenance of the level of their qualification, necessary for safe performance of works on radioactive waste management, as well as accident-prevention actions in the violation of normal operation of the facility.

Training of personnel for nuclear power plants in the Republic of Belarus is carried out within the subprogramme 10 "Training of Personnel for Nuclear Power Plants" of the State program "Education and Youth Policy" for 2016 - 2020, approved by the Resolution of the Council of Ministers of the Republic of Belarus dated 28.03.2016 No. 250 (earlier, from 2008 to March, 2016 – State program of personnel training for nuclear power plants).

In addition, personnel for nuclear power plants are trained in specialized training centers and organizations of the Russian Federation according to the General contract for construction of the Belarusian nuclear power plant.

Based on the needs, according to applications of state bodies (organizations), the government order is formed for personnel training: scope of training, retraining, skills improvement (maintenance) of specialists, highly skilled scientists are determined on an annual basis in terms of professions and regular labour force; educational establishments are determined that are currently training personnel; annual training plans are brought to the notice of the respective educational establishments.

In the framework of the subprogramme 10 "Training of Personnel for Nuclear Power Plants":

the country's higher educational establishments (educational institutions Belarusian National Technical University, Belarusian State University of Informatics and Radioelectronics, Belarusian State University, International Sakharov Environmental University of the Belarusian State University (earlier – International Sakharov State Environmental University)) continue to train students in 8 new nuclear energy specialties, including "Nuclear Physics and Technologies", "Construction of Thermal and Nuclear Power Plants", "Steam turbine facilities of nuclear power plants" (in 2017 this specialty will be replaced with a new one – "NPP Operation"), "Electronic control and management systems on nuclear power plants", etc.;

tutoring of teachers and scientists of higher educational institutions abroad, work experience internship of students in the advanced nuclear energy countries are arranged;

advanced training, holding of practical trainings and educational seminars for specialists of the regulatory body in the area of nuclear and radiation safety are provided; public authorities that carry out control (supervision) over performance of works at all stages of life cycle of the Belarusian nuclear power plant, as well as subordinated organizations, territorial authorities.

Taking into account the primary importance of personnel training for the nuclear energy program, the Republic of Belarus, in addition to the abovementioned measures, intensively uses technical assistance of the IAEA (technical cooperation program) in training of experts for the nuclear power program. These programs provide expert and consultation support of creation of the personnel training system for nuclear energy industry based on the IAEA international experience and recommendations and involves holding seminars and educational training, visits of Belarusian scientists and university teachers to the NPP training points and foreign research institutes, visits of Belarusian specialists of the existing NPPs and those being constructed, as well as development and supply of the computer-based training system for organizations participating in the Belarusian NPP construction project implementation.

Advanced training of specialists of the regulatory body is carried out within measures of the subprogramme 10 "Training of Personnel for Nuclear Power Plants", as well as within implementation of the IAEA and the European Union projects, bilateral agreements on cooperation in the area of nuclear and radiation safety. Interaction is organized as well within the Regulator Cooperation Forum (RCF), Cooperation Forum of Regulators of countries operating NPP with VVER type reactors (VVER forum), the Western European Nuclear Regulators Association (WENRA).

Financial resources

All radioactive waste management facilities are under the jurisdiction of state bodies, therefore financial resources to support their safety during their operating lifetime, as well as for their decommissioning shall be allocated from the republican budget by requests of operating organizations, when necessary. Funding of works on safety maintenance and institutional control of storage facilities of the Chernobyl originated decontamination waste shall be performed within the state programs for mitigation of consequences of the Chernobyl NPP disaster.

The Ministry of Energy of the Republic of Belarus shall provide for the performance by the Republican Unitary Enterprise "Belarusian Nuclear Power Plant," in accordance with the agreements (contracts), permanent and appropriate financing of all the works and services on the design, construction and commissioning of the NPP, as well as supply of all the goods needed.

For the purpose of financing of research, development and other works for the support and improvement of safety of the nuclear and (or) storage facility, the Republican Unitary Enterprise "Belarusian Nuclear Power Plant," prior to the nuclear facility commissioning, shall create the financing fund for the support and improvement of safety of the nuclear and (or) storage facility.

For the purposes of decommissioning, early decommissioning or limitation of the operational characteristics of the nuclear facility, the Republican Unitary

Enterprise "Belarusian Nuclear Power Plant" shall create the nuclear facility decommissioning fund. The nuclear facility decommissioning fund shall be used solely for financing measures stipulated by the programs of decommissioning, early decommissioning or limitation of the operational characteristics of the nuclear and (or) storage facility.

The Ministry of Energy in cooperation with the interested state bodies develop the decree of the President of the Republic of Belarus determining the procedure for formation and use of the Belarusian nuclear power plant decommissioning fund, as well as the fund of financing of maintenance and improvement of the Belarusian nuclear power plant safety.

F.3. Quality Assurance

Article 23. Quality assurance
Each Contracting Party shall take the necessary measures to ensure that appropriate quality assurance programs concerning the safety of spent fuel and radioactive waste management are established and implemented.

The operating organization shall ensure arrangement and performance of works of such scope and quality as to meet the requirements of technical normative legal acts at all the stages of placement, design, construction, commissioning, operation, operational characteristics limitation, life extension, decommissioning of the nuclear and (or) storage facility. Organizations which carry out design and survey, research, development and process works, engineering and production of equipment for the nuclear and (or) storage facility, scientific support, other works and (or) services concerning the use of nuclear energy, shall ensure works performance and (or) services provision in such scope and quality as to meet the requirements of technical normative legal acts, and are responsible for the quality of the works performed and (or) services provided within the statutory service life determined for the nuclear and (or) storage facility by the project.

In accordance with the Provision on Licensing of Certain Types of Activity, for the purpose of carrying out activities in the use of nuclear energy, the requirement of the availability of the quality management and (or) control system shall be the general requirement for obtaining a special permit (license) to carry out activities in the use of nuclear energy and sources of ionizing radiation.

In compliance with standards and regulations on nuclear and radiation safety assurance "Radioactive Waste Management Safety. General Provisions", the operating organization, for the purpose of safety assurance at all stages of RW management, as well as safe operation of systems (elements), structures and components of the facility shall develop and apply a quality assurance program.

Requirements to the composition and content of the quality assurance programs are determined by a range of technical normative legal acts. The quality assurance programs shall be realized at all stages of RW management facility life cycle, which includes the site selection, construction (including design), equipment manufacturing, commissioning, operation and decommissioning of the RW management facility. The component part of the quality assurance shall be its control.

The operating organization shall create a quality assurance system, in the framework of which the overall quality assurance program and special quality assurance programs shall be developed. Organizations which carry out works and provide services for the operating organization shall develop special programs for the relevant activities within the overall quality assurance program.

F.4. Operational Radiation Protection

Article 24. Operational radiation protection

1. Each Contracting Party shall take the appropriate measures to ensure that during the operating lifetime of a spent fuel and radioactive waste management facility:

i) the radiation exposure of the workers and the public caused by the facility shall be kept as low as reasonably achievable, economic and social factors being taken into account; and

ii) no individual shall be exposed, in normal situations, to radiation doses which exceed national prescriptions for dose limitation which have due regard to internationally endorsed standards on radiation protection.

iii) measures are taken to prevent unplanned and uncontrolled releases of radioactive materials into the environment.

2. Each Contracting Party shall take appropriate measures to ensure that discharges shall be limited:

i) to keep exposure to radiation as low as reasonably achievable, economic and social factors being taken into account; and

ii) so that no individual shall be exposed, in normal situations, to radiation doses which exceed national prescriptions for dose limitation which have due regard to internationally endorsed standards on radiation protection.

3. Each Contracting Party shall take appropriate measures to ensure that during the operating lifetime of a regulated nuclear facility, in the event that an unplanned or uncontrolled release of radioactive materials into the environment occurs, appropriate corrective measures are implemented to control the release and mitigate its effects.

Basic principles and requirements to radiation safety assurance are determined by the Law of the Republic of Belarus "On Radiation Safety of the Population".

The legislation determines radiation values for standardization purposes and established requirements for basic dose limitations, acceptable levels of ionizing radiation exposure and other requirements for human exposure limitation.

The following basic limitations of doses resulting from ionizing radiation sources are established:

average annual effective dose for population is 0.001 Sv or effective dose of the lifetime period (70 years) - 0.07 Sv; in particular years higher values of the effective dose are allowed, provided that the average annual effective dose for five consecutive years shall not exceed 0.001 Sv;

average annual effective dose for workers (personnel) is 0.02 Sv or effective dose for the period of labour activity (50 years) - 1 Sv; the annual effective dose up to 0.05 Sv is acceptable, provided that the average annual effective dose for five consecutive years shall not exceed 0.02 Sv.

The Resolution of the Ministry of Health of the Republic of Belarus No. 213 dated 28.12.2012 approved Sanitary Regulations and Standards "Requirements to Radiation Safety" and the Sanitary-Hygienic Standard "Radiation Exposure Assessment Criteria". These documents are developed in accordance with the IAEA standard "Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards. General Safety Requirements. GSR Part 3". They establish

requirements to radiation safety assurance in different types of ionizing radiation exposure; determine quantitative and qualitative values of indicators of ionizing radiation impact on man.

In order to keep exposure of population, personnel of the radioactive waste management facility as low as reasonably achievable, economic and social factors being taken into account, the national regulatory documents include the following measures:

safety analysis report preparation;

development and approval of dose constraints and reference levels of the radiation factor impact to personnel and population, with the principle of optimization and efficiency of arrangements for radiological situation improvement taken into account;

creation of working conditions meeting the requirements of regulations, provision of all the workers with personal protective equipment;

systematic control of radiological situation at work places, on the facility territory, in the buffer zone and observation areas, as well as that of release, discharge of radioactive substances which shall not exceed the stated limits;

control and registration of individual exposure doses of personnel and population in compliance with the unified State system of control and accounting of exposure doses.

F.5. Emergency Preparedness

Article 25. Emergency preparedness

1. Each Contracting Party shall ensure that before and during operation of a spent fuel or radioactive waste management facility there are appropriate on-site and, if necessary, off-site emergency plans. Such emergency plans should be tested at an appropriate frequency.

2. Each Contracting Party shall take the appropriate measures for the preparation and testing of emergency plants for its territory insofar as it is likely to be affected in the event of a radiological emergency at a spent fuel or radioactive waste management facility in the vicinity of its territory.

Requirements to radiation safety assurance in the event of a radiation emergency, a nuclear and radiological emergency situation are determined by the Law of the Republic of Belarus “On Radiation Safety of Population” and the Law of the Republic of Belarus "On the Use of Atomic Energy".

In the Republic of Belarus the system of nuclear and radiological accident response is integrated into the national system of emergency response. There is an operating State System for the Prevention and Liquidation of Emergency Situations (SSES). Main requirements to the system are determined by the Law of the Republic of Belarus “On protection of the population and territories from emergency situations of natural and man-made origin”.

Plan for the protection of population and territories of the Republic of Belarus from emergency situations natural and man-made origin, a section of which is the Plan for the Protection against Radiation Accidents, is developed, approved and regularly corrected.

Based on the Plan of Protection from Radiation Accidents, sections of regional and branch plans are developed to detail arrangements of the Republican Plan.

The Resolution of the Government of the Republic of Belarus No. 1242 dated August 27, 2010 "On Approval of the Regulation on the Terms and Procedure for Emergency Plans Development" determines the terms and procedure for development of external and internal emergency plans which establish measures for assurance of emergency preparedness and emergency response in the event of a radiation accident occurred in the course of the nuclear energy use, requirements to their content, approval and revision procedure.

The external emergency plan determines emergency response areas, actions of the republican regulatory bodies, local government and self-government authorities, state and other organizations and citizens in the event of a radiation accident occurred in the course of the nuclear energy use, including at nuclear installations and (or) storage facilities located outside the territory of the Republic of Belarus closer than one hundred km from the State Border of the Republic of Belarus.

The external emergency plan is subject to annual correction.

The internal emergency plan determines actions of the operating organization in the event of a radiation accident aimed for its liquidation, limitation or reduction of the aftermath.

The internal emergency plan is developed and approved by the operating organization upon agreement with the relevant regulatory bodies in at least six months prior to start of the planned commissioning of a nuclear installation and (or) storage facility.

The internal emergency plan is subject to correction as deemed necessary but at least every 3 years.

The compulsory correction of the internal emergency plan is performed by the operating organization in the event of new nuclear installations and (or) storage facilities commissioning, after reconstruction or liquidation of the existing nuclear installations and (or) storage facilities, in the presence of data on radiation accidents at similar facilities both in the Republic of Belarus and abroad. The correction can be performed in other cases as the operating organization may determine.

In addition, the operating organization shall:

develop methods and programs for emergency response drills aimed at testing of personnel actions in the event of an accident, and ensure periodicity of the specified drills, current operation of the facility being taken into account;

ensure preparedness of personnel to respond to design-basis and beyond-design-basis accidents. The respective instructions and manuals shall determine immediate actions of personnel for possible accidents containment and liquidation of their consequences.

Managing body for such system is the Ministry for Emergency Situations which coordinates and organizes activities for preparedness assurance.

There is also system of monitoring and prediction of emergency situations in the republic. This system is a set of systems of observation, analysis and assessment of state and change revealed and potential sources of emergency situations and prediction of emergency situations, influencing the safety of population, organizations and environment for development and implementation of measures for prevention and liquidation of emergency situations, minimization of their social-economic and ecological consequences. The system of monitoring and prediction

functions within the State system of prevention and liquidation of emergency situations.

