

## Implementation of the Complex (Consolidated) Safety Upgrade Program of Power Units of Ukrainian Nuclear Power Plants during the IVth Quarter, 2019

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 CCSUP document package (consolidated measures, their lists per power unit type, as well as each CCSUP action card) was published in the source language at the official web-site of SE NNEGC «Energoatom»:

[http://www.energoatom.com.ua/ua/actvts-16/integrated\\_security\\_program-161/p/komplekt\\_dokumentiv\\_z\\_kzppb-4913](http://www.energoatom.com.ua/ua/actvts-16/integrated_security_program-161/p/komplekt_dokumentiv_z_kzppb-4913)

The implementation status of CCSUP initially planned and additional measures as of 31.12.2019 is provided in Tables 1, 2 and Tables 3, 4 accordingly.

Totally, as of 31.12.2019, 929 measures out of 1295 ones were completed and 366 ones are to be implemented, including more than 100 measures planned to be completed to the end 2020.

Table 1 - Implementation of CCSUP initially planned measures (as of 31.12.2019)

NPP	Unit	Total Number of Measures	Completed	To Implement
SS ZNPP	ZNPP-1	77	68	9
	ZNPP-2	77	67	10
	ZNPP-3	76	57	19
	ZNPP-4	76	58	18
	ZNPP-5	76	42	34
	ZNPP-6	77	36	41
	Common	3	2	1
	<b>Totally</b>	<b>462</b>	<b>330</b>	<b>132</b>
SS RNPP	RNPP-1	54	42	12
	RNPP-2	53	42	11
	RNPP-3	79	70	9
	RNPP-4	79	66	13
	Common	5	3	2
	<b>Totally</b>	<b>270</b>	<b>223</b>	<b>47</b>
SS KhNPP	KhNPP-1	79	61	18
	KhNPP-2	79	56	23
	Common	4	3	1
	<b>Totally</b>	<b>162</b>	<b>120</b>	<b>42</b>
SS SUNPP	SUNPP-1	53	49	4
	SUNPP-2	53	45	8
	SUNPP-3	77	47	30
	Common	5	3	2
	<b>Totally</b>	<b>188</b>	<b>144</b>	<b>44</b>
<b>TOTAL</b>		<b>1082</b>	<b>817</b>	<b>265</b>

Table 2 - List of completed CCSUP initially planned measures as of 31.12.2019

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, 13305, 13401, 13403, 13501,	13304,

NPP	Unit	Completed before reporting Quarter	Completed during reporting Quarter
		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, 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, 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, 15203, 15204, 15205, 15207, 15208, 15211, 15212, 16101, 16201, 16202, 16203, 17101, 17103, 17104, 17201, 19101, 19102, 19103, 19201, 19202, 19203, 19204	13304,
	Unit 3	10101, 11303, 11304, 12101, 12102, 12201, 12202, 12203, 13101, 13102, 13103, 13202, 13301, 13302, 13303, 13305, 13401, 13403, 13501, 13503, 13504, 13505, 13508, 14102, 14103, 14104, 14106, 14201, 14202, 14203, 14204, 14205, 14206, 14301, 14402, 14403, 15201, 15202, 15203, 15205, 15207, 15211, 15212, 16101, 16201, 16202, 16203, 17101, 17201, 19101, 19102, 19103, 19201, 19202, 19203, 19204	14105,
	Unit 4	10101, 11303, 11304, 12101, 12102, 12201, 12202, 12203, 13101, 13102, 13103, 13202, 13301, 13302, 13303, 13305, 13401, 13403, 13501, 13502, 13503, 13504, 13505, 13508, 13509, 14102, 14103, 14104, 14105, 14106, 14201, 14202, 14203, 14204, 14205, 14206, 14301, 14402, 14403, 14406, 15201, 15202, 15203, 15205, 15211, 15212, 16101, 16201, 16202, 16203, 17201, 19101, 19102, 19103, 19201, 19202, 19203, 19204	
	Unit 5	11303, 11304, 12101, 12201, 12202, 12203, 13101, 13102, 13103, 13202, 13301, 13303, 13305, 13401, 13403, 13505, 13508, 14104, 14105, 14201, 14202, 14203, 14206, 14402, 15203, 15205, 15211, 16203, 17102, 19101, 19102, 19201, 19202, 19203, 19204	14103, 14204, 14403, 15201, 15212, 16101, 16201,
	Unit 6	11303, 11304, 12101, 12201, 12202, 12203, 13101, 13102, 13103, 13202, 13301, 13303, 13305, 13401, 13403, 13504, 13505, 13506, 13508, 14104, 14201, 14203, 14205, 14206, 14402, 15203, 15205, 15211, 16203, 17103, 19101, 19102, 19201, 19202, 19203, 19204	
	Common	13507	
	<b>Totally</b>	<b>319</b>	<b>11</b>
<b>RNPP</b>	Unit 1	30101, 31101, 31102, 32101, 32302, 32401, 33302, 33303, 33501, 33502, 33503, 33509, 34103, 34106, 34107, 34201, 34301, 34401, 34402, 34403, 34404, 34406, 34407, 34408, 34409, 35201, 35202, 35203, 35204, 35205, 35206, 37102, 37103, 37105, 39101, 39102, 39103, 39104, 39201, 39202, 39203, 39204	
	Unit 2	30101, 31101, 31102, 32101, 32401, 33302, 33303, 33501, 33502, 33503, 34103, 34104, 34106, 34107, 34201, 34301, 34401, 34402, 34403, 34404, 34406, 34407, 34408, 34409, 35102, 35201, 35202, 35203, 35204, 35205, 35206, 37102, 37103, 37105, 39101, 39102, 39103, 39104, 39201, 39202, 39203, 39204	

