





#### Introduction

SE NNEGC "Energoatom" implements the Complex (Consolidated) Safety Upgrade Program of Power Units of Nuclear Power Plants (CCSUP) (CMU Ordinance No1270 on 07.12.2011) with the purpose of further steady improvement of nuclear safety, ensuring efficient and reliable performance in the energy branch, bringing safety of Ukrainian nuclear power plants to the level that meets international requirements to nuclear safety and environmental protection. CCSUP consolidated measures, their lists per type of power units and cards for each CCSUP measure were published in the original language on official NNEGC "Energoatom" web-site. Due to the full-scale war against Ukraine, launched by the Russian Federation on February 24, 2022, the website was temporarily suspended. May 2022 its operation was restored In https://www.energoatom.com.ua/

The costs for the CCSUP implementation are financed through SE "NNEGC "Energoatom" own funds and the loans provided by the European Bank for Reconstruction and Development (EBRD) and Euratom with total amount 600 mil. Euros. EBRD and Euratom conclude the loan agreements with SE NNEGC "Energoatom" of 25.03.2013 and 07.08.2013 correspondingly. Guarantee agreements between Ukraine and Lenders were ratified by Lows of Ukraine No1267-VII and No1268-VII of 15.05.2014. The loan agreements with EBRD and Euratom come into effect of 19.12.2014 p. and 27.05.2015 correspondingly.

Because of recent years economic questions in Ukraine and significant delay with the loan effectiveness, CCSUP implementation term was prolonged initially in 2015 till 2020 (by the resolution of CM of Ukraine No. 776 of 30.09.2015), then in 2019 - till the end of 2023 (by the resolution of CM of Ukraine No. 390 of 08.05.2019).

As to the projects financed from the EBRD loan, the Bank establishes specific Performance Requirements (PR) to key aspects of environmental and social issues and impacts. If, as in the case of the CCSUP, the envisaged activity relates to the existing facilities or sites, then the Borrower is obliged to adopt and implement an Environmental and Social Action Plan (ESAP) and to develop, release and implement a Stakeholder Engagement Plan (SEP) within the period of the project implementation. CCSUP ESAP and CCSUP SEP were published on official NNEGC "Energoatom" site.

The reports developed by CCSUP Project Management Unit (PMU) supported by PMU consultant (AJC Developpement, France) are presented in this Non-Technical Summary. The reports devoted to implementation status and results (as of 30.09.2022):

- Complex (Consolidated) Safety Upgrade Program of Power Units;
- Environmental and Social Action Plan of CCSUP;
- Stakeholder Engagement Plan of CCSUP.

Due to the war against Ukraine, launched by the Russian Federation, the implementation of most of the CCSUP measures planned for 2022, as well as the further implementation of some measures of the CCSUP ESAP and the CCSUP SEP, have been postponed to later years.





# OF COMPLEX (Consolidated) SAFETY UPGRADE PROGRAM OF POWER UNITS OF NUCLEAR POWER PLANTS



#### **Nuclear Power Industry of Ukraine**

State Enterprise "National Nuclear Energy Generating Company "Energoatom" was established on October, 17, 1996.

The Company is the operator of four functioning NPPs, the total installed capacity is 13 835 MW









#### Zaporizhzhya NPP\*

6 units VVER-1000/320 \*currently temporary occupied by the Russian Federation

Rivne NPP

2 units VVER-440/213 2 units VVER-1000/320

#### Khmelnytska NPP

2 units VVER-1000/320

#### South-Ukraine NPP

1 unit VVER-1000/302 1 unit VVER-1000/338 1 unit VVER-1000/320

SE NNEGC "Energoatom" provides more than 50% of Ukraine's demand for electric energy

The Company is a member of WANO, WNA, EUR, INPRO

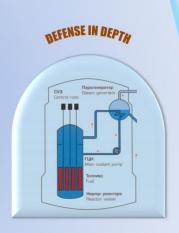


### **VVER Reactor Safety - Design Basis**

Inherent reactor safety – negative feedback

Multiple safety barriers

Variety of safety barrier levels





#### Safety Level of Ukrainian NPPs

The safety level is positively assessed by international experts in the latest years:

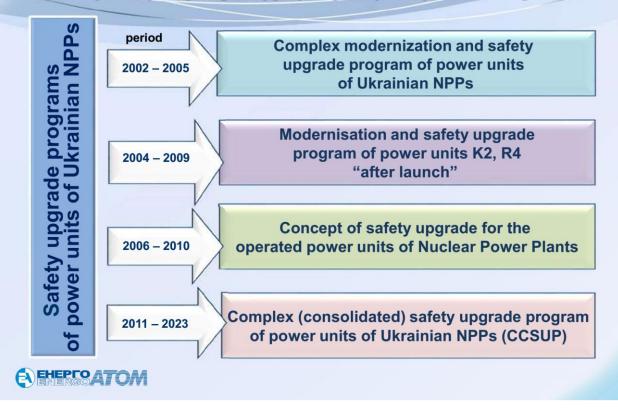
✓ At regular IAEA meeting regarding compliance with the Nuclear Safety Convention provisions



✓ While permanent monitoring by international experts in frames of international cooperation, including that with WANO



# Principal Safety Upgrade Programs of Power Units of Ukrainian NPPs



#### **CCSUP Implementation Objectives**

- Safety level upgrade for all power units of Ukraine to the level compliant to modern national safety standards
- Implement IAEA recommendations on safety upgrade of Ukrainian NPP
- Fulfill the existing obligations to the international financial institutions regarding implementation of safety upgrade measures
- Replace the safety important equipment, the service life whereof is expired, with a modern one
- Implement corrective measures for preventing accidents similar to the "Fukushima-1" accident



#### Scope and Implementation Status of CCSUP Measures

## CCSUP contains consolidated measures for 3 types of power units, all-plant measures and the measures of the Company:

VVER-1000/V-320 (11 power units) - 88-91 measures at each unit;

VVER-1000/V-302,338 (2 power units) - 69,70 measures at each unit;

VVER-440/V-213 (2 power units) - 68-69 measures at each unit;

All-plant (4 sites) - 6-8 measures at each site;

NNEGC "Energoatom" - 8 measures

Total (including the "additional" ones) - 1295 (213) measures Completed, of them (as of 30.09.2022) - 1083 (139) measures

### CCSUP measure implementation terms at specific units were set with consideration of:

- safety impact level;
- > expiry of the lifetime envisaged by the reference design;
- > service life expiry of specific equipment.