The procedure for operating control, information support and interaction of MES services, information centers (control points) of republican state bodies, other state organizations subordinated to the Government of the Republic of Belarus, duty-dispatching services of districts, cities and organizations are determined by the Regulations on organization of functioning of the management information system of the State system of prevention and liquidation of emergency situations.

Performance of Measures for Improvement of Emergency Preparedness

To strengthen the potential of preparedness for response to nuclear and radiation accidents the Government developed and approved the Concept of creation of the situational crisis centers system in the Republic of Belarus (Resolution of the Council of Ministers of the Republic of Belarus No. 479 dated 21.06.2016);

The Plan of implementation of the Resolution of the Council of Ministers of the Republic of Belarus No. 479 dated 21.06.2016 "On Approval of the Concept of Creation of the Situational Crisis Centers System in the Republic of Belarus, approved by the Deputy Prime Minister of the Republic of Belarus in November, 2016, details the measures stipulated by the Concept.

The interdepartmental working group, that includes representatives of the Ministry of Internal Affairs, the Ministry of Health, the Ministry of Natural Resources and Environmental Protection, the Ministry of Energy, the State Security Committee of the Republic of Belarus, local executive authorities, carries out the development and approval with the interested parties of the draft of the Plan of Protection from Radiation Accidents at the Belarusian nuclear power plant. The command-and-staff training exercise which was held 18-18 October 2017 is one of the important stage of the Plan practical work out.

The Hygienic Standard "Criteria for Radiation Impact Assessment", approved by the Resolution of the Ministry of Health of the Republic of Belarus dated December 28, 2012 No. 213 establishes criteria for response to nuclear and radiological emergency situations. These criteria fully coincide with the general criteria for response, established in Addition II of the IAEA Nuclear Security Series "Preparedness and Emergency Response in the event of Nuclear or Radiation Accident. General safety requirements. GSR Part 7.

The National system for the environmental monitoring allows in case of threat or emergence of the emergency situations involving radioactive environmental pollution to ensure updated informing the Ministry for Emergency Situations, other state bodies, local executive and regulatory authorities and population to take emergency measures for prevention of emergency situations, minimization or elimination of their consequences.

The project of the State Committee on Science and Technology "Development of the Automated Monitoring System of Radiation (AMSR) of the Environment with Open Architecture of Construction in the Area of the Belarusian NPP location" was implemented. Now AMSR is in trial operation, ensures the collection and accumulation of data on radiation dose rate in the area of the Belarusian NPP location for their further use as background. AMSR complex consists of 10 automated

measurement points (AMP), 3 of which are in the observation zone of the Belarusian NPP (radius of 12.9 km from the NPP) (in Trokeniki, Mikhalishki, Gervyaty settlements). All AMP are equipped with gamma radiation detectors BDKG-22 and spectrometer sensors BDKG-11M. The data on real meteorologic conditions in the area of the NPP location arriving from the nearest meteorological station, as well as from automatic meteorological stations Vaisala WXT520, with which 3 API (Gervyaty, Mikhalishki, Kamelishki) are equipped, will be used for forecasting of distribution of radioactive materials by air in case of radiation incident.

For further improvement of the emergency preparedness system the Republic of Belarus has applied to and plans to hold in March 2018 the mission of the International Atomic Energy Agency for Emergency Preparedness Review (EPREV mission). The pre-mission was held in January 2017.

F.6. Decommissioning

Article 26. Decommissioning

Each Contracting Party shall take the appropriate measures to ensure the safety of decommissioning of a nuclear facility. Such measures shall ensure that:

i) qualified staff and adequate financial resources are available;

ii) the provisions of Article 24 with respect to operational radiation protection, discharges and unplanned and uncontrolled releases are applied;

iii) the provisions of Article 25 with respect to emergency preparedness are applied; and

iv) records of information important to decommissioning are kept.

In compliance with the Laws of the Republic of Belarus “On the Use of Atomic Energy” and “On Radiation Safety of Population”, an action plan for safe decommissioning of the facility shall be stipulated by the design.

For performance of works on decommissioning of the facility, the operating organization shall create the decommissioning fund. The decommissioning fund is used only for financing of measures stipulated by the program of decommissioning, early decommissioning or limitation of operation parameter of the facility.

The operating organization five years prior to expiration of the statutory service life of the facility set by the project shall develop the decommissioning program, that shall contain measures for object dismantling, management of nuclear materials, spent nuclear materials and (or) radioactive waste, as well as measures for further monitoring and state supervision.

The decommissioning program shall be approved by public authorities regulating safety when using atomic energy and shall be submitted by the republican state body or other state organization, under authority of which the facility is, for approval to the body or official, that made the decision on facility construction.

Prior to expiry of the design operating life, the operating organization shall ensure a decommissioning project development, including:

organization of safe SNF removal from storage facilities and its subsequent transfer from the site;

decontamination in order to reduce the overall exposure of personnel and population in the course of works;

equipment disassembly at the facility site;

radioactive waste management;

organizational and technical measures for radiation safety assurance. In addition, the design stage shall include measures to ensure that established limitation of individual exposure doses of personnel during decommissioning is not exceeded;

assessment of radiation impact to the environment during decommissioning;

possibility of further use of the site, disassembled equipment and materials;

quantity and quality of the personnel required;

measures of safety assurance at possible accidents which may occur in the course of decommissioning;

organizational and technical measures for physical protection assurance.

When designing, deadlines of major equipment operation shall be justified and criteria for its replacement shall be set.

Prior to performance of project works on facility decommissioning, the works quality program shall be developed.

Information on schedulable activities on decommissioning of the radioactive waste management facility is given in the Safety report.

Decommissioning works shall be performed by specially trained personnel of the facility or that of other organizations in accordance with the procedure established by the legislation.

Section G. SAFETY OF SPENT FUEL MANAGEMENT

G.1. General safety requirements

Article 4. General safety requirements

Each Contracting Party shall take the appropriate measures to ensure that at all stages of spent fuel management individuals, society and the environment are adequately protected against radiological hazards.

In so doing, each Contracting Party shall take the appropriate measures to:

i) ensure that criticality and removal of residual heat generated during spent fuel management are adequately addressed;

ii) ensure that the generation of radioactive waste associated with spent fuel management is kept to the minimum practicable, consistent with the type of fuel cycle policy adopted;

iii) take into account interdependencies among the different measures in spent fuel management;

iv) provide for effective protection of individuals, society and environment, by applying at the national level suitable protective methods as approved by the regulatory body, in the framework of its national legislation which has due regard to internationally endorsed criteria and standards;

v)take into account the biological, chemical and other hazards that may be associated with spent fuel management;

vi) strive to avoid actions that impose reasonably predictable impacts on the future generations greater than those permitted for the current generation;

vii) aim to avoid imposing undue burdens on future generations.

Measures for ensuring proper protection of population, personnel and the environment against radiative effects associated with spent nuclear fuel management are stipulated by regulatory and legal framework of the Republic of Belarus.

The set of measures for nuclear safety assurance and residual removal of heat that is formed during spent nuclear fuel management is stipulated by the Rules of Safety Assurance for Nuclear Fuel Storage and Transportation at the Complexes of Nuclear Fuel Storage and Management Systems, as well as TCP 545-2014 "Assurance of Safety of Facilities for Dry Storage of Spent Nuclear Fuel".

Requirements for minimization of radioactive waste formation are established by provisions of the following documents:

The Law of Republic of Belarus "On Radiation Safety of Population";

Standards and regulations on nuclear and radiation safety assurance "Radioactive Waste Management Safety. General Provisions",

Sanitary regulations and standards "Requirements to Radiation Safety Assurance of Personnel and Population during Radioactive Materials Management", as well as other technical normative legal acts.

The regulatory and legal framework operating in the Republic of Belarus, that regulates placement, design, construction, operation, decommissioning of spent fuel management facilities allows to ensure safety at all stages of spent fuel management.

Performance of measures aimed at protection of population, personnel and environment, including owing to releases and discharges during operation of spent nuclear fuel management facilities, is the responsibility of the operating organization and shall be justified in the safety report.

During management of spent nuclear fuel, physical, chemical, toxic, fire-dangerous, explosive-dangerous and other risks, important for safety shall also be considered.

Non-imposing on future generations of undue burdens associated with the need of safety assurance during spent nuclear fuel management shall be implemented due to fulfillment of regulating requirements in the area of nuclear and radiation safety, given in section E.

G.2. Existing Facilities

Article 12. Existing facilities

Each Contracting Party shall take the appropriate measures to review the safety of any spent fuel management facility existing at the time the Convention enters into force for that Contracting Party and to ensure that, if necessary, all reasonably practicable improvements are made to upgrade the safety of such facility.

Spent nuclear fuel management facility "Iskra"

In the Republic of Belarus all the appropriate measures are taken to provide for effective protection of personnel, population and environment against radiological hazards associated with spent fuel storage at the spent nuclear fuel management facility "Iskra" of SSI "JIPNR - Sosny" until transfer to the Russian Federation.

Belarusian NPP

A set of measures for safety assurance during the spent nuclear fuel management at the Belarusian NPP is stipulated by design decisions.

When unloaded from the reactor, spent nuclear fuel (SNF) shall be directed to the SNF at-reactor storage system. This system is a storage pool furnished with the necessary equipment and systems.

The SNF at-reactor storage system is intended for the unloaded spent nuclear fuel storage in order to reduce activity and afterpower of spent fuel assemblies to the permitted values allowing its transportation.

The main functions of the SNF at-reactor storage system are:

placement of SNF unloaded from the reactor in case of reloading, as well as placement of the core fuel emergency offloading;

storage of spent nuclear fuel until removed from the reactor building;

SNF residual heat removal;

biological protection of personnel against the fuel stored in the pool.

The SNF at-reactor storage system provides for storage in the reactor building within 10 years with regard to scheduled refueling and the whole core unloading at any moment of the NPP operation.

After spent nuclear fuel storage in the SNF at-reactor storage system to achieve parameters allowing its transportation from the NPP to the radiochemical plant for

processing in the TK-VG-13 container car, transportation of spent fuel assemblies is performed using a shipping packaging set of TUK-13/1V type.

G.3. Siting of Proposed Facilities

Article 6. Siting of proposed facilities

6-1 Each Contracting Party shall take the appropriate measures to ensure that procedures are established and implemented for a proposed radioactive waste management facility:

i)to evaluate all relevant site-related factors likely to affect the safety of such facility during its operating lifetime;

ii) to evaluate the likely safety impact of such facility on individuals, society and the environment;

iii) to make information on the safety of such facility available to members of the public;

iv) to consult Contracting Parties in the vicinity of such facility, insofar as they are likely to be affected by that facility, and provide them, upon their request, with general data relating to the facility to enable them to evaluate the likely safety impact of the facility upon their territory.

6-2 In so doing, each Contracting Party shall take the appropriate measures to ensure that such facilities shall not have unacceptable effects on other Contracting Parties by being sited in accordance with general safety requirements stipulated by Article 4.

According to Article 14 of the Law of the Republic of Belarus "On the Use of Atomic Energy" decisions on siting and construction of the facility and/or storage facility shall be made, without limitation, on the suggestion of the interested republican state bodies and other state organizations, taking into account the following requirements:

if they are necessary for solution of social and economic problems of the Republic of Belarus and its certain regions taking into account possible consequences of siting of the specified objects;

lack of security threat from near civil or military facilities;

existence of conditions necessary for ecologically safe siting of the facility, meeting the requirements of the legislation on the environmental protection and rational use of natural resources, that shall be confirmed by favourable conclusions of state and other examinations stipulated by the legislation;

other requirements established by the legislation.

Major safety criteria and requirements during siting, as well as during safety assessment of spent nuclear fuel management facilities are set forth in TCP 503-2013 "Rules for Siting of Nuclear Materials and Radioactive Substances Storage Facilities".

According to provisions of the Law of the Republic of Belarus "On State Environmental Appraisal, Strategic Environmental Assessment and Environmental Impact Assessment" immovable objects and (or) constructions intended for storage of nuclear materials, spent nuclear materials and (or) radioactive waste are objects for which environmental impact is assessed, and are subject to state environmental appraisal.

Environmental impact assessment in a transboundary context shall be organized, financed by the customer and carried out in accordance with the procedure established by the Regulations on environmental impact assessment, requirements to the environmental impact assessment report, requirements to experts who carry out environmental impact assessment, approved by the Resolution of the Council of Ministers of the Republic of Belarus No. 47 dated 19.01.2017.

Public discussions of environmental impact assessment reports shall be carried out according to the Regulations on the procedure for organization and carrying out of public discussions of drafts of ecologically important decisions, environmental reports on strategic environmental assessment, environmental impact assessment reports, accounting of made ecologically important decisions, approved by the Resolution of the Council of Ministers of the Republic of Belarus No. 458 dated 14.06.2016.

The national legislation provides the need to hold all procedures stipulated by the Convention. The Republic of Belarus is the party of the Convention on environmental impact assessment in a transboundary context and the Convention on access to information, public participation in making decisions and access to justice in environmental matters, and shall be guided by them when making the relevant decisions.

G.4. Design and construction of facilities

Article 7. Design and construction of facilities

Each Contracting Party shall take the appropriate measures to ensure that:

i) during design and construction of a radioactive waste management facility the relevant measures to limit possible radiological impacts on individuals, society and the environment were taken, including those from discharges or uncontrolled releases;

ii) at the design stage, conceptual plans and, as necessary, technical provisions for the decommissioning of a radioactive waste management facility were taken into account;

iii) technologies used during design and construction of a radioactive waste management facility were supported by experience, testing or analysis.

