

## Implementation of the Complex (Consolidated) Safety Upgrade Program of Power Units of Ukrainian Nuclear Power Plants during the IIIrd-IVth Quarters, 2023

The Complex (Consolidated) Safety Upgrade Program of Power Units of Ukrainian Nuclear Power Plants (CCSUP) was approved by the Decree of the Cabinet of Ministers of Ukraine No1270 of 07.12.2011. In 2012 the CCSUP was supplemented with additional measures according to conclusions of the National Report of Ukraine on results of specific reevaluation of nuclear facilities situated on NPP sites ("stress-tests"), taking into account the lessons from Japanese NPP "Fukushima-Daichi" accident of March, 2011.

The implementation status of CCSUP initially planned and additional measures as of 31.12.2023 is provided in Tables 1, 2 and Tables 3, 4 accordingly.

Totally, as of 31.12.2023, 1096 measures out of 1295 ones were completed and 199 ones are to be implemented, including 25 measures planned to be completed to the end 2024. The delay in the implementation of CCSUP measures is mainly determined by the war that the Russian Federation started on February 24, 2022. In particular, as a result of the war, the territory of the ZNPP is currently occupied, and SNRI of Ukraine has lost regulatory control over this plant. The ZNPP continues to be operated by its personnel partially.

Table 1 - Implementation of CCSUP initially planned measures (as of 31.12.2023)

NPP	Unit	Total Number of Measures	Completed	To Implement
SS ZNPP	ZNPP-1	77	70	7
	ZNPP-2	77	70	7
	ZNPP-3	76	66	10
	ZNPP-4	76	69	7
	ZNPP-5	76	67	9
	ZNPP-6	77	45	32
	Common	3	2	1
	<b>Totally</b>	<b>462</b>	<b>389</b>	<b>73</b>
SS RNPP	RNPP-1	54	50	4
	RNPP-2	53	48	5
	RNPP-3	79	76	3
	RNPP-4	79	72	7
	Common	<b>5</b>	<b>5</b>	<b>0</b>
	<b>Totally</b>	<b>270</b>	<b>251</b>	<b>19</b>
SS KhNPP	KhNPP-1	79	75	4
	KhNPP-2	79	72	7
	Common	4	4	0
	<b>Totally</b>	<b>162</b>	<b>151</b>	<b>11</b>
SS SUNPP	SUNPP-1	53	51	2
	SUNPP-2	53	47	6
	SUNPP-3	77	59	18
	Common	5	5	0
	<b>Totally</b>	<b>188</b>	<b>162</b>	<b>26</b>
<b>TOTAL</b>		<b>1082</b>	<b>953</b>	<b>129</b>

Table 2 - List of completed CCSUP initially planned measures as of 31.12.2023

NPP	Unit	Completed before reporting Quarter	Completed during reporting Quarter
ZNPP	Unit 1	10101 11302 11303 11304 12101 12102 12201 12202 12203 12301 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13403 13501 13503 13504 13505 13508 13509 14101 14102 14103 14104 14105 14106 14201 14202 14203 14204 14205 14206 14301 14402 14403	

NPP	Unit	Completed before reporting Quarter	Completed during reporting Quarter
		14405 14406 15201 15202 15203 15204 15205 15207 15208 15211 15212 16101 16201 16202 16203 16205 17101 17103 17104 17201 18101 19101 19102 19103 19201 19202 19203 19204	
	Unit 2	10101 11302 11303 11304 12101 12102 12201 12202 12203 12301 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13403 13502 13503 13504 13505 13508 13509 14101 14102 14103 14104 14105 14106 14201 14202 14203 14204 14205 14206 14301 14402 14403 14405 14406 15201 15202 15203 15204 15205 15207 15208 15211 15212 16101 16201 16202 16203 16205 17101 17103 17104 17201 18101 19101 19102 19103 19201 19202 19203 19204	
	Unit 3	10101 11302 11303 11304 12101 12102 12201 12202 12203 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13403 13501 13502 13503 13504 13505 13508 14101 14102 14103 14104 14105 14106 14201 14202 14203 14204 14205 14206 14301 14402 14403 14405 14406 15201 15202 15203 15205 15207 15211 15212 16101 16201 16202 16203 17101 17103 17104 17201 18101 19101 19102 19103 19201 19202 19203 19204	
	Unit 4	10101 11302 11303 11304 12101 12102 12201 12202 12203 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13403 13501 13502 13503 13504 13505 13508 13509 14101 14102 14103 14104 14105 14106 14201 14202 14203 14204 14205 14206 14301 14401 14402 14403 14405 14406 15201 15202 15203 15204 15205 15211 15212 16101 16201 16202 16203 16205 17101 17103 17104 17201 18101 19101 19102 19103 19201 19202 19203 19204	
	Unit 5	10101 11302 11303 11304 12101 12102 12201 12202 12203 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13403 13501 13502 13503 13504 13505 13508 13509 14101 14102 14103 14104 14105 14106 14201 14202 14203 14204 14205 14206 14301 14401 14402 14403 14405 14406 15201 15202 15203 15204 15205 15211 15212 16101 16201 16202 16203 16205 17102 17104 17201 18101 19101 19102 19103 19201 19202 19203 19204	
	Unit 6	11303 11304 12101 12201 12202 12203 13101 13102 13103 13202 13301 13303 13305 13401 13403 13504 13505 13506 13508 14101 14104 14201 14203 14204 14205 14206 14402 15201 15202 15203 15205 15211 15212 16101 16201 16202 16203 17103 19101 19102 19103 19201 19202 19203 19204	
	Common	12302 13507	
	<b>Totally</b>		<b>389</b>
<b>RNPP</b>	Unit 1	30101 31101 31102 31301 31302 32101 32302 32401 33302 33303 33501 33502 33503 33509 34103 34106 34107 34201 34301 34401 34402 34403 34404 34405 34406 34407 34408 34409 35102 35201 35202 35203 35204 35205 35206 37101 37102 37103 37105 39101 39102 39103 39104 39201 39202 39203 39204	34104 35207 37104