INITIALLY PLANNED MEASURES	Unit	Total Number of Measures	Completed	To Implement
	ZNPP-1	77	70	7
	ZNPP-2	77	70	7
	ZNPP-3	76	66	10
SS ZNPP	ZNPP-4	76	69	7
33 ZIVPP	ZNPP-5	76	67	9
	ZNPP-6	77	45	32
	Common	3	2	1
	Totally	462	389	73
	RNPP-1	54	47	7
	RNPP-2	53	46	7
SS RNPP	RNPP-3	79	76	3
33 KINPP	RNPP-4	79	72	
	Common	5	5	0
	Totally	270	246	24
	KhNPP-1	79	75	4
SS KhNPP	KhNPP-2	79	71	8
33 KIINPP	Common	4	3	1
	Totally	162	149	13
	SUNPP-1	53	50	3
	SUNPP-2	53	47	7 7 7 10 7 9 32 1 <b>73</b> 7 7 3 7 0 <b>24</b> 4 8 1 <b>13</b> 3 6 19
SS SUNPP	SUNPP-3	77	58	19
	Common	5	5	0
	Totally	188	160	28
TOTAL		1082	944	138

ADDITIONAL MEASURES («post-Fukusima»)	Unit	Total Number of Measures	Completed	To Implement
	ZNPP-1	12	9	3
	ZNPP-2	12	9	3
	ZNPP-3	12	8	4
SS ZNPP	ZNPP-4	12	8	
33 ZINPP	ZNPP-5	12	7	5
	ZNPP-6	12	5	
	Common	3	2	1
	Totally	75	48	27
	RNPP-1	15	10	5
	RNPP-2	15	10	5
SS RNPP	RNPP-3	12	10	2
33 RIVEF	RNPP-4	12	8	4
	Common	3	2	
	Totally	57	40	17
	KhNPP-1	12	10	2
SS KhNPP	KhNPP-2	12	8	4
33 KHIVEF	Common	2	1	1
	Totally	26	19	
	SUNPP-1	16	12	4
	SUNPP-2	17	12	3 3 4 4 4 5 7 1 27 5 5 2 4 1 17 2 4 5 6 1 16
SS SUNPP	SUNPP-3	12	6	6
	Common	2	1	1
	Totally	47	31	16
Company		8	1	7

# Examples of Measures Implemented at ZNPP: installs the fire retarding valve on air lines







#### **Examples of Measures Implemented at ZNPP:**

reconstruction of automated radiation monitoring system



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#### **Examples of Measures Implemented at RNPP:**

modernise automatic chemical control systems





### **Examples of Measures Implemented at RNPP:**

equip with gas fire extinguishing devices



ENERGO ATOM

# Examples of Measures Implemented at RNPP: install software-hardware complex of control safety systems



ENERG8ATOM

# Examples of Measures Implemented at RNPP: mobile diesel generator



ENERGO ATOM

### **Examples of Measures Implemented at KhNPP**

Mobile pump for PG make-up



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### **Examples of Measures Implemented at KhNPP**

replace information computer systems (ICS)



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### **Examples of Measures Implemented at KhNPP**

implement diagnostic system





# Examples of Measures Implemented at KhNPP implement automatic fire extinguishing system





# Examples of Measures Implemented at SUNPP passive hydrogen recombiners





### **Examples of Measures Implemented at SUNPP**

replace neutron flux and in-core monitoring systems







**ENERGOATOM** 

### **Examples of Measures Implemented at SUNPP**

provision of devices during and after BDA









# Examples of Measures Implemented at SUNPP "post-Fukushima" measures



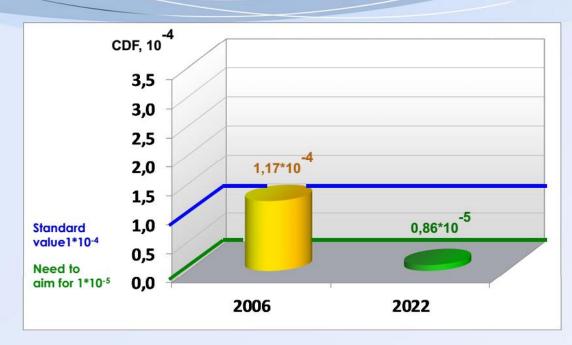
Arrange steam generator, cooling pool, suppression chamber make-up during long-term complete blackout





#### **Measures Implementation Results**

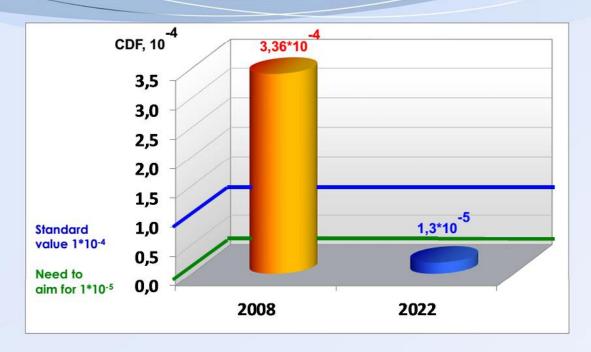
RNPP-1: core damage frequency (CDF)





#### **Measures Implementation Results**

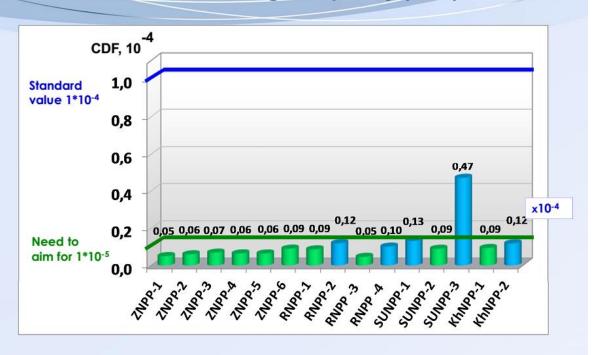
SUNPP-1: core damage frequency (CDF)