According to Article 16 of the Law of the Republic of Belarus "On the Use of Atomic Energy" the facility project shall be developed in compliance with legislation on construction, architecture and town planning, legislation on land protection and use, subsoil legislation, legislation on sanitary and hygienic well-being of population, legislation on protection of population and territories from emergency situations, legislation on environmental protection and rational use of natural resources, including technical normative legal acts.

The facility project shall provide measures for their safe decommissioning, measures for safe management of nuclear materials, spent nuclear materials and (or) radioactive waste as an obligatory stage of any cycle of nuclear technology.

Basic principles and requirements implemented during design and construction of facilities are established by technical normative legal acts in the area of nuclear and radiation safety assurance, as well as by sanitary standards and rules set forth in section E.

The system of technical and organizational measures for facility safety shall be presented and justified in the safety report.

G.5. Safety Assessment of Facilities

Article 8. Safety Assessment of Facilities

Each Contracting Party shall take the appropriate measures to ensure that:

i) before construction of a spent fuel management facility, a systematic safety assessment and an environmental assessment appropriate to the hazard presented by the facility and covering its operating lifetime shall be carried out;

iii) before the operation of a spent fuel management facility, updated and detailed version of the safety assessment and of the environmental assessment shall be prepared when deemed necessary to complement the assessments referred to in paragraph (i).

For obtaining the license for siting, construction, operation of the spent fuel management facility the operating organization shall provide development and submission to the regulatory body of the facility safety report.

The safety report shall include information on safety analyses made by all accident group under consideration. It shall also include the list of initial events at which the facility is aimed, the list of project and non-project accidents, assessment of design decisions that ensure the facility safety.

When developing project documentation on the spent fuel management facility at the initial stage of designing it is necessary to assess environmental impact (project documentation and environmental impact assessment report are subject to state environmental appraisal).

G.6. Operation of Facilities

Article 9. Operation of facilities

Each Contracting Party shall take the appropriate measures to ensure that:

i) license for operation of spent fuel management facility is based on the relevant assessments referred to in article 8, and depends on termination of the commissioning program, confirming that the built facility corresponds to the project and meets safety requirements;

ii) operational limits and conditions, set on the basis of tests, operational experience and assessments referred to in article 8, are established and reconsidered as and when necessary;

iii) operation, technical maintenance, control, inspection and examinations of the spent fuel management facility are carried out in accordance with established procedures;

iv) engineering and technical support in all areas associated with safety is rendered during the operating life of the spent fuel management facility;

v) license holder in due time informs the regulatory body of incidents that are important in terms of safety;

vi) programs of collection and analysis of the relevant information on operational experience was developed and necessary measures were taken by their results;

vii) plans of decommissioning of the spent fuel management facility were prepared and updated, as required, with the use of information obtained during the operating life of this facility, and that they are considered by the regulatory body.

Operation of spent nuclear fuel management facilities may be carried out only in the presence of the license to carry out activities in the area of use of atomic energy and ionizing radiation sources issued by the Ministry for Emergency Situations of the Republic of Belarus.

The essential condition for the license applicant is ensuring the compliance of facility state with project, design, technological documentation and with documents that justify the nuclear and radiation safety assurance.

Licenses for facility operation are issued only in the presence of a favourable conclusion of expertise of documents that justify the nuclear and radiation safety assurance.

The main documents determining the safe operation of facility are technology regulations containing rules and main methods of safe operation, general procedure for performance of operations associated with safety, as well as safe operation limits and conditions.

The operating organization ensures the development of technology regulations on the basis of project documentation in accordance with the safety report.

For maintenance of systems (elements) and equipment of the facility, as well as for prevention of dangerous failures in systems their technical maintenance, repairs, tests and checks shall be carried out. The specified works shall be carried out in accordance with the relevant instructions, programs, schedules, flow charts developed

by the operating organization on the basis of design requirements and technology regulations, and shall be documented. During technical maintenance, repair, tests and checks of systems (elements) and equipment the conditions established in technology regulations, at which safety of the facility is guaranteed, shall be met.

During operation of spent nuclear fuel management facilities it is necessary to ensure the collection, processing, analysis, systematization and storage of information on failures of systems (elements) and equipment, the wrong actions of employees (personnel). Results of analysis and systematization of the specified information shall be included in periodic reports developed by the operating organization.

The operating organization during operation of the spent nuclear fuel management facility shall organize the collection, systematization and reliable storage of information required for decommissioning of the facility.

The decommissioning program shall be approved by public authorities regulating safety when using atomic energy and shall be submitted by the operating organization for approval to the body or official, that made the decision on facility construction.

Need of timely informing of the incidents, that are important in terms of safety, is stipulated by the legislation of the Republic of Belarus. According to article 29 of the Law of the Republic of Belarus "On the Use of Atomic Energy" in the event of a radiation accident during activities on atomic energy use that led to release of radioactive materials into the environment over the established limits, the operating organization shall be obliged to inform immediately citizens, public authorities regulating safety when using atomic energy, bodies of local government and self-government in the area of emergency response and other public authorities.

G.7. Spent Fuel Disposal

Article 10. Spent fuel disposal

If in accordance with the legislative and regulating basis the Contracting Party designates the spent fuel for disposal, then disposal of such spent fuel shall be carried out in accordance with the obligations set forth in chapter 3 that relates to radioactive waste disposal.

The disposal of spent fuel is not stipulated by the legislation of the Republic of Belarus.

Section H. SAFETY OF RADIOACTIVE WASTE MANAGEMENT

H.1. General Safety Requirements

Article 11. General Safety Requirements

Each Contracting Party shall take the appropriate measures to ensure that at all stages of radioactive waste management individuals, society and the environment are adequately protected against radiological and other hazards.

In so doing, each Contracting Party shall take the appropriate measures to:

i) ensure that criticality and removal of residual heat generated during radioactive management are adequately addressed;

ii) ensure that the generation of radioactive waste is kept to the minimum practicable;

iii) take into account interdependencies among the different measures in radioactive waste management;

iv) provide for effective protection of individuals, society and environment, by applying at the national level suitable protective methods as approved by the regulatory body, in the framework of its national legislation which has due regard to internationally endorsed criteria and standards;

v) take into account the biological, chemical and other hazards that may be associated with radioactive waste management;

vi) strive to avoid actions that impose reasonably predictable impacts on the future generations greater than those permitted for the current generation;

vii) aim to avoid imposing undue burdens on future generations.

According to requirements of the Law "On Radiation Safety of Population" the following shall be ensured during radioactive waste management:

keeping the formation of radioactive waste to the minimum practicable;

determination of hazardous properties (toxicity, pathogenicity, explosion hazard, fire hazard, high recreation ability, ability to generate persistent organic pollutants) of radioactive waste for the purpose of safe radioactive waste management;

collection and separation of radioactive waste types according to technical normative legal acts.

Norms and rules for nuclear and radiation safety assurance "Safety of Radioactive Waste Management. General Provisions" establish requirements to project and operational documentation, to radiation monitoring on facilities, to placement of radioactive waste for long-term storage (disposal), to the quality assurance program, to implementation of measures for radiation accident elimination, as well as to accounting, control and inventory of radioactive waste.

According to requirements of the specified norms and rules during radioactive waste management the following principles shall be observed:

ensuring acceptable level of protection of employees (staff) and population from radiative effects of radioactive waste according to grounding, normalization and optimization principles;

ensuring acceptable level of protection of the environment from harmful radiative effects of radioactive waste;

accounting of interdependence between different stages of radioactive waste management, that provides that all activities – from formation till disposal of radioactive waste, including their processing, are considered as components of one thing and control elements of each stage are selected taking into account compatibility with other stages;

protection of future generations that means that predicted levels of radiation of future generations, caused by radioactive waste disposal shall not exceed admissible levels of population radiation established by the current normative legal acts;

non-imposing on future generations of undue burdens associated with the need of safety assurance during radioactive waste management;

control of RW formation and accumulation (restriction of RW formation and accumulation shall be kept to the minimum practicable);

prevention of accidents and mitigation of their consequences, if any.

The operating organization shall ensure safe management of all radioactive waste, formed and (or) collected as a result of its activity during normal operation of the facility, during technical maintenance and repair, as well as during violation of normal operation of the facility, including accidents. Safe radioactive waste management shall be provided at all stages of the facility life cycle, including its decommissioning or closing.

If radioactive wastes contain nuclear-hazardous fissionable nuclides, it is necessary to provide technical solutions and organizational measures aimed at nuclear safety assurance during their management, according to requirements of normative legal acts.

Requirements to radioactive waste management are also determined by Sanitary standards and rules "Requirements for Assurance of Radiation Safety of Personnel and Population during Radioactive Materials Management".

The Sanitary standards, regulations and sanitary-hygienic standards "Hygienic Requirements to the Design and Operation of Nuclear Power Plants" establish requirements to the management of solid, liquid and gaseous, including combustible, radioactive waste generated at nuclear power plants. The requirements to accounting, radiation control of radioactive waste management and to its transportation are also stablished.

The general safety requirements of radioactive waste management are established by legislative acts specified in Section E.

H.2. Existing Facilities

Article 12. Existing facilities and past practices

Each Contracting Party shall in due course take the appropriate measures to review:

i) the safety of any radioactive waste management facility existing at the time the Convention enters into force for that Contracting Party and to ensure that, if necessary, all reasonably practicable improvements are made to upgrade the safety of such a facility;

ii) the results of past practices in order to determine whether any intervention is needed for reasons of radiation protection bearing in mind that the reduction in detriment resulting from the reduction in dose should be sufficient to justify the harm and the costs, including the social costs, of the intervention.

The task of radiological safety assurance is solved with respect to all the facilities listed in Section D.

Specialized Enterprise for radioactive waste management UE Ekores

The RW processing unit with laboratories and the conditioned solid RW storage facility were built in 2013 within the second and third stages of the specialized enterprise UE Ekores reconstruction.

The specified facilities are intended for performance of works on processing and conditioning of solid and liquid RW coming to UE Ekores with their subsequent long-term storage in a conditioned form.

The RW conditioning method shall be waste cementing in a special packaging set which can be represented by: 200-liter metal drums, metal containers, reinforced concrete containers.

Conditioned RW shall be stored in sections of the solid conditioned RW storage facility by category.

In accordance with the international technical assistance project "Improvement of Safety of Radiation Facilities by Physical Protection Modernization, Special Vehicles and Unused Radiation Facilities Decommissioning", which is being implemented by the National Security Technologies (USA), in 2015 the work on modernization of the special vehicles of UE Ekores for RW transportation was carried out.

In 2016 within the framework of the specified project the batch of special containers for long-term storage (disposal) of RW, as well as equipment for performance of loading and unloading operations with containers was delivered to UE Ekores.

For the purpose of justification of radiation safety of RW storage system, the safety report on specialized enterprise for radioactive waste management UE Ekores has been developed and is updated, radiation safety condition is periodically assessed. The specified works were performed with technical support of Scientific institution "JIPNR - Sosny".

Extraction of RW from the mothballed storages of the first generation (operated from 1963 to 1978) and decommissioned storages of the second generation (operated from 1978 to 2013) with the purpose of its further transfer to a safe state by means of processing and conditioning is an actual task for UE Ekores.

The complex of measures aimed at enhancement of safety of specialized enterprise for radioactive waste management UE Ekores was repeatedly considered during meetings and is controlled by the Commission for Emergency Situations under the Council of Ministers of the Republic of Belarus.

For the purpose of determination of objective level of radiation and ecological safety, as well as for receipt of initial data for development of the project of RW extraction it is planned to perform works on complex engineering and radiation examination of RW storages of specialized enterprise for radioactive waste management UE Ekores. These works are planned to be financed out of the funds of republican and local budgets.

By the decision of the Government Scientific institution "JIPNR - Sosny" was designated as organization for scientific maintenance of works on extraction of radioactive waste from storages of specialized enterprise for radioactive waste management UE Ekores.

Much attention is paid to international cooperation for this direction. The CIS executive committee works on the issue related to creation of the Basic organization of member states of the Customs Union for management of SNF, RW and decommissioning of nuclear and radiation hazardous facilities.

The specified organization is created for development of recommendations for authorized bodies on formation, monitoring and implementation of ecologically safe strategies of technological development and innovative policy in the area of SNF, RW management and decommissioning of nuclear and radiation hazardous facilities in member states of the Customs Union.

The status of basic organization is planned to be given to "Federal Nuclear and Radiation Safety Centre" of Rosatom State Corporation (Russian Federation).

Main activity areas of the Basic organization are:

assistance in management of integrated projects and programs for RW and SNF management, for

decommissioning of nuclear and radiation hazardous facilities, including decommissioning of radiation sources, nuclear material, radioactive material and RW storage facilities in member states of the Customs Union;

assistance in activities on construction and operation of nuclear material, radioactive material and RW storage facilities, including SNF storage facilities in territories of member states of the Customs Union.

Where required, the interested state bodies and organizations of the Republic of Belarus can ask the specified Basic organization to render assistance in solution of arising issues, including ones related to safety assurance of RW storage facilities.

Decontamination waste disposal facilities

In order to prevent unauthorized access to the decontamination waste disposal facilities and assure safety of the disposed waste fencing is installed along the perimeter of disposal sites, as well as radiation signs. Buffer area with a radius at least 500 m is established around the disposal sites, where no activity, except that associated with DWDF operation, is allowed.