NPP	Unit	Completed before reporting Quarter	Completed during reporting Quarter
	Unit 2	30101 31101 31102 31301 31302 32101 32401 33302 33303 33501 33502 33503 34102 34103 34104 34106 34107 34201 34301 34401 34402 34403 34404 34405 34406 34407 34408 34409 35102 35201 35202 35203 35204 35205 35206 37102 37103 37105 39101 39102 39103 39104 39201 39202 39203 39204	35207 37104
	Unit 3	10101 11302 11303 11304 12101 12102 12201 12202 12203 12301 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13403 13501 13502 13503 13504 13505 13506 13508 13509 14101 14102 14103 14104 14105 14106 14201 14202 14203 14204 14205 14206 14301 14401 14402 14403 14404 14405 14406 14407 15201 15202 15203 15204 15205 15206 15207 15208 15211 15212 16101 16201 16202 16203 16205 17101 17102 17103 17104 17201 19101 19102 19103 19201 19202 19203 19204	
	Unit 4	10101 11302 11303 11304 12101 12102 12201 12202 12203 12301 12401 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13402 13403 13501 13502 13503 13504 13505 13506 13508 13509 14101 14102 14103 14104 14105 14106 14201 14202 14203 14204 14205 14206 14301 14402 14403 14404 14405 14406 14407 15201 15202 15203 15204 15207 15211 15212 16101 16201 16203 16205 17101 17102 17103 17201 19101 19102 19103 19201 19202 19203 19204	
	Common	12302 13507 13510 15101 33201	
	<b>Totally</b>		<b>246</b>
<b>KhNPP</b>	Unit 1	10101 11302 11303 11304 12101 12102 12201 12202 12203 12301 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13403 13501 13502 13503 13504 13505 13506 13508 13509 14101 14102 14103 14104 14105 14106 14201 14202 14203 14204 14205 14206 14301 14401 14402 14403 14404 14405 14406 14407 15201 15202 15203 15204 15205 15206 15207 15208 15211 15212 16101 16201 16202 16203 16205 17101 17103 17104 17201 19101 19102 19103 19201 19202 19203 19204	
	Unit 2	10101 11302 11303 11304 12101 12102 12201 12202 12203 12301 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13403 13501 13502 13503 13504 13505 13506 13508 13509 14101 14102 14103 14104 14105 14106 14201 14202 14203 14204 14205 14206 14401 14402 14403 14404 14405 14407 15201 15202 15203 15204 15205 15206 15207 15208 15211 15212 16101 16201 16203 16205 17101 17102 17103 17201 19101 19102 19103 19201 19202 19203 19204	
	Common	12302 13507 15101	13510
	<b>Totally</b>		<b>150</b>
<b>SUNPP</b>	Unit 1	20101 21302 22101 22102 22201 22202 22203 22301 23103 23301 23302 23401 23402 23403 23501 23502 23503 23504 23509 24101 24102 24103 24104 24202 24205 24401 24403 24404 25101 25201 25202 25203 25204 25205 25207 25208 26101 26201 26202 26203 26205 27101	