### **Measures Implementation Results**

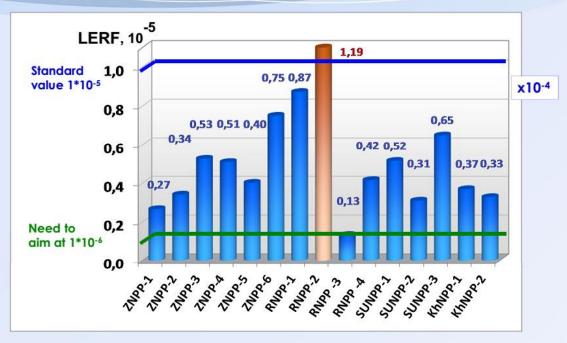
2022: core damage frequency (CDF)





#### **Measures Implementation Results**

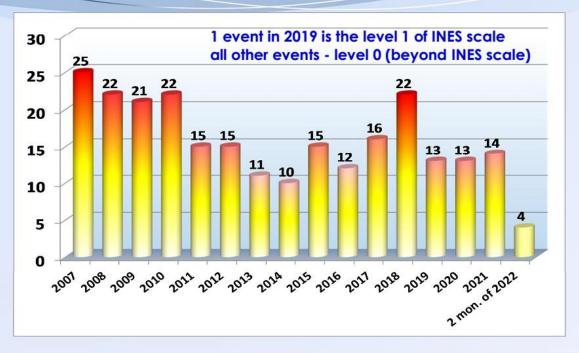
2022: Large Early Release Frequency (LERF)



#### ENERGO ATOM

#### **Measures Implementation Results**

Number of abnormalities in NPP operation





#### **Measures Implementation Results**

Fire and radiation safety level during 2022



No fire at Ukrainian NPPs has occurred within 2 months 2022



were not exceeded:

- Reference levels of NPP releases and discharges
- Basic limit of NPP personnel exposure



daily average NPP radioactive releases were <1% of the acceptable ones



31

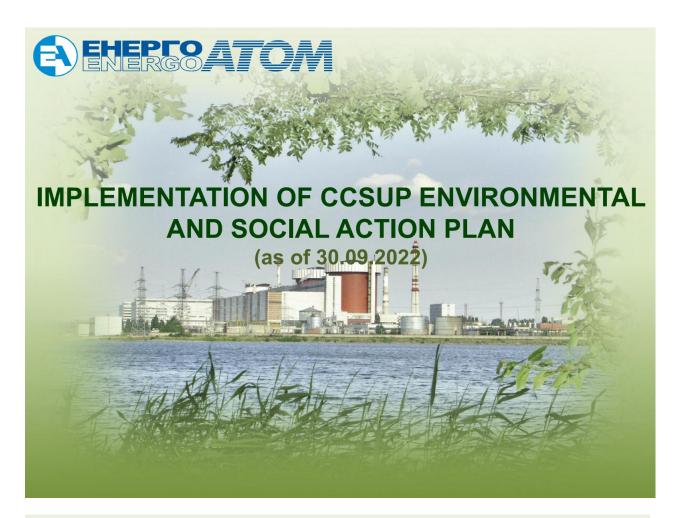
# The influence of martial law on activity of SE "NNEGC "Energoatom"

In the course of the full-scale war against Ukraine, launched by the Russian Federation on February 24, 2022, the russian military invaded the ZNPP site, there was an external threat to the lives of personnel, significant damage was caused to ZNPP equipment, buildings, structures, pipelines, and structures, which led to the emergence of a nuclear and radiation hazard and the high threat of a nuclear accident.

With an armed attack on a nuclear facility, the Russian Federation violated almost all agreements within the framework of the UN, IAEA and other international institutions. In particular, the IAEA Statute, the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management, the Convention on Notification of a Nuclear Accident, the Convention on the Physical Protection of Nuclear Installations and Nuclear Material.

Force majeure circumstances and significant damage to industrial facilities and the country's infrastructure made it impossible to timely complete one of the Company's priority tasks - the Complex (consolidated) Safety Upgrade Program of Power Units of Nuclear Power Plants in Ukraine. Therefore, the implementation of most its measures planned on 2022 is postponed to the following years.





#### **Ground for ESAP Development and Implementation**

- ✓ Memorandum of Understanding between European Union and Ukraine signed on the 29.11.2005
- Environmental and Social Policy, EBRD, 2008
- ✓ Complex (Consolidated) Safety Upgrade Program of Power Units of Nuclear Power Plants (CCSUP), approved by CMU Ordinance No 1270 of 07.12.2011
- ✓ Loan Agreement (Ukraine: Complex (Consolidated) Safety Upgrade Program of Power Units of Nuclear Power Plants) between SE NNEGC "Energoatom" and EBRD of 25.03.2013
- ✓ Loan Facility Agreement relating to the Complex (Consolidated) Safety Upgrade Program of Power Units of Nuclear Power Plants between SE NNEGC "Energoatom" and Euratom of 07.08.2013
- ✓ Guarantee Agreement between Ukraine and EBRD, ratified by the Law of Ukraine No 1267-VII of 15.05.2014
- ✓ Guarantee Agreement between Ukraine and Euratom, ratified by the Law of Ukraine No 1268-VII of 15.05.2014



Environmental and Social Action Plan (valid version non-objected by EBRD of 09.04.2015)



#### **ESAP Requirements and Actions**

cover entire Company and its Separate Subdivisions activities on environmental and social issues and impacts



### **ESAP Actions Implementation State**

Action group	Realized	Fulfilled constantly or been continued	Realization term not come	Realization not needed
Environmental, Health and Safety Management	31	14	0	2
Actions at NPP	9	7	0	1
Other actions	5	6	0	0
TOTAL	45	27	0	3



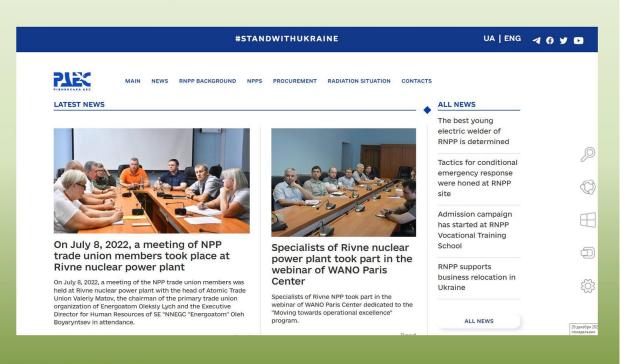
#### **Examples of Implemented ESAP Actions**