After filling the bowls of II and III category disposal sites with waste, their mothballing is done with clay shield formation and subsequent packing of local soil layer 1 m thick.

The operating organizations shall perform a set of annual arrangements.

The level of ground waters is monitored in DWDFs furnished with boreholes. Radionuclides transition from disposal facilities to ground waters is controlled by water sampling.

The existing and mothballed DWDFs of all categories are subject to systematic radiation control and monitoring of their physical state. Periodicity of radiation control and monitoring, scope of DWDF installation works are determined by the Schedule of Radiation Control, Monitoring and Decontamination Waste Disposal Facilities Management, developed annually by specialized enterprises.

The following types of radiation control are established for DWDF-I and DWDF-II:

dose rate measuring at permanent check points;

measuring of specific activity of Cs-137, Sr-90 in water samples from the check boreholes at least twice a year;

measuring of ground waters level in the check boreholes.

At DWDF-III dose rate is measured in the check points.

Monitoring of state of all the DWDF categories includes examination of their technical state. DWDF technical state examination is generally performed at the same time as their radiation control, as well as after floods, heavy rains, hurricanes, etc. At visual examination of DWDF engineering arrangement systems the fencing, upper shelter, radiation signs and approach roads state is determined.

Radioactive waste storage facilities at former locations of the USSR Military Forces

In order to reduce radiological hazards, bring territories into compliance with the radiation safety requirements, as well as provide for the relevant physical protection of ionizing radiation sources, work was carried out in the Republic of Belarus aimed at search and detect radioactive waste storage facilities (hereinafter referred to as RWSF) at former locations of the USSR Military Forces.

In total for the period from 2004 to 2014 40 such places were inspected, where 15 well-type constructions for radioactive waste storage were found.

It was found that two storage facilities - "Gomel-30" and "Kolosovo" - were full with radioactive wastes.

RWSF "Kolosovo" was liquidated in 2008, radioactive wastes from it were moved to UP "Ekores".

In 2010 RWSF "Gomel-30" was examined with the following conclusions made:

1. RWSF "Gomel-30" structure is generally compliant with the Standard Design of a Radioactive Waste Storage Facility No. 62-II-04 (height - 2.4 m from the ground surface, well diameter - 1.76 m).

2. The radionuclide composition of the placed sources includes radioactive isotopes of Cs-137 and Co-60.

3. At the present time the condition of structural materials of the RWSF radiation protection is able to ensure proper leak tightness and protection from radionuclides penetration into the environment.

4. There is no threat of exposure for the population and workers in the vicinity exceeding the established dose limitations, provided that the necessary physical protection of RWSF is arranged.

5. The technical state and structural scheme of RWSF show that the structure is able to bear mounting and transportation loads.

The examination results indicate reasonability of development of technology and procedure of the RWSF "Gomel-30" liquidation with the well column with the SIRs enclosed within transferred without its fragmentation to UE Ekores for long-term storage.

Now it is not necessary to take urgent measures for utilization of this facility, condition of its safety is monitored. There is a protected facility of the Ministry of Internal Affairs in the territory, where the storage facility is located, and unauthorized access to this territory is impossible.

Decision of further RWSF "Gomel-30" management will be made by the Commission for Emergency Situations attached to the Council of Ministers of the Republic of Belarus with the information on its examination, financial and other factors taken into account.

SSI "JIPNR - Sosny" liquid radioactive waste processing facility

The facility performs processing of liquid radioactive waste resulting from research activity at the site of SSI "JIPNR - Sosny".

The facility performs processing of liquid radioactive waste using the following methods: selective sorption, microfiltration, reverse osmosis, ion exchange.

Radioactive waste conditioning is performed by cementing.

Solid radioactive waste resulting from processing and conditioning is transferred to UE Ekores for long-term storage.

Safety of the liquid radioactive waste processing facility is justified in the project, including the safety report.

During 2014-2017 the following measures for the facility safety assurance were taken:

- additional technology regulations on cleaning of LRW with complex chemical and radionuclide composition were developed;
- part of filters and portable pump equipment was replaced;
- special containers for LRW, SRW taking into account their properties, chemical and radionuclide composition were acquired;
- new equipment and devices for radiation control systems was acquired;
- technical maintenance of the equipment is carried out annually, according to the Plan for equipment technical maintenance and repair.

Belarusian NPP

The nuclear power plant RW management shall be performed in the following manner.

High-level operational waste of the NPP shall be stored on the territory of the nuclear power plant within its whole operating lifetime life.

Conditioned very low-level, low-level and intermediate-level operational RW shall be stored in the RW storage facility on the territory of the NPP within 10 years.

Upon the expiry of temporary storage period of such RW in the NPP storage facility, it shall be moved to the planned RW disposal facility for storage and/or disposal.

According to the Strategy for management of Belarusian nuclear power plant radioactive wastes, the first phase of radioactive waste disposal facility (RWDF) is planned to be constructed till 2028. The customer is SE "Belarusian NPP".

Within the framework of implementation of a pre-investment stage on construction of the specified facility within the terms of the contract between the Ministry of Energy and Scientific institution "JIPNR - Sosny", the task on development of RWDF conceptual project (except highly active ones), resulting from use and decommissioning of the Belarusian NPP, is carried out on the basis of reference technologies and current projects.

For performance of this work the leading Russian organization in the area of design of radioactive waste disposal storage of Rosatom State Corporation - Sank-Petersburg branch of JSC "FTSNIVT "SNPO "Eleron" -VNIPIET" was subcontracted.

Based on the results of works a conceptual RWDF project with allocation of the project of the first phase of this facility will be prepared. The principal layout of construction works (including by phases) and the draft of design assignment for development of justification of investments for RWDF construction will be prepared (except highly active ones). It is planned to complete the works by the IV quarter of 2018.

Upon the NPP's decommissioning and its subsequent dismounting, the intermediate- and low-level radioactive waste generated is planned to be disposed in the specified disposal facility.

According to the Strategy for management of Belarusian NPP radioactive wastes it is planned to work on issue related to construction of the facility for disposal of high-active RW in deep geological formation. For this purpose, a set of research and development works on development of ways of management of high-active RW will be performed, including:

technological solutions on organization of the system of high-active RW disposal in deep geological formation were analyzed;

possible locations of the facility for disposal of the specified category of RW were determined;

alternative design decision on construction of this disposal facility was chosen;

financial expenses on its construction were estimated.

The final decision on the procedure for high-active radioactive waste management will be made based on the results of performance of a set of research works.

H.3. Siting, Design

Article 13. Siting of proposed facilities

1.Each Contracting Party shall take the appropriate measures to ensure that procedures are established and implemented for a proposed radioactive waste management facility:

i) to evaluate all relevant site-related factors likely to affect the safety of such a facility during its operating lifetime as well as that of a disposal facility after closure;

ii) to evaluate the likely safety impact of such a facility on individuals, society and the environment, taking into account possible evolution of the site conditions of disposal facilities after closure;

iii) to make information on the safety of such a facility available to members of the public;

iv) to consult Contracting Parties in the vicinity of such a facility, insofar as they are likely to be affected by that facility, and provide them, upon their request, with general data relating to the facility to enable them to evaluate the likely safety impact of the facility upon their territory.

2.In so doing, each Contracting Party shall take the appropriate measures to ensure that such facilities shall not have unacceptable effects on other Contracting Parties by being sited in accordance with general safety requirements of Article 11.

Article 14. Design and construction of facilities

Each Contracting Party shall take the appropriate measures to ensure that:

i) the design and construction of a radioactive waste management facility provide for suitable measures to limit possible radiological impacts on individuals, society and the environment, including those from discharges or uncontrolled releases;

ii) at the design stage, conceptual plans and, as necessary, technical provisions for the decommissioning of a radioactive waste management facility other than a disposal facility are prepared;

iii) at the design stage, technical provisions for the closure of a disposal facility are prepared;

iv) the technologies incorporated in the design and construction of a radioactive waste management facility are supported by experience, testing or analysis.

The Laws of the Republic of Belarus On the Use of Atomic Energy» and "On Radiation Safety of Population" establish requirements to the siting activity, design and construction of radioactive waste management facilities.

Siting of radioactive waste management facilities is performed by decision of the Council of Ministers of the Republic of Belarus with regard to the proposals of the interested republican regulatory bodies. Land plots and subsoil plots for siting of such facilities are provided in accordance with procedure stated by legislation on the protection and use of land, subsoil.

Design documentation for radioactive waste management facilities shall be developed in compliance with legislation on construction, architecture and town planning, on the environmental protection and rational use of natural resources, on sanitary and hygienic well-being of population.

The design of radioactive waste management facilities shall take into account the factors that affect the safety of such facilities both during its operating lifetime and after closure. In addition, impacts of such facilities on the environment shall be assessed in compliance with legislation on the environmental protection.

Requirements to siting, design of radiation facilities, including radioactive waste management facilities, are determined by:

Standards and regulations on nuclear and radiation safety assurance "Radioactive Waste Management Safety. General Provisions";

Standards and regulations on nuclear and radiation safety assurance "Radioactive Waste Disposal. Principles, Criteria and General Safety Requirements";

Sanitary regulations and standards "Requirements to Personnel and Population Radiation Safety Assurance in Operation of Nuclear Energy Use Facilities and Sources of Ionizing Radiation";

Sanitary regulations and standards "Requirements to Personnel and Population Radiation Safety Assurance during Radioactive Waste Management".

The following sites shall be selected for specialized radioactive waste management facilities:

those located at underpopulated and flood-free territories;

those having a steady wind regime;

those limiting radioactive substances travel to outside the industrial site of the facility due to their topographic, geological and hydrogeological conditions.

A site for a newly built facility shall be selected with account for its potential radiation, chemical and fire hazard for population and the environment.

Locations of specialized radioactive waste management facilities shall be evaluated taking into account impacts on the designed facility's safety of metrological, hydrological and seismic factors at regular operation and in emergency situations.

According to provisions of the Law of the Republic of Belarus dated July 18, 2016 No. 399-Z "On State Environmental Appraisal, Strategic Environmental Assessment and Environmental Impact Assessment" facilities on which radioactive wastes are neutralized, processed, stored and (or) disposed, are facilities, for which environmental impact is assessed, and are subject to state environmental appraisal.

Environmental impact assessment in a transboundary context shall be organized, financed by the customer and carried out in accordance with the procedure

established by the Regulations on environmental impact assessment, requirements to the environmental impact assessment report, requirements to experts who carry out environmental impact assessment, approved by the Resolution of the Council of Ministers of the Republic of Belarus No. 47 dated 19.01.2017 in light of the requirements of TCP 17.02-08-2012 "Environmental Protection and Environmental Management. Rules of Environmental Impact Assessment and Report Preparation".

Public discussions of environmental impact assessment reports shall be carried out according to the Regulations on the procedure for organization and carrying out of public discussions of drafts of ecologically important decisions, environmental reports on strategic environmental assessment, accounting of made ecologically important decisions, approved by the Resolution of the Council of Ministers of the Republic of Belarus No. 458 dated 14.06.2016.

H.4. Safety Assessment of Facilities

Article 15. Assessment of safety of facilities

Each Contracting Party shall take the appropriate measures to ensure that:

i) before construction of a radioactive waste management facility, a systematic safety assessment and an environmental assessment appropriate to the hazard presented by the facility and covering its operating lifetime shall be carried out;

ii) in addition, before construction of a disposal facility, a systematic safety assessment and an environmental assessment for the period following closure shall be carried out and the results evaluated against the criteria established by the regulatory body;

iii) before the operation of a radioactive waste management facility, updated and detailed version of the safety assessment and of the environmental assessment shall be prepared when deemed necessary to complement the assessments referred to in paragraph (i).

Within the framework of safety assessment all radiation risks associated with normal during operation events and emergency conditions (in which there were failures or internal or external events endangering the safety of facility or activity) are considered.

Radiation safety assessment shall be carried out when planning and holding measures for ensuring the radiation safety, analysis of efficiency of the specified measures by republican state bodies, other state organizations subordinated to the Government of Republic of Belarus, local executive and administrative bodies, as well as and the user of ionizing radiation sources.

The legislation also established that organizations operating radioactive waste management facilities shall develop a safety analysis report. The report shall be developed to justify the safety of radioactive waste management facilities both during their operating lifetime and after decommissioning.

The report shall be developed by the operating organization prior to the commissioning of a radioactive waste management facility.

The operating organization shall ensure that the report reflects actual state of radioactive waste management within the whole operating lifetime of the facility.

According to provisions of the Law of the Republic of Belarus "On State Environmental Appraisal, Strategic Environmental Assessment and Environmental Impact Assessment" facilities on which radioactive wastes are neutralized, processed, stored and (or) disposed, are facilities, for which environmental impact is assessed, and are subject to state environmental appraisal.

Section I. TRANSBOUNDARY MOVEMENT

Article 27. Transboundary movement

1.Each Contracting Party involved in transboundary movement shall take the appropriate measures to ensure that such movement is undertaken in a manner consistent with the provisions of this Convention and relevant binding international instruments.