<b>NPP</b>	<b>Unit</b>	<b>Completed before reporting Quarter</b>	<b>Completed during reporting Quarter</b>
	Unit 3	10101, 11302, 11303, 11304, 12101, 12102, 12201, 12202, 12301, 13101, 13102, 13103, 13202, 13301, 13302, 13303, 13304, 13305, 13401, 13403, 13501, 13502, 13503, 13504, 13505, 13506, 13508, 13509, 14101, 14102, 14103, 14104, 14106, 14201, 14202, 14203, 14204, 14205, 14206, 14401, 14402, 14403, 14404, 14405, 14406, 14407, 15201, 15202, 15203, 15204, 15211, 15212, 16101, 16201, 16202, 16203, 17101, 17102, 17103, 17201, 19101, 19102, 19103, 19201, 19202, 19203, 19204	12203, 15205, 17104,
	Unit 4	10101, 11302, 11303, 11304, 12101, 12102, 12201, 12202, 12203, 12301, 12401, 13101, 13102, 13103, 13202, 13301, 13303, 13304, 13305, 13401, 13402, 13403, 13501, 13502, 13503, 13504, 13505, 13506, 13508, 13509, 14101, 14102, 14103, 14104, 14105, 14106, 14201, 14202, 14203, 14204, 14206, 14301, 14402, 14403, 14405, 14406, 14407, 15201, 15203, 15204, 15212, 16203, 17101, 17102, 17103, 17201, 19101, 19102, 19103, 19201, 19202, 19203, 19204	13302, 16101, 16201,
	Common	12302, 15101, 33201	
	<b>Totally</b>	<b>217</b>	6
<b>KhNPP</b>	Unit 1	10101, 11302, 11303, 11304, 12101, 12102, 12201, 12202, 12301, 13101, 13102, 13103, 13202, 13301, 13302, 13303, 13304, 13305, 13401, 13403, 13501, 13502, 13503, 13504, 13505, 13506, 13508, 13509, 14102, 14103, 14104, 14201, 14202, 14203, 14204, 14206, 14402, 14403, 14404, 14405, 15202, 15203, 15204, 15205, 15207, 15211, 16101, 16201, 16203, 17101, 17103, 17201, 19101, 19102, 19103, 19201, 19202, 19203, 19204	14101, 16202,
	Unit 2	10101, 11302, 11303, 11304, 12101, 12102, 12201, 12202, 12301, 13101, 13102, 13103, 13202, 13301, 13302, 13303, 13304, 13305, 13401, 13403, 13501, 13502, 13503, 13504, 13505, 13506, 13508, 13509, 14102, 14103, 14104, 14201, 14202, 14203, 14204, 14206, 14402, 14403, 14405, 15201, 15202, 15203, 15205, 15211, 16203, 17101, 17102, 17103, 17201, 19101, 19102, 19103, 19201, 19202, 19203, 19204	
	Common	12302, 13507, 15101	22302, 23201,
	<b>Totally</b>	<b>118</b>	2
<b>SUNPP</b>	Unit 1	20101, 21302, 22101, 22102, 22201, 22202, 22203, 22301, 23103, 23301, 23302, 23401, 23402, 23403, 23501, 23502, 23503, 23504, 23509, 24102, 24103, 24104, 24202, 24205, 24401, 24403, 24404, 25101, 25201, 25202, 25203, 25204, 25205, 25207, 25208, 26101, 26201, 26202, 26203, 26205, 27101, 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, 24102, 24103, 24104, 24202, 24205, 24403, 25101, 25201, 25202, 25204, 25207, 25208, 26101, 26202, 26203, 26205, 27101, 27201, 27203, 28101, 29101, 29102, 29103, 29203, 29204	26201,
	Unit 3	10101, 11302, 11303, 11304, 12101, 12201, 12202, 12203, 13101, 13102, 13103, 13202, 13301, 13302, 13303, 13304, 13305, 13401, 13403, 13501, 13502, 13503, 13504, 13505, 13508, 14102, 14104, 14201, 14202, 14203, 14206, 14405, 15211, 16101, 16202,	14406,