Updated Statements on SE "NNEGC "Energoatom" Politics



### **Examples of Implemented ESAP Actions**

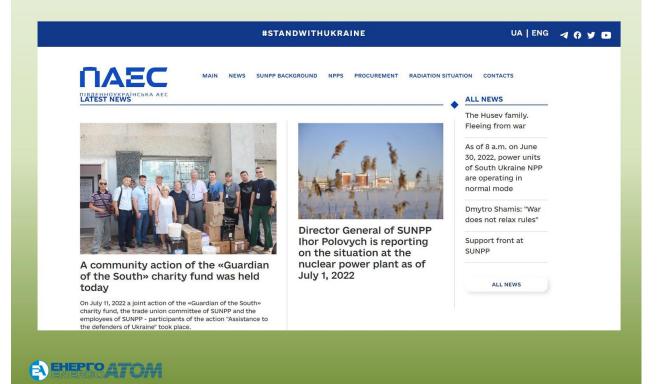
**Updated SS NPPs Official Web-Sites** 





#### **Examples of Implemented ESAP Actions**

**Updated SS NPPs Official Web-Sites** 



Examples of Implemented ESAP Actions
SE NNEGC "Energoatom" Management System Certification for International Standards ISO-14001, OHSAS-18001

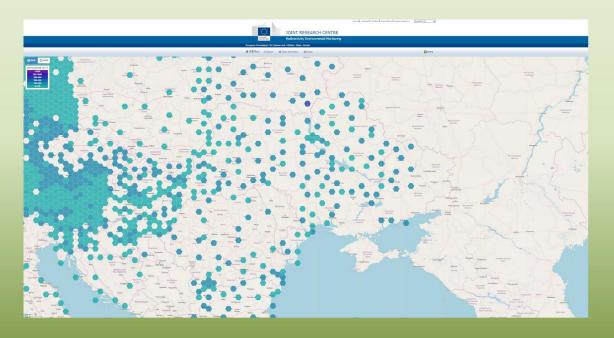






#### **Examples of Implemented ESAP Actions**

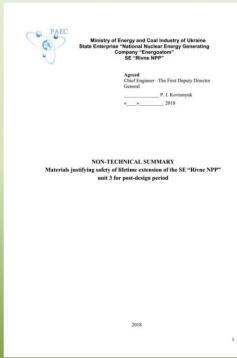
Ukraine Joining to the International Information Exchange System EURDEP

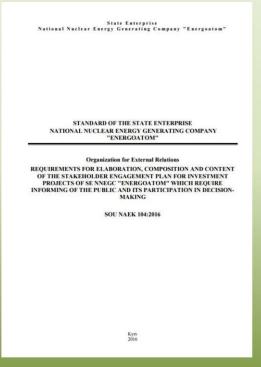




#### Some Results of ESAP Implementation

**Development of reporting and normative documents** 







#### Some Results of ESAP Implementation

**Development of Management Report-2021** 



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### **ESAP** realization during 2022

#### Actions on environmental, health and safety management

NN – realization was not needed for its ground unavailable;

RP – was realized in the past, before the start of the reporting year;

RC – realization was continued during the reporting year and will be continued further;

RF – realization was finished during the current year RN – realization is planned for the next reporting year;

No	ESAP, par	Action/ Indicator name	Realization status	Comment
1	1.1	Availability of ESAP, agreed with EBRD	RP	The valid ESAP version non-objected by EBRD of 09.04.2015 is included to PIP and was published at SE NNEGC "Energoatom" site.
2	1.1	Annual reporting on ESAP implementation	RP	ESM Report: 2013-2014 was sent to EBRD 27.02.2015. ESM Report: 2015, 2016, 2017, 2018, 2019, 2020 were sent to Lenders 01.03.2016, 07.03.2017, 28.02.2018, 04.03.2019, 28.02.2020 and 16.03.2021 correspondingly. The summary of ESAP implementation for 2021 was included in the Borrower's Quarterly Report for the 4th quarter of 2021.
3	1.1	Implementation of EA every 5 years	RP	The first EA Report was published 31.01.2012. The next EA Report including of PC reporting materials was published and sent for the State ecological expertize on 10.07.2017. The expertize was stopped and canceled by Minpryrody, because the legislative basis – the Law of Ukraine "On ecology expertize" has lost of force. The next OP is suspended until the end of hostilities on the territory of Ukraine.
4	1.1	Ecological Audits every 3 years	RP,RC	For the first time independent external audit was carried out in 2015, the results were sent to Lenders 31.07.2015. The next audit was carried out in 2018, the results were sent to Lenders 21.06.2018 and 16.07.2018. According to the it.1.1 of ESAP, "The audit can be part of the ongoing EHSS management system". Certificate for management system of the Company as per ISO-14001:2015 covers "Performance of repair, installation and renovation works". The last surveillance audit of the management system on this certificate was carried out on 10.10.2021-19.01.2022 The results were sent to Lenders 27.06.2022.
5	1.1	H&S Audit every 3 years	RP,RC	For the first time independent external audit was carried out in 2015, the results were sent to Lenders 31.07.2015. The next audit was carried out in 2018, the results were sent to Lenders 16.07.2018. According to the it.1.1 of ESAP, "The audit can be part of the ongoing EHSS management system". Certificate for management system of the Company as per ISO-45001:2018 covers "Performance of repair, installation and renovation works". The last surveillance audit of the management system on this certificate was carried out on 10.10.2021-19.01.2022 The results were sent to Lenders 27.06.2022.
6	1.2	Published EHSS policy	RP	The Statements of Management were published at the official SE NNEGC "Energoatom" site from 2014. It publishes the Company's strategic goals and plans, as well as the goals for 2022.
7	1.2	Structure chart of EHSS management, including environmental department and definition of its functions	RP	The detailed structure chart of EHSS management is presented in PIP.
8	1.3	Development of EMSP covering each NPP. Certification of MS for compliance with international standard ISO-14001	RP	Initial certification of MS of SE NNEGC "Energoatom" Directorate and SS for compliance with international standard ISO- 14001 was arranged in 2013-2014. Regular re-certification of MS of SE NNEGC "Energoatom" was made in 2019.
9	1.3	Raising the role of the existing H&S management subdivision. Certification of MS for compliance with standard OHSAS- 18001	RP	The detailed description of H&S management presented in PIP and ESM Report: 2013-2014. The initial MS certification for compliance with standard OHSAS-18001 was made in 2016, regular re-certification for compliance with standard ISO-45001:2018 (replacing OHSAS-18001) was made in 2019.
10	1.4	Provision of public relation activity with the qualified personnel	RP	The detailed description of IPR management and activity presented in PIP and ESM Report: 2013-2014.