In so doing:

i) a Contracting Party which is a State of origin shall take the appropriate measures to ensure that transboundary movement is authorized and takes place only with the prior notification and consent of the State of destination;

ii)transboundary movement through States of transit shall be subject to those international obligations which are relevant to the particular modes of transport utilized;

iii)a Contracting Party which is a State of destination shall consent to a transboundary movement only if it has the administrative and technical capacity, as well as the regulatory structure, needed to manage the spent fuel or the radioactive waste in a manner consistent with this Convention;

iv) a Contracting Party which is a State of origin shall authorize a transboundary movement only if it can satisfy itself in accordance with the consent of the State of destination that the requirements of subparagraph iii) are met prior to transboundary movement;

v)a Contracting Party which is a State of origin shall take the appropriate measures to permit re-entry into its territory, if a transboundary movement is not or cannot be completed in conformity with this Article, unless an alternative safe arrangement can be made.

2.A Contracting Party shall not license the shipment of its spent fuel or radioactive waste to a destination south of latitude 60 degrees for storage or disposal.

3.Nothing in this Convention prejudices or affects:

i) the exercise, by ships and aircraft of all States, of maritime, river and air navigation rights and freedoms, as provided for in the international law;

ii) rights of a Contracting Party to which radioactive waste is exported for processing to return, or provide for the return of, the radioactive waste and other products after treatment to the State of origin;

iii) the right of a Contracting Party to export its spent fuel for reprocessing;

iv) rights of a Contracting Party to which spent fuel is exported for reprocessing to return, or provide for the return of, radioactive waste and other products resulting from reprocessing operations to the State of Origin.

Transboundary movement of ionizing radiation sources (including radioactive waste, spent nuclear fuel) shall be performed in accordance with the Law of the Republic of Belarus «On Radiation Safety of Population», other legislative acts, including those on the use of nuclear energy, on the radiation safety assurance, external economic activity, legislation on customs regulation, as well as international treaties of the Republic of Belarus.

In accordance with the Law of the Republic of Belarus «On Radiation Safety of Population», radioactive waste generated in the Republic of Belarus only may be imported to the territory of the Republic of Belarus with the purpose of storage or disposal.

The Resolution of the Eurasian Economic Commission dated April 16, 2010 No. 240 "On Control of Movement of Sources of Ionizing Radiation" established that before completion of development of the unified measures for export control within the Customs Union member states of the Customs Union shall take measures to control movement of sources of ionizing radiation in accordance with the national legislation with the purpose of assurance of control of ionizing radiation sources movement and prevention of their unauthorized import to the territory of the Customs Union.

The Resolution of the Council of Ministers of the Republic of Belarus dated September 23, 2008 No. 1397 "On Certain Issues of the Procedure for Movement of Certain Types of Products across the State Border of the Republic of Belarus" determined that import and (or) export of sources of ionizing radiation is allowed subject to the respective permit of the Department for Nuclear and Radiation Safety of MES of the Republic of Belarus. In addition, the specified resolution approved:

The Regulation on the procedure and terms for issuing by the Department for Supervision of the Safe Performance of Works in Industry and Department for Nuclear and Radiation Safety of the Ministry for Emergency Situations permits for import and (or) export of explosives, bombs and industrial blasting agents, sources of ionizing radiation restricted for movement across the State Border of the Republic of Belarus for non-economic reasons, as well as resolutions (approval documents) for import, export and transit of certain products specified in Section 2.13 of the Unified List of Products subject to bans or restrictions on import or export by member states of the Customs Union within the Eurasian Economic Community in trade with the third countries;

The list of sources of ionizing radiation restricted for movement across the State Border of the Republic of Belarus within import and (or) export for non-economic reasons, import and (or) export of which is allowed against a permit of the Department for Nuclear and Radiation Safety.

A permit for transit through the Republic of Belarus or export from the Republic of Belarus of spent nuclear fuel may be issued only subject to the consent of the relevant state body of the state of destination to accept the specified materials and its respective administrative and technical capabilities.

In order to obtain a permit for export of 1 and 2 categories sources, an applicant shall submit to Gosatomnadzor a completed declaration of export sealed radionuclide sources. The declaration shall be completed by the consignee and the relevant body of the consignee state and contain:

declaration validity period;

names and contact details of the consignee and the consignor;

source description;

information from the consignee on the presence of a license, powers and other permits to receive a source (sources), compliance with the necessary national requirements in relation to safe storage, use or sale of the sources specified in the declaration;

confirmation by the relevant body of the consignee state of taking note of the declaration.

The Agreement on information exchange of member states of the Commonwealth of Independent States in movement of radioactive sources, signed in Bishkek on June 7, 2016 was ratified by the Law of the Republic of Belarus No. 22-Z dated April 10, 2017.

The main objective of the Agreement is to ensure the effective interaction between member states of the Commonwealth of Independent States for continuous regulating control over radioactive sources of the highest and high hazard (i.e. radioactive sources of 1 and 2 categories by radiation hazard degree) by means of exchange of information on radioactive source movements between authorized bodies

of the member states. The Ministry for Emergency Situations of the Republic of Belarus was designated as the authorized (competent) body of the Republic of Belarus responsible for performance of the specified Agreement.

Resolution of the Council of Ministers of the Republic of Belarus of April 30, 2009 No. 560 "On Approval of Regulation on the Procedure of Interaction of Republican Regulatory Bodies, other State Bodies and Organizations in the event of Detection of Sources of Ionizing Radiation, as well as of their Arrest at the State Border of the Republic of Belarus" determined competence of state bodies in the event of detection of ionizing radiation sources, as well as in the event of their arrest in the course of movement across the State Border of the Republic of Belarus.

Joint Resolution of the Ministry of Health of the Republic of Belarus, the State Customs Committee of the Republic of Belarus and the State Border Committee of the Republic of Belarus of December 30, 2013 No. 135/34/16 approved an Instruction on the procedure (interaction) of the customs authorities of the Republic of Belarus, border authorities of the Republic of Belarus, bodies and institutions in charge of state sanitary supervision in case of quarantine control at the checkpoints on the State Border.

The State Customs Committee of the Republic of Belarus (hereinafter referred to as SCC) and State Border Committee of the Republic of Belarus (hereinafter referred to as Gospogrankomitet) are actively working on countering unlawful transboundary movement of nuclear and radioactive materials across the State Border of the Republic of Belarus (hereinafter referred to as the State Border).

With the purpose of arrangement of these measures and capacity building in physical nuclear safety, Gospogrankomitet in cooperation with SCC implements the project of international technical assistance with the U.S. Department of Energy "Strengthening of capacity building in the area of detection, counteraction and prevention of illegal trafficking of radioactive materials at the State Border of the Republic of Belarus.

Within the framework of this project:

border service agencies received 4 new samples of mobile systems for detection of nuclear and other radioactive materials, as well as 35 portable devices for radiation control;

in the Unified European Training Centre (Karlsruhe, Germany) and on trainings held in the Republic of Belarus more than 50 employees of border service agencies were trained;

participation in the USA in the interdepartmental training on detection and response to facts of detection of nuclear and other radioactive materials.

In 2015 at the initiative of Gospogrankomitet of the Republic of Belarus the expert IAEA mission (INSSERV) visited the State Border for the purpose of physical nuclear safety assessment. Based on the results of the specified mission IAEA notified Gopogrankomitet in writing of technical assistance in strengthening of physical nuclear safety capacity on the "green" border.

All the subdivisions of the border service are involved in the State Border protection, including in interdiction of illicit transboundary trafficking of nuclear and other radioactive materials. In the course of their tasks performance from 2014 to 2016 the border service bodies prevented 15 attempts of illicit transboundary

trafficking of radioactive materials transported in violation of legislation of the Republic of Belarus. No facts of illicit transboundary trafficking of nuclear materials have been detected.

Section J. DISUSED SEALED SOURCES

Article 28. Disused sealed sources

1. Each Contracting Party shall, in the framework of its national law, take the appropriate measures to ensure that the possession, remanufacturing or disposal of disused sealed sources takes place in a safe manner.

2. A Contracting Party shall allow for reentry into its territory of disused sealed sources if, in the framework of its national law, it has accepted that they be returned to a manufacturer qualified to receive and possess the disused sealed sources.

Sealed radionuclide sources unintended for further use are viewed as radioactive waste in the Republic of Belarus.

Upon the expiry of the assigned lifetime the use of the sealed radionuclide source or its storage shall be stopped. It is allowed to consider an issue of extension of the operating lifetime of sealed radionuclide sources in justified cases with the radiation parameters maintained within the limits that satisfy the user, with leak tightness maintained and defects absent, as well as their signs. To have the issue of extension of the operating lifetime of a sealed radionuclide source solved its user shall develop and agree with the bodies performing supervision of radiation safety assurance a program of actions on reexamination of a sealed radionuclide source. The issue of possible extension of the operating lifetime of a sealed radionuclide source shall be considered by a commission, including representatives of the source user, the bodies performing supervision of radiation safety assurance, and, if the sealed radionuclide source is manufactured in the Republic of Belarus, a representative of the manufacturer.

The Isotope Technologies Joint Closed Joint-Stock Company performs supplies of sources of ionizing radiation outside the territory of the Republic of Belarus. The current practice provides for return of disused radiation sources to the manufacturer to the Republic of Belarus, which is consistent with the provisions of the Code of Conduct on the Safety and Security of Radioactive Sources entered into by the Republic of Belarus.

After decommissioning radionuclide sources shall be handed over to UE Ekores for long-term storage.

Section K. PLANNED ACTIVITY (GENERAL EFFORTS) FOR SAFETY IMPROVEMENT

The system of radioactive waste and spent nuclear fuel safety control, developed in the Republic of Belarus, continues to be improved taking into account the recommendations made by the International Atomic Energy Agency, as well as the advanced global experience.

The Government of the Republic of Belarus, the regulatory body in the area of nuclear and radiation safety, other interested parties plan to pursue and pursue consecutive actions and efforts, financial and other means for its development.

The brief information on taken by the country measures for implementation of suggestions, noted during consideration of the Fifth National Report of the Republic of Belarus on implementation of the Convention.

Further development of regulatory legal base

The Republic of Belarus continues the work on improvement of the regulatory base in the area of radioactive waste and spent fuel management and on bring in to conformity with IAEA leading documents, taking into account the recommendations made by the IRRS mission for complex assessment of regulating infrastructure of nuclear and radiation safety, held in 2016.

The country performs work on introduction of amendments and additions to the Law of the Republic of Belarus "On Radiation Safety of Population", technical normative legal acts establishing requirements for safety during radioactive waste management are developed and approved:

Sanitary standards and rules "Requirements to Ensuring Radiation Safety of Personnel and Population for Radioactive Waste Management;

Norms and rules for nuclear and radiation safety assurance "Safety of Radioactive Waste Management. General Provisions";

Norms and rules for nuclear and radiation safety assurance "Safety Rules During Management of Radioactive Waste of Nuclear Power Plants".

Development and approval of strategies for management of the Belarusian NPP radioactive waste and spent fuel

The Resolution of the Council of Ministers of the Republic of Belarus No. 460 dated June 2, 2015 approved the Strategy for management of the Belarusian NPP radioactive waste.

The Republic of Belarus works on preparation of the Strategy for management of the Belarusian NPP spent nuclear fuel.

Preparatory work on development of the strategy for management of radioactive waste, formed in all areas of economic activity in the Republic of Belarus has also been initiated.

Enhancement of safety of specialized enterprise for radioactive waste management UE Ekores by withdrawal and conditioning of radioactive waste from old storages

It is planned to perform works on complex engineering and radiation examination of sealed and decommissioned radioactive waste storages of specialized enterprise for radioactive waste management UE Ekores. These works are planned to be financed out of the funds of republican and local budgets.

By the decision of the Government Scientific institution "JIPNR - Sosny" was designated as organization for scientific maintenance of works on extraction of radioactive waste from storages.

Decommissioning of storage facility (complex of spent nuclear fuel storage and management systems) "Iskra" of SSI "JIPNR - Sosny"

In November, 2015 the Council of Ministers of the Republic of Belarus approved the program for decommissioning of storage facility (complex of spent nuclear fuel storage and management systems) "Iskra" of SSI "JIPNR - Sosny";

In 2016 the project of decommissioning of the storage facility was developed, public discussions were carried out, and favourable conclusion of the state ecological appraisal was received. License for decommissioning of the spent nuclear fuel storage facility was issued in September 2017.

It is planned to be decommissioned in 2018.

Work on rehabilitation and monitoring of decontamination waste disposal facilities formed as a result of works on overcoming consequences of the Chernobyl disaster

The existing and mothballed DWDFs of all categories are subject to systematic radiation control and monitoring of their physical state. Periodicity of radiation control and monitoring, scope of DWDF installation works are determined by the Schedule of Radiation Control, Monitoring and Decontamination Waste Disposal Facilities Management, developed annually by specialized enterprises.

Construction of a near-surface radioactive waste disposal facility

Within the terms of the contract between the Ministry of Energy and Scientific institution "JIPNR - Sosny", the task on development of RWDF conceptual project (except highly active ones), resulting from use and decommissioning of the Belarusian NPP, is carried out on the basis of reference technologies and current projects.

Based on the results of works a conceptual RWDF project with allocation of the project of the first phase of this facility will be prepared. The principal layout of construction works (including by phases) and the draft of design assignment for development of justification of investments for RWDF construction will be prepared (except highly active ones). It is planned to complete the works by the IV quarter of 2018.

Ensuring long-term safety of radioactive waste storage facilities at former locations of the USSR military forces

The safety status of the only RWSF "Gomel-30" is under control.