NPP	Unit	Completed before reporting Quarter	Completed during reporting Quarter
		16203, 17103, 17201, 18101, 19101, 19102, 19103, 19201, 19202, 19203, 19204	
	Common	15101	
	<b>Totally</b>	<b>140</b>	<b>4</b>

Table 3 - Implementation of CCSUP additional measures (as of 31.12.2019)

NPP	Unit	Total Number of Measures	Completed	To Implement
<b>SS ZNPP</b>	ZNPP-1	12	9	3
	ZNPP-2	12	8	4
	ZNPP-3	12	8	4
	ZNPP-4	12	6	6
	ZNPP-5	12	5	7
	ZNPP-6	12	5	7
	Common	3	0	3
	<b>Totally</b>	<b>75</b>	<b>41</b>	<b>34</b>
<b>SS RNPP</b>	RNPP-1	15	7	8
	RNPP-2	15	8	7
	RNPP-3	12	9	3
	RNPP-4	12	8	4
	Common	3	2	1
	<b>Totally</b>	<b>57</b>	<b>34</b>	<b>23</b>
<b>SS KhNPP</b>	KhNPP-1	12	6	6
	KhNPP-2	12	7	5
	Common	2	0	2
	<b>Totally</b>	<b>26</b>	<b>13</b>	<b>13</b>
<b>SS SUNPP</b>	SUNPP-1	16	10	6
	SUNPP-2	17	9	8
	SUNPP-3	12	3	9
	Common	2	1	1
	<b>Totally</b>	<b>47</b>	<b>23</b>	<b>24</b>
<b>SE NNEGC «Energatom»</b>	<b>Totally</b>	<b>8</b>	<b>1</b>	<b>7</b>
<b>TOTAL</b>		<b>213</b>	<b>112</b>	<b>101</b>

Table 4 - List of completed CCSUP additional measures as of 31.12.2019

NPP	Unit	Completed before reporting Quarter	Completed during reporting Quarter
<b>ZNPP</b>	Unit 1	11305, 13307, 13511, 15103, 17105, 17108, 17109, 17110	
	Unit 2	11305, 13307, 13511, 15103, 17105, 17108, 17109, 17110	
	Unit 3	11305, 13307, 13511, 15103, 17108, 17109, 17110	
	Unit 4	11305, 13511, 17105, 17108, 17110	17109, 11305,
	Unit 5	17108, 17110	13307, 13511,
	Unit 6	11305, 13307, 13511, 17108, 17110	
	Common		
	<b>Totally</b>	<b>36</b>	<b>5</b>
<b>RNPP</b>	Unit 1	31305, 33307, 33511, 34101, 37107, 37112, 37113	
	Unit 2	31305, 33307, 33511, 34101, 35103, 37107, 37112, 37113	
	Unit 3	11305, 13307, 13511, 15103, 17105, 17107, 17109, 17110	17106,

<b>NPP</b>	<b>Unit</b>	<b>Completed before reporting Quarter</b>	<b>Completed during reporting Quarter</b>
	Unit 4	11305, 13307, 13511, 15103, 17107, 17108, 17109, 17110	
	Common	18102, 39105	
	<b>Totally</b>	<b>33</b>	<b>1</b>
<b>KhNPP</b>	Unit 1	11305, 13307, 13511, 17108, 17109	15103,
	Unit 2	11305, 13307, 13511, 15103, 17108, 17109, 17110	
	Common		
	<b>Totally</b>	<b>12</b>	<b>1</b>
<b>SUNPP</b>	Unit 1	21305, 23307, 23511, 27102, 27106, 27108, 27109, 27110, 27111, 27113	
	Unit 2	21305, 23307, 23511, 27102, 27106, 27108, 27109, 27110, 27111	11305,
	Unit 3	13307, 13511	
	Common	18102	
	<b>Totally</b>	<b>22</b>	<b>1</b>
<b>SE NNEGC</b>		33308	
<b>“Energoatom”</b>	<b>Totally</b>	<b>1</b>	<b>0</b>