# ESAP realization during 2022 Actions on environmental, health and safety management

No	ESAP, par	Action/ Indicator name	Realization status	Comment
11	1.4	Maintenance of SE NNEGC "Energoatom" and SS NPP web-sites in the actualized state. Regular monitoring and promulgation of EHSS information	RP, RC	The official web-sites of SE NNEGC "Energoatom" and SS NPP work and were regularly updated, including EHSS issues. Due to the war unleashed by the Russian Federation against Ukraine on February 24, 2022, the operation of the site was temporarily suspended, the most important information was published on the Company's Facebook page. During the reporting period, the functioning of the site is restored. The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Reports. 2022.
12	1.5	Monitoring of specialists' training for work in the industry on the basis of training institutions of the appropriate profile	RP, RC	The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022.
13	1.5	Improvement of personnel qualification on the basis of Personnel Training Centers	RP, RC	The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022.
14	1.6	Development of template of the annual Report on Environmental and Social Matters (ESM Report)	RP	Template of the annual Report on Environmental and Social Matters is attached to PIP.
15	1.6	Annual ESM report	RP	ESM Report: 2013-2014 was sent to EBRD 27.02.2015. ESM Report: 2015, 2016, 2017 2018, 2019, 2020 were sent to Lenders 0.1.03.2016, 07.03.2017, 28.02.2018, 04.03.2019, 28.02.2020 and 16.03.2021 correspondingly. Due to the war unleashed by the Russian Federation against Ukraine, completion of the ENP Report: 2021 was stopped. The summary of ESM activity for 2021 was included in the Borrower's Quarterly Report for the 4th quarter of 2021 sent to Lenders 31.01.2022.
16	1.7	Obtaining all required EHSS licenses and permits and following their requirements	RP,RC	The list of valid licenses presented in the PIP. The activity monitoring results for previous years were presented in previous ESM Reports, for current year it will be presented in ESM Report: 2022.
17	1.7	Information provision and consultations with the public on compliance with terms and conditions of licenses and permits	RP, RC	Consolidated monitoring results for previous years were presented the previous ESM Reports, for current year it will be presented in ESM Report: 2022.
18	1.7	Immediate reporting to EBRD on any actual non-compliance with licenses and permits	NN	The facts of failure to meet terms and conditions of licenses and permits were not detected during the reporting period, except for the situation at ZNPP. As a result of the war unleashed by the Russian Federation against Ukraine on February 24, 2022, the territory of ZNPP is currently occupied, the SNRCU has lost regulatory control over this station. ZNPP are operated by its personnel. Information on the situation at ZNPP was provided in the Borrower's Quarterly Report for the 1st quarter of 2022, sent to Lenders 29.04.2022.
19	1.8	Development and promulgation of NTS related to LTE of the operating power units including EHSS matters in Ukrainian and English	RP	In 2015 the NTS on EIA materials of ZNPP and SUNPP in particular related to its energy units LTE were published. The NTS on EIA materials of ZNPP power units No 3 and 4 was published 17.02.2017, RNPP units No 3 – 12.06.2018, KNPPP units No 1 - 30.05.2018, ZNPP units No 5 - 23.03.2020 .
20	1.8	Planning of NTS promulgation within the frames of SEP	RP	The NTS promulgation activity foreseen in CCSUP SEP. SE NNEGC "Energoatom" standard regarded requirements to SEP development put into force in 2016 provides accorded activity within any other investment projects.

# ESAP realization during 2022 Actions on environmental, health and safety management

				montal, noath and oardly management
No	ESAP, par	Action/ Indicator name	Realization status	Comment
21	1.9	Implementation of EIA for the new investment projects, for which it is required by the Ukrainian legislation , following provisions of Aarhus Convention and Espoo Convention	RP,RF,RC	The new investment projects, which require EIA, were not started during the reporting period. The Announcement on Planned Activity on erection of KhNPP power units No 3,4 was introduced into EIA Register <a href="http://eia.menr.gov.ua/places/view/2231">http://eia.menr.gov.ua/places/view/2231</a> . The updated Feasibility Study Report was approved by CM of Ukraine in 2018. The updated EIA Report for the KhNPP power units No 3,4 was published in 2019. In the same year Minpryrody completed a cycle of public discussions of the EIA for the KhNPP power units No 3,4 in Ukraine, the corresponding transboundary consultations was finished. The Announcement on Planned Activity on operation of RNPP power units No 1.4 was introduced into EIA Register <a href="http://eia.menr.gov.ua/places/view/76">http://eia.menr.gov.ua/places/view/76</a> . During 2019 Minpryrody completed a cycle of public discussions of the EIA for RNPP in Ukraine. The transboundary consultations on EIA for ZNPP, RNPP and PNPP are suspended until the end of the war waged by Russia.
22	1.9	Promulgation and making available for public the EIA materials	PP, RC	EA Report of CCSUP, NTS on updated EIA materials of units No3,4 KhNPP erection, NTS on EIA materials of ZNPP and SUNPP, EIA Report for Oleksandrovsk water pool level raise and EIA Report for RNPP were kept available at the SE NNEGC "Energoatom"/SS NPP official web-sites and/Jor in EIA Register. Due to the war waged by the Russian Federation against Ukraine on February 24, 2022, the operation of the Company's website was temporarily suspended. During the reporting period, the functioning of the site is restored.
23	1.10	Cooperation with authorities to facilitate the government-to-government consultations under Espoo Convention for the projects that may have a considerable transboundary impact	RP,RF, RC	The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022. In 2019 Minpryrody completed a cycle of public discussions of the EIA for RNPP and the EIA for KNPP power units No 3.4 in Ukraine, the corresponding transboundary consultations for the KNNPP is finished in 2021. The transboundary consultations on EIA for ZNPP, RNPP and PNPP are suspended until the end of the war waged by Russia.
24	1.10	Registration of all consultations and information feedback under projects that may have a considerable transboundary impact	RC	The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022.
25	1.11	Development of internal procedures for EIA performance for the new investment projects and re-licensing of the power units	RC	The Law of Ukraine "On Environmental Impact Assessment" was put into force 18.12.2017. Development of the draft accorded SE NNEGC "Energoatom" standard was started in the 2-nd quarter 2017. Its completion was postponed up to approval of the EIA necessity criteria and transboundary and public consultations procedures on EIA by CM of Ukraine. The regarded criteria was approved by CM of Ukraine latterly 2017. Adjustment of the consultations procedures CM of Ukraine was continued. Elaboration of the draft standard is suspended until the end of the war waged by Russia.
26	1.11	Development of the internal procedures of SEP development for the new investment projects and re-licensing of the power units	RP	SE NNEGC "Energoatom" standard regarded requirements to SEP development for investment projects was put into force in 2016.