The priority areas of the planned activity in radioactive waste management for the Republic of Belarus are as follows:

further development of the normative legal base;

solution of issues of the safety of spent fuel and radioactive waste management in the light of the Belarusian NPP construction;

implementation of provisions of the Strategy for management of radioactive wastes of the Belarusian nuclear power plant, including creation of a radioactive waste storage facility for very low-level, low-level and intermediate-level radioactive waste;

development and approval of the Strategy for management of the Belarusian

NPP spent fuel;

development of the strategy for management of all types of radioactive wastes that are formed in the country;

legislative definition of the state administrative body for radioactive waste management responsible for creation of the system of long-term storage and disposal of radioactive waste, as well as for determination of procedure and sources of funding of measures for radioactive waste management;

further development of human capacity of the operating organizations, as well as bodies performing regulatory functions for nuclear and radiation safety assurance;

implementation of recommendations and suggestions of IRRS mission for improvement of regulating infrastructure of nuclear and radiation safety.

Other priority areas are":

further performance of works aimed at improvement of safety of the radioactive waste storage facility Ekores through extraction and conditioning of radioactive waste from the former storage facilities;

further performance of scheduled works for safety assurance of decontamination waste disposal facilities formed as a result of the works to overcome the consequences of the Chernobyl NPP disaster.

The Republic of Belarus plans to ensure the realization of the specified priority areas through the implementation of the current republican programs for nuclear and radiation safety assurance, interaction of the interested state administrative bodies, as well as international cooperation with partner countries and international organizations.

With the purpose of implementation of the principles of openness, transparency and publicity of the nuclear and radiation safety assurance the Department for Nuclear and Radiation Safety of the Ministry for Emergency Situations of the Republic of Belarus reports its actions in this area to the interested public on its website (http://www.gosatomnadzor.gov.by), mass media and through other channels according to its Information and communication strategy (the document was adopted in 2013 and updated in 2016).

On the specified website one can find national reports of the Republic of Belarus within the framework of obligations under the Joint Convention and the Convention on Nuclear Safety, annual reviews of nuclear and radiation safety in the Republic of Belarus, normative legal acts, other important documents and information.

For the purpose of assessment and further improvement of nuclear and radiation safety infrastructure the Republic of Belarus has applied to and plans to hold a number of assessment missions of the International Atomic Energy Agency:

in 2018 pre-OSART mission is expected (taking into account the recommendations to hold the mission 3-6 months prior to loading of nuclear fuel);

EPREV mission is planned to be held in March 2018 (pre-mission was held on January 25-27, 2017).

Besides, Belarus has planned to host INIR mission for the 3rd development phase of the nuclear power program.

* * *

In conclusion, it should be noted that coordinated actions of the states in the framework of their obligations under the Joint Convention will facilitate the common efforts to maintain a high level of safety in the radioactive waste and spent fuel management both in each country and around the world.

Annex 1

The number of radioactive waste received by UE Ekores for long-term storage from 2014 to 2016

Inventory of radioactive sources

Year	α-source number, pcs. activity, Bq	β-source number, pcs. activity, Bq	γ-source number, pcs. activity, Bq	n-source number, pcs. activity, Bq
2014	164 ($2.54 \cdot 10^{9}$)	258 ($8.96 \cdot 10^{12}$)	501 ($2.88 \cdot 10^{16}$)	-
2015	335 ($4.68 \cdot 10^{8}$)	612 ($2.68 \cdot 10^{14}$)	145 ($5.34 \cdot 10^{15}$)	1 ($6.90 \cdot 10^{4}$)
2016	773 ($1.91 \cdot 10^{12}$)	657 ($1.08 \cdot 10^{15}$)	247 ($1.037 \cdot 10^{16}$)	-

Solid radioactive waste

Year	Quantity, kg	Basic radionuclides	Total activity, Bq
2014	2,339	Co-60, Cs-137, Ir-192, Ra-226	$1.69 \cdot 10^{12}$
2015	2,447	Co-60, Cs-137, Ir-192, Ra-226	$3.63 \cdot 10^{10}$
2016	2,459	Co-60, Cs-137, Ir-192, Ra-226	$8.66 \cdot 10^{9}$

Annex 2

Summary data of the inventory of Chernobyl originated decontamination waste at DWDF-II

(as of 01.01.2017)

Number and location	4 - Gomel region 4 - Mogilev region 1 - Brest region
Total area, m^2	315,200
Total design capacity, m^3	244,465
Total waste activity against Cs-137, Bq	15.91×10^{11}
Total waste amount, thousand tons	238.22

Annex 3

A list of normative legal acts of the Republic of Belarus in the field of nuclear and radiation safety governing spent nuclear fuel and radioactive waste management

International Agreements of the Republic of Belarus

Conventions

1. Convention on Early Notification of a Nuclear Accident and Convention on Assistance in case of a Nuclear Accident or Radiological Emergency. Ratified by Decree of the Presidium of the Supreme Council of the Republic of Belarus dated December 18, 1986 No. 1216-XI.

2. Convention on the Physical Protection of Nuclear Material. Resolution the Presidium of the Supreme Council dated June 14, 1993 No. 2381-XII "On Legal Succession of the Republic of Belarus in respect of the Convention on the Physical Protection of Nuclear Material".

3. Vienna Convention on Civil Liability for Nuclear Damage. Ratified by the Law of the Republic of Belarus dated November 11, 1997 No. 76-Z.

4. Convention on Nuclear Safety. Joined by Decree of the President of the Republic of Belarus dated September 2, 1998 No. 430 "On Accession of the Republic of Belarus to the Convention on Nuclear Safety".

5. Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. Approved by Decree of the President of the Republic of Belarus dated December 14, 1999 No. 726 "On Approval of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters".

6. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. Ratified by the Law of the Republic of Belarus dated 17.07.2002 No.130-Z.

7. Convention on Environmental Impact Assessment in a Transboundary Context. Adopted by Decree of the President of the Republic of Belarus dated October 20, 2005 No. 487 "On Adoption of the Convention on Environmental Impact Assessment in a Transboundary Context by the Republic of Belarus".

Agreements and Treaties

8. Treaty of the Government of the Republic of Belarus and the Government of the Republic of Poland on Early Notification of Nuclear Accidents and Cooperation in Radiation Safety dated October 26, 1994.

9. Agreement between the Government of the Republic of Belarus and the Government of the Republic of Austria on Exchange of Information on Nuclear Safety and Protection against Ionizing Radiation dated June 9, 2000.

10. Agreement between the Government of the Republic of Belarus and the Cabinet of Ministers of the Ukraine on Early Notification of a Nuclear Accident and Cooperation in Radiation Safety dated October 16, 2001.

11. Agreement on Mutual Aid in case of Accidents and other Emergency Situations at Electric Power Facilities of the Member States of the Commonwealth of Independent States dated May 30, 2002.

12. Agreement between the Government of the Republic of Belarus and the Government of the Republic of Latvia on Cooperation in the area of Prevention of Disasters, Natural Calamities, other Emergency Situations, as well as Liquidation of their Consequences dated July 8, 2003.

13. Agreement on Exchange of Information on Natural and Man-Made Emergency Situations, Exchange of Information in Liquidation of their Consequences and Assistance to the Affected Communities dated September 18, 2003. Signed by Member States of the Commonwealth of Independent States represented by the governments.

14. Treaty of the Government of the Republic of Belarus and the Government of the Republic of Lithuania on Cooperation in the area of Prevention of Disasters, Natural Calamities and Major Accidents, as well as Liquidation of their Consequences. Signed in Vilnius dated 16.12.2003. Entered into force on July 27, 2004. Ratified by the Law of the Republic of Belarus dated July 5, 2004 No.296-3 "On Ratification of the Treaty of the Government of the Republic of Belarus and the Government of the Republic of Lithuania on Cooperation in the area of Prevention of Disasters, Natural Calamities and Major Accidents, as well as Liquidation of their Consequences".

15. Agreement between the Government of the Republic of Belarus and the Government of the People's Republic of China on Cooperation in Peaceful Use of Atomic Energy (2008).

16. Agreement between the Government of the Republic of Belarus and the Government of the Russian Federation on Cooperation in Peaceful Use of Atomic Energy (2009).

17. Treaty on the Customs Code of the Customs Union. Signed in Minsk on 27.11.2009. Entered into force on 6.07.2010. Amended by the Protocol dated 16.04.2010.

18.Resolution of the Commission of the Customs Union dated April 16, 2010 No. 240 "On the Control of Movement of Sources of Ionizing Radiation". Adopted in Moscow on 16.04.2010.

19.Agreement between the Government of the Republic of Belarus and the Government of the Russian Federation on Cooperation in Construction of a Nuclear Power Plant on the Territory of the Republic of Belarus dated March 15, 2011.

20.Agreement between the Government of the Republic of Belarus and the Government of the Russian Federation on Cooperation in Nuclear Safety dated February 1, 2013.

21.Agreement between the Government of the Republic of Belarus and the Government of the Republic of Armenia on Exchange of Information and Cooperation in Nuclear Safety and Radiation Protection. Signed in Erevan on May 13. 2013.

22.Agreement between the Government of the Republic of Belarus and the Government of the Russian Federation on Early Notification of a Nuclear Accident and Exchange of Information on Nuclear and Radiation Safety dated December 13, 2013.

23.Agreement on information exchange of member states of the Commonwealth of Independent States in movement of radioactive sources, signed in Bishkek on June 7, 2016.r Ratified by the Law of the Republic of Belarus No. 22-Z dated April 10, 2017.

24.Memorandum of Understanding Among the Ministry of Emergency Situations of the Republic of Belarus and the Hungarian Atomic Energy Authority on cooperation in the area of use of peaceful use of atomic energy dated September 26, 2016.

25.Memorandum of Understanding Among the Ministry of Emergency Situations of the Republic of Belarus and the Nuclear Supervision Committee of the Slovak Republic in the area of state regulation of nuclear safety. Signed in April 2017, became effective on October 01, 2017.

Legislative Acts

Codes and Laws of the Republic of Belarus

26. Law of the Republic of Belarus dated January 5, 1998 No.122-Z "On Radiation Safety of Population".

27. Law of the Republic of Belarus dated May 5, 1998 No. 141-Z "On Protection of Population and Territories against Natural and Man-Made Emergency Situations".

28. Law of the Republic of Belarus dated January 5, 2004 No. 262-Z "On Technical Rating and Standardization".

29. Law of the Republic of Belarus dated July 30, 2008 No. 426-Z "On the Use of Atomic Energy".

30. Law of the Republic of Belarus dated November 9, 2009 No. 53-Z "On Amendments and Additions to Certain Laws of the Republic of Belarus on the Use of Atomic Energy".

31. Law of the Republic of Belarus dated May 11, 2016 "On Export Control".

32. The Law of the Republic of Belarus No. 399-Z dated July 18, 2016 "On State Environmental Appraisal, Strategic Environmental Assessment and Environmental Impact Assessment".

33. Law of the Republic of Belarus dated January 7, 2012 No. 340-Z "On Sanitary and Epidemiological Well-Being of Population".

34. Law of the Republic of Belarus dated May 26, 2012 No. 385-Z "On Legal Status of Territories Contaminated by Radiation as a result of Chernobyl NPP Disaster".

35. Code of the Republic of Belarus dated April 21, 2003 No. 194-Z on Administrative Offences.

36. Criminal Code of the Republic of Belarus dated July 9, 1999 No. 275-Z.

Decrees of the President of the Republic of Belarus

37. Decree of the President of the Republic of Belarus dated December 29, 2006 No. 756 "On Certain Issues of the Ministry of Emergency Situations".

38. Decree of the President of the Republic of Belarus dated November 12, 2007 No. 565 "On Certain Measures for Construction of the Nuclear Power Plant".

39. Decree of the President of the Republic of Belarus dated October 16, 2009 No. 510 "On Improvement of Control (Supervisory) Activity in the Republic of Belarus".

40. Decree of the President of the Republic of Belarus dated May 28, 2010 No. 279 "On Determination of the State Body Responsible for the Implementation of Obligations under Certain International Agreements".

41. Decree of the President of the Republic of Belarus dated September 1, 2010 No. 450 "On Licensing of Certain Types of Activity".

42. Decree of the President of the Republic of Belarus dated October 8, 2010 No. 521 "On Arrangement of Conditions for the Provision of Technical Assistance by the U.S. Government in Export and Exchange of Nuclear Fuel".

43. Decree of the President of the Republic of Belarus dated March 29, 2011 No. 124 "On Measures for Implementation of International Agreements in Civil Responsibility for Nuclear Damage".

44. Decree of the President of the Republic of Belarus dated September 15, 2011 No. 418 "On Siting and Design of a Nuclear Power Plant in the Republic of Belarus".

45. Decree of the President of the Republic of Belarus dated November 2, 2013 No. 499 "On Construction of the Belarusian Nuclear Power Plant".

46. Decree of the President of the Republic of Belarus dated 16 February 2015 No. 62 «On Provision of Safety within Belarusian NPP Construction».

47. Decree of the President of the Republic of Belarus dated 5 October 2017 No. 361 «On Creation of the Institution».

Normative Legal Acts of the Government of the Republic of Belarus

48. Resolution of the Council of Ministers of the Republic of Belarus dated April 10, 2001 No. 495 "On Approval of Regulation on State System for Prevention and Liquidation of Emergency Situations.

49. Resolution of the Council of Ministers dated May 17, 2004 No. 576 "On Approval of Regulation on the Procedure for Radiation Monitoring and Use of its Data within the National System for the Environmental Monitoring in the Republic of Belarus".

50. The Resolution of the Council of Ministers of the Republic of Belarus No. 1466 dated November 19, 2004 "On Approval of the Regulations on the System of Monitoring and Prediction of Natural and Man-Made Emergency Situations".