NPP	Unit	Completed before reporting Quarter	Completed during reporting Quarter
		27104 27201 27203 28101 29101 29102 29103 29203 29204	
	Unit 2	20101 21302 22101 22102 22201 22202 22203 22301 23103 23301 23302 23401 23402 23403 23501 23502 23503 23504 23509 24101 24102 24103 24104 24202 24205 24403 25101 25201 25202 25204 25205 25207 25208 26101 26201 26202 26203 26205 27101 27201 27203 28101 29101 29102 29103 29203 29204	
	Unit 3	10101 11302 11303 11304 12101 12102 12201 12202 12203 13101 13102 13103 13202 13301 13302 13303 13304 13305 13401 13403 13501 13502 13503 13504 13505 13508 14101 14102 14104 14105 14201 14202 14203 14204 14205 14206 14403 14405 14406 15202 15205 15211 15212 16101 16201 16202 16203 16205 17103 17201 18101 19101 19102 19103 19201 19202 19203 19204	13509
	Common	13507 13510 15101 22302 23201	
	<b>Totally</b>		<b>1</b>
		<b>161</b>	

Table 3 - Implementation of CCSUP additional measures (as of 31.12.2023)

NPP	Unit	Total Number of Measures	Completed	To Implement
<b>SS ZNPP</b>	ZNPP-1	12	9	3
	ZNPP-2	12	9	3
	ZNPP-3	12	9	3
	ZNPP-4	12	8	4
	ZNPP-5	12	7	5
	ZNPP-6	12	5	7
	Common	3	2	1
	<b>Totally</b>	<b>75</b>	<b>49</b>	<b>26</b>
<b>SS RNPP</b>	RNPP-1	15	10	5
	RNPP-2	15	10	5
	RNPP-3	12	10	2
	RNPP-4	12	8	4
	Common	3	2	1
	<b>Totally</b>	<b>57</b>	<b>40</b>	<b>17</b>
<b>SS KhNPP</b>	KhNPP-1	12	10	2
	KhNPP-2	12	8	4
	Common	2	1	1
	<b>Totally</b>	<b>26</b>	<b>19</b>	<b>7</b>
<b>SS SUNPP</b>	SUNPP-1	16	12	4
	SUNPP-2	17	12	5
	SUNPP-3	12	7	5
	Common	2	1	1
	<b>Totally</b>	<b>47</b>	<b>32</b>	<b>15</b>
<b>SE NNEGC «Energoatom»</b>	<b>Totally</b>	8	3	5
<b>TOTAL</b>		<b>213</b>	<b>143</b>	<b>70</b>

Table 4 - List of completed CCSUP additional measures as of 31.12.2023

<b>NPP</b>	<b>Unit</b>	<b>Completed before reporting Quarter</b>	<b>Completed during reporting Quarter</b>
<b>ZNPP</b>	Unit 1	11305 13307 13511 15103 17105 17108 17109 17110 19106	
	Unit 2	11305 13307 13511 15103 17105 17108 17109 17110 19106	
	Unit 3	11305 13307 13511 15103 17105 17108 17109 17110 19106	
	Unit 4	11305 13307 13511 15103 17108 17109 17110	
	Unit 5	11305 13307 13511 15103 17105 17108 17109 17110	
	Unit 6	11305 13307 13511 17108 17110	
	Common	15213 18102	
	<b>Totally</b>	<b>49</b>	<b>0</b>
<b>RNPP</b>	Unit 1	31305 33307 33511 34101 35103 35212 37107 37111 37112 37113	
	Unit 2	31305 33307 33511 34101 35103 35212 37107 37111 37112 37113	
	Unit 3	11305 13307 13511 15103 17105 17106 17107 17108 17109 17110	
	Unit 4	11305 13307 13511 15103 17107 17108 17109 17110	
	Common	18102 39105	
	<b>Totally</b>	<b>40</b>	<b>0</b>
<b>KhNPP</b>	Unit 1	11305 13307 13511 15103 17105 17106 17107 17108 17109 17110	
	Unit 2	11305 13307 13511 15103 17105 17108 17109 17110	
	Common	18102	
	<b>Totally</b>	<b>19</b>	<b>0</b>
<b>SUNPP</b>	Unit 1	21305 23307 23511 27102 27105 27106 27107 27108 27109 27110 27111 27113	
	Unit 2	21305 23307 23511 27102 27105 27106 27107 27108 27109 27110 27111 27113	
	Unit 3	11305 13307 13511 17107 17108 17109	17110
	Common	18102	
	<b>Totally</b>	<b>31</b>	<b>1</b>
<b>SE NNEG "Energoatom"</b>		13308 23308 33308	
	<b>Totally</b>	<b>3</b>	<b>0</b>