# ESAP realization during 2022 Actions on environmental, health and safety management

No	ESAP, par	Action/ Indicator name	Realization status	Comment
19	1.12	Creation and realization of programs for the enterprise social development	RP, RC	Personnel social protection and actions for the further company social development were determined in the Collective agreement. The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022.
28	1.12	Availability of the monitoring system of the social guarantee fulfilment and social development actions realization	RP	The Management responsibility determined in the Collective agreement. The detailed description of SPP and SPS management and activity presented in PIP and ESM Report: 2013-2014.
29	1.13	Availability of mechanism for delivery and handling personnel appeals	RP	Mechanism for delivery and handling the personnel appeals, as well as responsibility distribution are described in ESM Report: 2013-2014 and SEP.
30	1.13	Promulgation of consolidated results of personnel appeals handling	RP, RC	Consolidated results for the 4th quarter of 2021 were published at the site. Due to the war unleashed by the Russian Federation against Ukraine on February 24, 2022, the full operation of the site was temporarily suspended, the most important information is published.
31	1.14	Development and promulgation of the Management Statement on RLR policy	RP	A statement on RLR policy is published at the SE NNEGC "Energoatom" site. Due to the war unleashed by the Russian Federation on February 24, 2022, the full operation of the site was temporarily suspended, the most important information is published.
32	1.14	Development and realization of IRLR plans for projects requiring involuntary resettlement	NN	The investment projects realized during the reporting and planned periods do not envisage an involuntary resettlement.
33	1.15	Monitoring of creation of new RW handling installations to the state suitable for a long-term storage / disposal	RC	During the reporting quarter the measures regarding the current RW management, RW generation minimization, creation of new facilities for RW management, improvement of technologies and methods for RW management were realized in scope determined by the "The Complex Program of Radioactive Waste Management at SE NNEGC Energoatom" ПМ- Д.0.18.174-21 put into force on 06.05.2022. Implementation of the measures is currently complicated by the war waged by the Russian Federation against Ukraine on February 24, 2022.
34	1.15	Introduction of Gantt diagrams for planning / monitoring of creation of RW handling installations	RP	Monitoring of new RW handling facilities creation to the form acceptable for LTSD realize in MS Project format. Now the version of Gantt chart at the beginning 2022 is actual. The chart will be adjusted after the end of the war.
35	1.15	Control of introduction of RW handling to the state suitable for a long-term storage / disposal as part of EMS auditing	RP,RC	Independent external audit was carried out in 2015, the results were sent to Lenders 31.07.2015. The next audit was carried out in the 2nd quarter of 2018, the results were sent to Lenders 16.07.2018. The last surveillance audit of the management system for the certificate on ISO-14001:2015 was carried out on 10.10.2021-19.01.2022 The results were sent to Lenders 27.06.2022.
36	1.16	Support to SNRIU in introduction of the system of international information exchange EURDEP	RP, RC	In the 3 <sup>rd</sup> quarter 2016 the Ukraine join to EURDEP system. The testing information exchange data presented on-line at the map scheme of EURDEP <a href="https://remap.irc.ec.europa.eu/GammaDoseRates.aspx">https://remap.irc.ec.europa.eu/GammaDoseRates.aspx</a> . The monitoring results on data supply for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022. As a result of the war unleashed by the Russian Federation against Ukraine on February 24, 2022, the territory of ZNPP is currently occupied, the SNRCU has lost regulatory control over this station.

### **ESAP** realization during 2022

#### **Actions at NPP**

No	ESAP, par	Action/ Indicator name	Realization status	Comment
1	2.1	Current monitoring of operated NPPs impact on the environment	RP, RC	The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022.
2	2.1	Promulgation of monitoring results of the operated NPPs impact on the environment	RP, RC	Monitoring results are regularly promulgated at the sites of SE NNEGC "Energoatom" and SS NPP. The summary for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report. 2022. Due to the war unleashed by the Russian Federation against Ukraine on February 24, 2022, the operation of the site was temporarily suspended, now their functioning has been restored. As a result of the war, the territory of ZNPP is currently occupied, the SNRCU has lost regulatory control over this station.
3	2.1	Improvement of the monitoring around operated NPPs	RP, RC	The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022.
4	2.1	Evaluation of risks of radiation factors impact as a part of EIA for the new projects	NN	The new investment projects which require EIA are not started during reporting period.
5	2.2	Promulgation of nuclear safety information via publications in mass media, radio ads and provision of information on the website of the Company	RP, RC	The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022. Due to the war unleashed by the Russian Federation against Ukraine on February 24, 2022, the operation of the site was temporarily suspended, now its functioning has been restored.
6	2.2	Development and introduction of educational materials for safe behavior of people in / near NPP	RP	5-lingual NPP visitor introduction brochures "For NPP visitor" about safe behavior developed and introduced in SS NPP.
7	2.3	Identification of hazards, evaluation of risks and selection of appropriate risk management tools	RP	For radiation aspects the activity goes on in frames of ALARA principle implementation. Non-radiation aspects were considered during preparation to the MS certification for compliance with standard OHSAS-18001 (primary certification was finished in 2016, next re-certification for compliance with standard ISO-45001:2018 was finished in 2019, MS improvement is continued). The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Reports 2022.
8	2.3	Training of the personnel (one's own and the contractors') for H&S, in particular for PPE use	RP, RC	The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022.
9	2.3	Personnel provision with PPE	RP, RC	The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022.
10	2.3	Improvement of H&S regulatory documents (procedures, manuals, etc.)	RP, RC	Primary MS certification for compliance with standard OHSAS-18001 was finished in 2016, next re- certification for compliance with standard ISO-45001:2018 was finished in 2019, improvement of normative documents is ongoing. The activity monitoring results for previous years were presented in the previous ESM Reports, for current year it will be presented in ESM Report: 2022.