51. Resolution of the Council of Ministers dated June 24, 2006 No. 797 "On Radiation and Hygienic Passport of a User of Sources of Ionizing Radiation, its Keeping Procedure and Applications and Annulment of Resolution of the Council of

Ministers of the Republic of Belarus dated March 23, 1999 No. 391".

52. Resolution of the Council of Ministers dated September 23, 2008 No. 1397 "On Certain Issues of the Procedure for Movement of Certain Types of Products across the State Border of the Republic of Belarus".

53. Resolution of the Council of Ministers dated December 31, 2008 No. 2056 "On Certain Issues of the Conduct of State Supervision in Industrial Safety, Safety of Dangerous Goods Transportation, Nuclear and Radiation Safety Assurance".

54. Resolution of the Council dated Ministers of April 2, 2009 No. 411 "On Approval of Regulation on the Procedure for Agreement, Establishment and Designation of Boundary of Control Area, Observation Area of a Nuclear Facility and (or) Storage Facility and Requirements to their Protection and Use".

55. Resolution of the Council of Ministers dated April 30, 2009 No. 560 "On Approval of Regulation on the Procedure of Interaction of Republican Regulatory Bodies, other State Bodies and Organizations in the event of Detection of Sources of Ionizing Radiation, as well as of their Arrest at the State Border of the Republic of Belarus".

56. Resolution of the Council of Ministers dated April 30, 2009 No. 562 "On Approval of Regulation on the Procedure for State Registration of Sources of Ionizing Radiation and Unified State System of Accounting and Control of Sources of Ionizing Radiation".

57. Resolution of the Council of Ministers dated May 4, 2009 No. 574 "On Certain Issues of Works on the Use of Atomic Energy".

58. Resolution of the Council of Ministers dated August 27, 2010 No. 1242 "On Approval of Regulation on Terms and Procedure for Emergency Plans Development".

59. Resolution of the Council of Ministers dated December 7, 2010 No. 1781 "On Approval of Regulation on the Procedure for Review of Documents that Justify Nuclear and Radiation Safety Assurance in the Use of Nuclear Energy and Sources of Ionizing Radiation".

60. Resolution of the Council of Ministers dated December 3, 2012 No. 1109 "On Approval of Regulation on the Procedure for Issuing Licenses for Disposal of Radioactive Waste Contaminated by Radionuclides as a result of the Chernobyl NPP Disaster, as well as other Waste, Products, Materials and other Substances Contaminated by Radionuclides as a result of the Chernobyl NPP Disaster below the Level Established by Normative Legal Acts, including by Technical Normative Legal Acts, with respect to Radioactive Waste".

61. Resolution of the Council of Ministers dated March 17, 2014 No. 224 "On Approval of Regulation on the Procedure for State System of Accounting and Control of Nuclear Materials of the Republic of Belarus".

62. Resolution of the Council of Ministers of the Republic of Belarus No. 133 dated February 25, 2015 "On Approval of the Regulations on Organization and Control (Supervision) over Safety Ensuring during Construction and Commissioning of the Belarusian Nuclear Power Plant".

63. Resolution of the Council of Ministers of the Republic of Belarus No. 327 dated April 21, 2016 "On Approval of the State Program "High Technologies and

Equipment" for 2016 - 2020".

64. Resolution of the Council of Ministers of the Republic of Belarus No. 458 dated June 14, 2016 "On Approval of the Regulations on Procedure for Public Discussions of Drafts of Ecologically Important Decisions, Environmental Reports on Strategic Environmental Assessment, Environmental Impact Assessment Reports, Accounting of Made Ecologically Important Decisions and Introduction of Amendments and Additions in Several Resolutions of the Council of Ministers of the Republic of Belarus".

65. Resolution of the Council of Ministers of the Republic of Belarus No. 479 dated June 21, 2016 "On Approval of the Concept of Creation of the Situational Crisis Center System in the Republic of Belarus".

66. Resolution of the Council of Ministers of the Republic of Belarus No. 991 dated December 2, 2016 "On Provision of Scientific and Technical Assistance to the Ministry of Emergency Situations in the Area of Nuclear and Radiation Safety Assurance".

67. Resolution of the Council of Ministers of the Republic of Belarus No. 4 dated January 19, 2017 "On Certain Measures Aimed at Implementation of the Law of the Republic of Belarus dated July 18, 2016 "On State Environmental Appraisal, Strategic Environmental Assessment and Environmental Impact Assessment"".

Normative Legal Acts of the Ministries and other Republican Regulatory Bodies

68. Resolution of MES of the Republic of Belarus dated April 30, 2009 No.20 "On Approval of the Form of Accompanying Certificate for Radioactive Waste Transportation and Instruction on Execution of Accompanying Certificate for Radioactive Waste Transportation".

69. Resolution of MES of the Republic of Belarus dated April 30, 2009 No.21 "On Approval of Instruction on the Procedure for Development, Agreement and Approval of Radioactive Waste Management Scheme".

70. Resolution of MES of the Republic of Belarus No. 42 dated August 17, 2009 "On Approval of Regulations on Organization of Functioning of the Management Information System of the State System of Prevention and Liquidation of Emergency Situations".

71. Resolution of MES of the Republic of Belarus of November 30, 2010 No. 54 "On Approval of Instruction on the Procedure of Admission to Safety Review Conduct in the Use of Atomic Energy and Sources of Ionizing Radiation".

72. Resolution of MES of the Republic of Belarus of November 30, 2010 No. 55 "On Approval of Instruction on the Procedure of Training, Instructing and Evaluation of Knowledge of Normative Legal Acts, including Technical Normative Legal Acts, in Nuclear and Radiation Safety Assurance".

Technical Normative Legal Acts of the Ministries and other Republican Regulatory Bodies

Norms and Rules

73. "Rules for Nuclear Safety of Critical Test Facilities", approved by the

Resolution of the Ministry of Emergency Situations of the Republic of Belarus dated December 30, 2006 No. 72.

74. "Rules for Nuclear Safety of Subcritical Test Facilities", approved by the Resolution of the Ministry of Emergency Situations of the Republic of Belarus dated December 30, 2006 No. 72.

75. "Rules of Safety Assurance of Nuclear Research Facilities", approved by the Resolution of the Ministry of Emergency Situations of the Republic of Belarus dated December 30, 2006 No. 72.

76. "Rules of Safety Assurance for Nuclear Fuel Storage and Transportation at the Complexes of Nuclear Fuel Storage and Management Systems", approved by the Resolution of the Ministry of Emergency Situations of the Republic of Belarus dated December 30, 2006 No. 72.

77. "Rules of Safety Assurance for Nuclear Fuel Storage and Transportation at Nuclear Energy Industry Facilities", approved by the Resolution of the Ministry of Emergency Situations of the Republic of Belarus dated December 30, 2006 No. 72.

78. Regulations on Organization of Functioning of the Management Information System of the State System of Prevention and Liquidation of Emergency Situations, approved by the Resolution of the Ministry of Emergency Situations of the Republic of Belarus No. 42 dated August 17, 2009.

79. Norms and Rules for Nuclear and Radiation Safety Assurance "Safety of Radioactive Waste Management. General Provisions", approved by the Resolution of the Ministry of Emergency Situations of the Republic of Belarus dated September 28, 2010 No. 47.

80. Rules for Safety Assurance of Dangerous Goods Transportation by Road in the Republic of Belarus", approved by the Resolution of the Ministry of Emergency Situations of the Republic of Belarus dated December 8, 2010 No. 61.

81. Norms and Rules for Nuclear and Radiation Safety Assurance "Requirements to Structure and Content of Radioactive Waste Management Facilities Safety Report", approved by the Resolution of MES of the Republic of Belarus dated December 13, 2010 No. 64.

82. Norms and Rules for Nuclear and Radiation Safety Assurance "Requirements to Structure and Content of a Radiation Facility Safety Report", approved by the Resolution of MES of the Republic of Belarus dated December 30, 2011 No. 73.

83. Norms and Rules for Nuclear and Radiation Safety Assurance "Disposal of Radioactive Waste. Principles, Criteria and General Safety Requirements", approved by the Resolution of MES of the Republic of Belarus dated January 20, 2012 No. 7.

84. 84. Norms and Rules for Nuclear and Radiation Safety Assurance «Safety Rules within Management of NPPs Radioactive Waste», approved by the Resolution of MES of the Republic of Belarus dated 12 October 2017 No. 43.

Sanitary Norms and Rules

85. Sanitary Rules and Norms 2.6.6.8-8-2004 "Management of Decontamination Waste Resulting from Works on Liquidation of Consequences of

Chernobyl NPP Disaster (SP00D-2004)" approved by the Resolution of the Chief State Medical Officer of the Republic of Belarus dated November 23, 2004 No. 121.

86. Sanitary Rules and Norms 2.6.1.13-60-2005 "Hygienic Requirements for Assurance of Radiation Safety of Personnel and Population during Radioactive Materials (Substances) Transportation", approved by the Resolution of the Chief state health inspector of the Republic of Belarus No. 284 dated December 30, 2005.

87. Sanitary Norms, Rules and Hygienic Standards "Hygienic Requirements to Design and Operation of Nuclear Power Plants" approved by the Resolution of the Ministry of Health of the Republic of Belarus dated March 31, 2010 No. 39.

88. Sanitary Norms and Rules "Radiation Safety Requirements approved by the Resolution of the Ministry of Health of the Republic of Belarus dated December 28, 2012 No. 213.

89. Resolution of the Ministry of Health of the Republic of Belarus dated December 28, 2012 No. 213 "On Approval of Hygienic Standard "Criteria for Radiation Impact Assessment".

90. Sanitary Norms and Rules "Requirements to Assurance of Radiation Safety of Personnel and Population in the Use of Nuclear Energy Facilities and Sources of Ionizing Radiation" approved by the Resolution of the Ministry of Health of the Republic of Belarus dated 31.12.2013 No.137.

91. Sanitary Rules and Norms "Requirements for Assurance of Radiation Safety of Personnel and Population during Radioactive Materials Management", approved by the Resolution of the Ministry of Health of the Republic of Belarus No. 142 dated December 31, 2015.

Technical Codes of Practice

92. TCP 113-2007 (02300) "Procedure for Survey of Territories, Facilities and Equipment for Decontamination Works", approved and implemented by Order of MES of the Republic of Belarus dated December 10, 2007 No. 168.

93. TCP 144-2008 (02300) "Organization and Performance of Decontamination of Territories, Facilities and Equipment, approved and implemented by Order of MES of the Republic of Belarus dated October 2, 2008 No. 140.

94. TCP 294-2010 (02300) "Requirements to the Content of Safety Assessment Report of a Nuclear Power Plant with Reactors of VVER Type", approved by the Resolution of MES of the Republic of Belarus dated December 27, 2010 No. 68.

95. TCP 304-2011 (02300) "Monitoring and Prediction of Emergency Situations. General Provisions. Procedure for the Operation of System of Monitoring and Prediction of Emergency Situations", approved by the Resolution of MES of the Republic of Belarus dated April 8, 2011 No.24.

96. TCP 356-2011 (02300) "System of Physical Protection of Nuclear Materials and Nuclear Facilities. Instruction for Design Arrangement", approved by the Resolution of MES of the Republic of Belarus dated October 31, 2011 No. 55.

97. TCP 357-2011 (02300) "Basic Rules for Safety and Physical Protection of Nuclear Materials Transportation", approved by the Resolution of MES of the Republic of Belarus dated October 31, 2011 No. 55.

98. TCP 358-2011 (02300) "System of Physical Protection of Nuclear Materials and Nuclear Facilities. Requirements to Design Solutions", approved by the Resolution of MES of the Republic of Belarus dated October 31, 2011 No. 55.

99. TCP 17.02-08-2012 "Environmental Protection and Environmental Management. Rules of Environmental Impact Assessment and Report Preparation", approved by the Resolution of the Ministry of Natural Resources No. 1-T dated January 5, 2012.

100. TCP 389-2012 "Rules for Physical Protection of Sources of Ionizing Radiation", approved by the Resolution of MES of the Republic of Belarus, MIA, SSC dated May 18, 2012 No. 31/142/20.

101. TCP 426-2012 (02300) "Rules for Physical Protection of Nuclear Materials and Nuclear Facilities during Use and Storage", approved by the Resolution of MES of the Republic of Belarus dated November 29, 2012 No. 69.

102. TCP 501-2013 "Rules and Procedure for Preparation of Safety Assessment Report of Nuclear Materials Storage Facilities", approved by the Resolution of MES of the Republic of Belarus dated November 28, 2013 No. 56.

103. TCP 503-2013 "Rules for Siting of Nuclear Materials and Radioactive Substances Storage Facilities", approved by the Resolution of MES of the Republic of Belarus dated November 28, 2013 No. 57.

104. TCP 504-2013 (02300) "Arrangement and Performance of Facilities Liquidation on the Territories Contaminated as a result of the Chernobyl NPP Disaster", approved by the Resolution of MES of the Republic of Belarus dated December 17, 2013 No. 69.

105. TCP 505-2013 "Procedure for Interaction in Systems of Physical Protection of Nuclear Facilities", approved by the Resolution of MES of the Republic of Belarus, MIA, SSC dated December 19, 2013 No. 70/553/556.

106. TCP 531-2014 "Procedure for Analysis of Nuclear Facilities Vulnerability and Efficiency Assessment of the Physical Protection System", approved by the Resolution of MES and MIA dated April 7, 2014 No. 8/110.