### **ESAP** realization during 2022

#### Other actions

	ESAP,	And and Indiana an area	Realization	C
No	par	Action/ Indicator name	status	Comment
1	3.1	Determination together with Lenders of PMU Consultant experts for EHSS	RP	The formation of EHSS expert group was completed on 16.12.2014.
2	3.1	Permanent cooperation with the PMU Consultant expert group on EHSS	RC	PMU Consultant EHSS activity performed during the reporting period includes SE NNEGC "Energoatom" support, particularly: in planning and reports preparation, experience transfer to the Company specialists and monitoring of ESAP, SEP measures realization and other SE NNEGC "Energoatom" EHSS activity.
3	3.1	Independent review of the contractors' Project activity on EHSS by PMU Consultant experts Submission of reports to the Lenders	RP, RC	The corresponding chapter of PMU Consultant Report for the 2 <sup>nd</sup> quarter of 2022 was developed based on the independent review results.
4	3.1	Development of Energoatom's Corporative Social Responsibility system	RP	The Non-financial reports of NNEGC "Energoatom" (Report on CSR) were elaborated start from 2016. The last report is published in the reporting quarter.
5	3.2	Availability of EPR system including notification of population and governmental emergency services and divisions	RP	The emergency response plans exist and are periodically revised for all SS NPP SS ETC and Directorate of SE NNEGC "Energoatom".
6	3.2	Improvement of the system of early notification of population regarding the emergencies at NPPs	RP, RC	The last improvements are reflected in the Provision on the organizing of alerts approved by CoM of Ukraine of 27.09.2017. Local executive authorities (local governments) responsible for notifying the population are recommended to increase the operational coverage of the population by providing the unprotected layers (invalids, pensioners, etc.) of mobile FM receivers free of charge (at the expense of funds allocated for socioeconomic compensation of risk). The further improvement of alerts system is determined by the Concept of development and technical modernization of the system of centralized alert about the threat of emergencies or emergency arising approved by CM of Ukraine early 2018.
7	3.3	Reporting on regulatory and legal support, capital investments and schedules of RW handling measures realization	RC	During the reporting quarter the measures regarding the current RW management, RW generation minimization, creation of new facilities for RW management, improvement of technologies and methods for RW management were realized in scope determined by the "The Complex Program of Radioactive Waste Management at SE NNEGC Energoatom" RM-J.0.18.174-21 put into force on 06.05.2022. No other change of SE NNEGC "Energoatom" normative base regarding RW management issues were occurred during reporting period.  Monitoring of new RW handling facilities creation to the form acceptable for LTSD realize in MS Project format. Now the version of Gantt chart at the beginning 2022 is actual. The chart will be adjusted after the end of the war.
8	3.3	PMU quarterly reporting on work progress for creation of new RW treatment facilities	RC	Monitoring of new RW handling facilities creation to the form acceptable for LTSD realize in MS Project format. The corresponding information are given by PMU Consultant to the Lenders within the quarterly PMU Consultant Reports. Now the version of Gantt chart at the beginning 2022 is actual. The chart will be adjusted after the end of the war.
9	3.3	PMU quarterly reporting on tax payment for future RW transfer to long-term storage / disposal	RC	According to the Law of Ukraine "On Radioactive Waste Management", Cl.4, the state provides RW producers paying environmental tax, which is charged for RW generation and interim storage, with guarantees of acceptance for storage, disposal without extra payments of the whole volume of RW generated during such producers' operation. The costs paid by the producers build up the State Fund for Radioactive Waste Management (RW Fund). SE NNEGC «Energoatom» pays quarterly the appropriate costs starting with May 2009 including of 1º quarter of 2022.



#### Goal and tasks of SEP

Main goal: to establish and to maintain constructive long-term relations with persons, which have or may potentially have impact from CCSUP implementation, and with other stakeholders regarding the CCSUP implementation, both domestically and abroad:

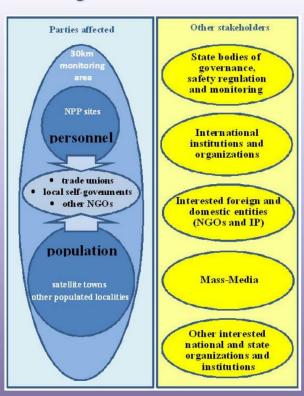
- √ information promulgation to ensure consultations with stakeholders;
- ✓ meaningful consultations with stakeholders;
- ✓ policy and procedures implementation, in accordance whereof the stakeholders can express their comments or submit grievances.

#### **SEP determine:**

- ✓ stakeholder lists (updated periodically);
- √ order and procedures of stakeholder engagement to meaningful consultations;
- ✓ schedule of public meetings of CCSUP implementation;
- ✓ SE NEGC "Energoatom" contact information;
- ✓ Submission and processing mechanisms for questions, comments and grievances.