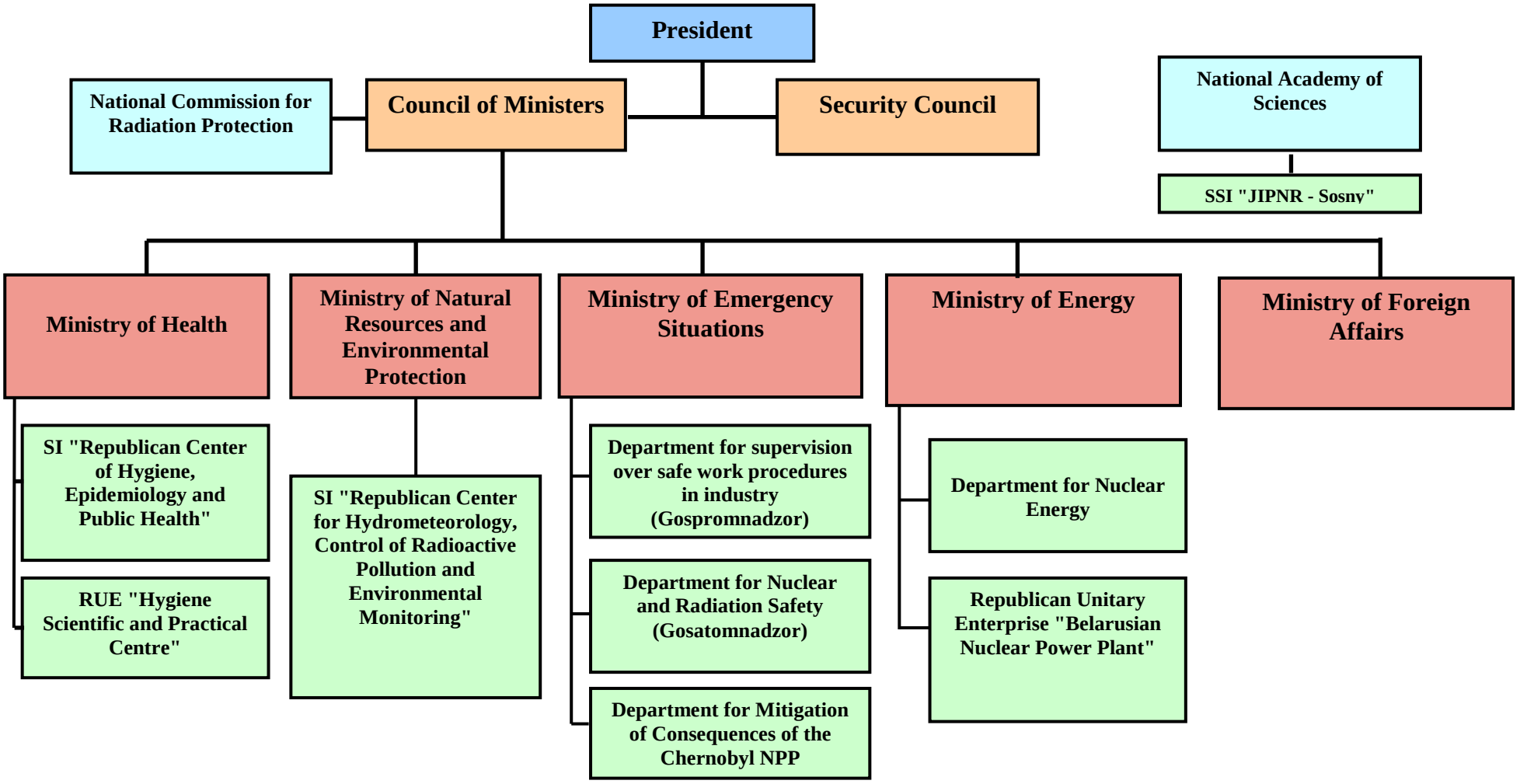
107. TCP 533-2014 "Procedure for Reporting Materials on Accounting and Control of Nuclear Materials Submission to an Authorized Governmental Body, approved by the Resolution of MES dated April 17, 2014 No. 13.

108. TCP 545-2014 "Assurance of Safety of Facilities for Dry Storage of Spent Nuclear Fuel", approved by the Resolution of the Ministry of Emergency Situations No. 26 dated September 9, 2014.

109. TCP 565-2015 of "Safety Rules during Management of Radioactive Waste of Nuclear Power Plants", approved by the Resolution of the Ministry of Emergency Situations No. 19 dated April 25, 2015.

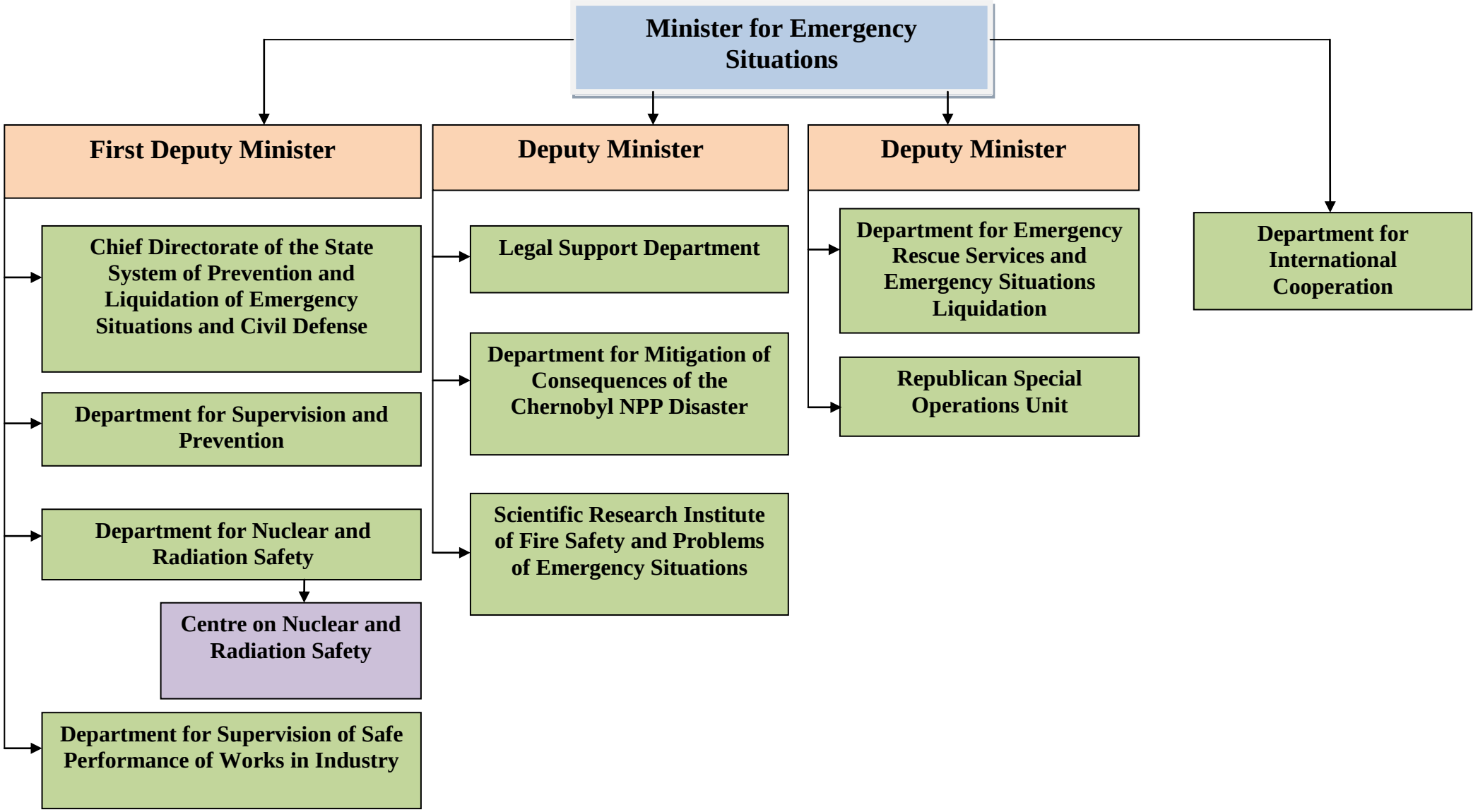
Annex 4

State bodies and organizations for nuclear and radiation safety assurance



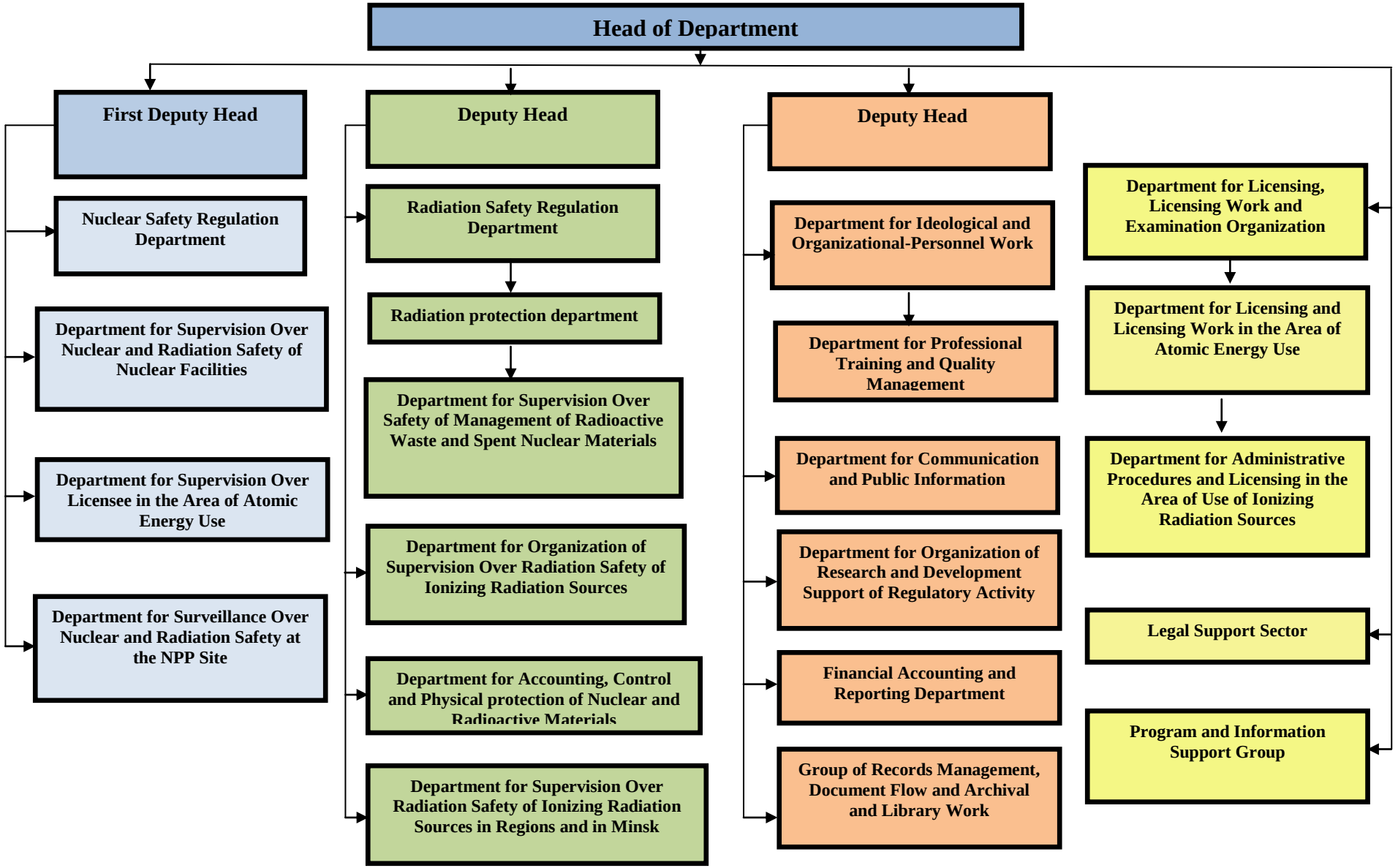
Annex 5

MES subdivisions participating in for nuclear and radiation safety assurance



Annex 6

Structure of the Department for Nuclear and Radiation Safety



Annex 7

Articles of the Criminal Code of the Republic of Belarus stating liability for violations in radiation safety

Article	Content
268	Concealment or deliberate distortion of data on the environmental pollution
278	Violation of safety rules for the management of genetically modified organisms, environmentally hazardous substances and waste
301	Violation of production and technical discipline rules or safety rules at nuclear facilities
322	Illegal acquisition, storage, use, marketing or destruction of radioactive waste
323	Theft of radioactive waste
324	Threat of hazardous use of radioactive materials
325	Violation of rules for radioactive materials management
326	Violation of radiation control rules

Articles of the Code of the Republic of Belarus on Administrative Offences stating liability for violations against human health

Article	Content
15.4	Violation of safety rules during management of genetically engineered organisms, environmentally hazardous substances and wastes
15.5	Violation of procedure for radioactive waste disposal
15.6	Violation of order of use of territories, contaminated by radionuclides
16.3	Violation of requirements of radiation safety regime in areas contaminated by radiation
16.4	Violation of radiation control rules
16.5	Use of radiation equipment which failed to pass a technical control or which is in bad order with the purpose of diagnosing or treatment
16.6	Violation of normative legal acts on nuclear and radiation safety assurance