#### **Project Stakeholders**





#### Stakeholders database Контактна особа / веб.сайт Назва 3С Сфера діяльності Тел./факс тел.: (044) 270-7465-факс: (044) Україна, Київ, вул Рейтарська, 8/5а Інтерфакс-Україна 2 Українські новини Контактна особа / Сфера діяльності e-mail веб-сайт Тел./факс Назва 3С М.Папосаари/Координатор програми ENVSEC; М.Алісв/ Репональний директор Châtelaina Genes +41 22 917 87 79 +41 22 917 80 24 та безпека (ENVSEC) 4 YHIAH Châtelaine, Genev Контактна особа / Світовий Банк Назва 3С Сфера діяльності Адреса e-mail веб-сайт Тел./факс 5. Зеркало нелели 3 Організація безпеки та та безпека (ENVSEC) +41 22 917 80 24 івробітництва в Європі (ОБ Châtelaine Geneva 6 Лівий Берег 1818 H Street, NW 2 Світовий Банк Ліжнародна фінансова та ехнічна допомога країна: 7 Коментарі Washington, DC 20433, Європейський Союз (ЄС)/ Європейська Комісія (ЄК)/ цо розвиваються USA OSCE Secretariat 8 Kviv Post 3 Організація безпеки та Європейське Співтовариство співробітництва в Європі (ОБСЄ) онфліктам, стимул Wallnerstrasse 6 1010 +43 1 514 36 69 атомної енергії (Євратом) Європейський Банк Реконст та Розвитку (ЄБРР) новних свобод людин 4 Європейський Союз (ЄС)/ Використання ядеоної 6 Міжнародне Агентство з Атол Енерпі (МАГАТЕ) Європейське Співтовариство з атомної енергії (Євратом) Європейський Банк Реконструкції Міжнародна фінансова та технічна допомога для сталого розвитку суспільства 7 Всесвітня Асоціація Операто +44 20 7338 6000 +44 20 7338 6100 Документи МІО ДІО та Розвитку (ЄБРР) London EC2A 2JN United (+431) 2600 21273 Міжнародне Агентство з Атомної Vienna Internationa Енергії (МАГАТЕ) Centre, PO Box 100 A-1400 Vienna, Austria Всесвітня Асоціація Операторів ntto://www.wane.info н Документи МІО ДІО НУО ENERGO ATOM

### **Information promulgation channels**

- ✓ information messages and materials on the official web-sites of Energoatom and 4 NPPs;
- ✓ information messages on web-pages of Energoatom in social networks;
- ✓ theme programs, interviews and broadcasting on local, regional and national TV- and radio channels;
- theme articles and interviews in printed mass media;
- ✓ updated information messages on telephone answering machines;
- ✓ distribution of materials by e-mail;
- ✓ distribution of printed materials under stakeholders' request in cases and in the manner, prescribed by the law;
- ✓ distribution of information through the External Communication Information Centre of Energoatom and Information Centers of 4 NPPs:
- ✓ distribution of information materials via other non-electronic information channels.



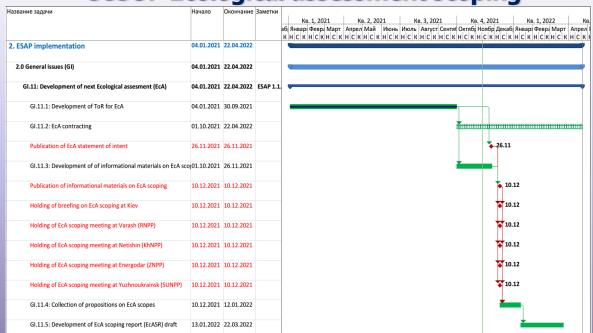
#### **Public discussion of LTE of ZNPP unit 5**



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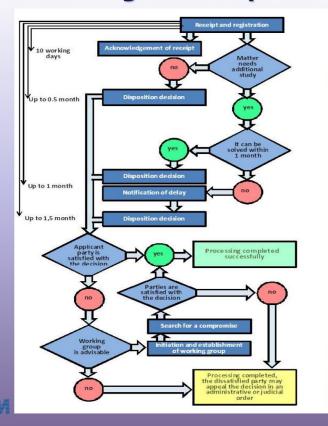
Public discussion of next CCSUP Ecological assessment scoping



Due to the war started by the Russian Federation on February 24, 2022, the next EA is suspended until the end of military operations on the territory of Ukraine.



#### **Scheme of grievance processing**



#### **Report on public appeals**

was quarterly published at "Energoatom" web-site

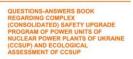
Processing of SE NNEGC Energoatom personnel and other citizens' appeals during the Illrd Quarter, 2021

Processing of appeals addressed to SE NNEGC «Energoatom» is carried out according to the Law of Ukraine "On Public Appeals" <a href="http://zakon2.rada.gov.ua/laws/show/393/96-bp">http://zakon2.rada.gov.ua/laws/show/393/96-bp</a> under the procedure determined in the Provisions on procedure for citizens' appeals to SE NNEGC Energoatom ΠЛ-Κ.0.07.059-18. Under appeals one shall understand proposals (comments), statements (petitions) and grievances, performed and presented in writing or verbal.

In connection with the war launched by the Russian Federation on February 24, 2022, the publication of information was temporarily suspended and will be resumed after the end of hostilities on the territory of Ukraine.



# Collection and processing of public questions, remarks and comments as attachments to "Questions-Answers book about CCSUP"











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#### **Development of normative base**

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#### КАБІНЕТ МІНІСТРІВ УКРАЇНИ

#### ПОСТАНОВА

від 11 серпня 2021 р. № 847

Про затвердження Державної економічної програми поводження з відпрацьованим ядерним паливом вітчизняних атомних електростанцій на період до 2025 року

#### Кабінет Міністрів України постановляє:

- 1. Затвердити Державну економічну програму поводження з відпрацьованим ядерним паливом вітчизняних атом електростанцій на період до 2025 року (далі – Програма), що додається.
- 2. Внести до розпорядження Кабінету Міністрів України від 5 червня 2019 р. № 385 "Про схвалення Концепції Державної економічної програми поводження з відпрацьованим ядерним паливом вітчизняних атомних електростанцій на період до 2024 року" (Офіційний вісник України, 2019 р., N° 47, ст. 1626) такі зміни:
- 1) у назві та тексті розпорядження цифри "2024" замінити цифрами "2025";
- 2) у назві та тексті Концепції Державної економічної програми поводження з відпрацьованим ядерним паливо изняних атомних електростанцій на період до 2024 року, схваленої зазначеним розпорядженням, цифри "2024" замінити цифрами "2025".
- 3. Державному підприємству "Національна атомна енергогенеруюча компанія "Енергоатом" подавати Міністерству енергетики щороку до 1 квітня звіти про результати здійснення заходів Програми та про вплив здійснення заходів Програми на довкілля, зокрема на здоров'я населення.

подавати Кабінетові Міністрів України щороку до 15 квітня звіти про результати здійснення заходів Програми;

за результатами аналізу звітів про вплив здійснення заходів Програми на довкілля, зокрема на здоров'я населення щороку оприлюднювати на офіційному веб-сайті Міністерства інформацію в рамках заходів для проведення моніторингу наслідків виконання Програми.

Прем'єр-міністр України Д. ШМИГАЛЬ

