

UJD SR  
Bajkalská 27  
P.O.Box 24  
820 07 Bratislava

Contact: Dr Reinhard Uhrig  
[reinhard.uhrig@global2000.at](mailto:reinhard.uhrig@global2000.at)  
Mobil: +43 699 14 2000 18

via Email to [lmrich.Smrtnik@ujd.gov.sk](mailto:lmrich.Smrtnik@ujd.gov.sk)

Vienna, 15. April 2020

## **GLOBAL 2000 Statement on the procedure for premature use of unit 3 NPP Mochovce - Basis for the Decision in the Matter of Commissioning of Mochovce Unit 3 nuclear power plant**

Dear Sir or Madam,

thank you for the opportunity to comment upon the documents concerning the basis for the decision in the matter of commissioning of Mochovce unit 3.

Three documents were published as a basis for the decision Nr. Xxx/2020 (premature use of unit 3 NPP Mochovce)<sup>1</sup> – the DRAFT DECISION DOCUMENT already being one of three documents the public is invited to comment on.

### **General considerations**

#### **Draft decision**

The first remark concerns the rather unusual approach of publishing a draft decision with text passage which will be amended in the final draft. E.g.:

Condition A.1 is required for Slovenské elektrárne, a.s. to be fulfilled by the start of commissioning of Unit 3 of MO3&4 at the latest. Failure to comply with condition A.1 will render the nuclear installation unsuitable for commissioning. The commissioning of the nuclear installation without fulfilment of condition A.1 may be qualified as an administrative offence pursuant to Section 34 par. 2 or par. 3 of the Atomic Act.

*[Explanatory note on the previous paragraph – If, in accordance with the explanatory note on condition A.1 this condition is not mentioned in the envisaged future decision on the case, the preceding paragraph will not be included or it will be amended. In that case, the sentence before condition A.1 will not be mentioned in the envisaged future decision on the case or it will be amended accordingly]*

It remains unclear why the public is not presented the final and actually valid version of the decision, but invited to comment on some interim version. The document also states that not all tests have been accomplished yet, and condition B.1 explains that

<sup>1</sup> [www.ujd.gov.sk/ujd/www1.nsf/viewByKeyMenu/En-xx-06-08-33](http://www.ujd.gov.sk/ujd/www1.nsf/viewByKeyMenu/En-xx-06-08-33)

testing of such systems and equipment must be submitted. For such equipment and systems, whose tests have not been completed and which are only necessary for the phase of energy start-up, it is obligatory to submit a their test schedule, which will be in accordance with the schedule for commissioning of Unit 3.

This can be understood as room for bilateral negotiations between the nuclear regulator UJD and the operator Slovenské elektrárne at some later point. The obvious explanation of saving time doesn't seem to be convincing when taking a look at the current time-schedule of unit 3.

We strongly disagree with the process proposed in the “explanatory note” in square brackets, colour coded in red, regarding section 9) “Documentation required for the application for commissioning pursuant to Section 6 par.2 (h) of the Atomic Act, annex 1, par. C”, sub-section s) “Evidence of readiness for commissioning”.

The explanatory note “No. 1 on par. 9r” [sic] on p 20 states

“documents on readiness for commissioning (equipment and system test reports) are not and cannot be complete as at the date of publication of this Draft Decision in particular in view of the gradual equipment test process”.

**This is inappropriate as public participation on this draft decision is meaningless as long as vital parts of the pre-start-up-tests cannot be even envisaged due to the physical state of the equipment remaining to be tested, i. e. whether this equipment can at all be repaired, replaced or whether further structural changes to the equipment or other parts of the unit to be commissioned have to take place.**

This becomes clear when looking at the list of vital equipment of unit 3 unfit to be tested given in section s, p 15–20, namely:

3P022	Program of testing the make-up system for the primary circuit and boric acid control	Program completed, further tests need to be performed after repair
3P023	Test Program for oil management system make-up pumps	Program completed, further tests need to be performed after repair
3P081	Cooling water Unit 3, functional test program	Program not completed, will be completed after the repair of cooling towers
8P116	Fire water system seismically not reinforced	Not completed

Furthermore, explanatory note “No. 3 on par. 9r” [sic] p 20 reads

**“The envisaged future decision on the case will be issued only after the fulfilment of**

conditions according to Annex 4 Part B Section I (A) par. 5 par. [sic] and par. 7 of the Decree on nuclear safety, and thus ÚJD shall deem it established that by submitting the relevant documentation on there are no such punch list items that could impact nuclear safety.”

Again, this precludes the Right of the Public from Access to Information and for Public Participation in Decision-making.

**We strongly propose to review the Draft Decision once all relevant components of the nuclear unit under construction are available at all for testing, and gradual testing can begin on all equipments.**

### **Earlier GLOBAL 2000 statements not taken into consideration**

We would like to recall the GLOBAL 2000 statement on the document PN M34481619 (Závěrečné stanovisko 395/2010-3.4/hp)), status of implementation as of Dec 12 2019. We already made comments on this document (dated 14.9.2018) and conveyed them to ÚJD.

We also received two more documents in this step of the procedure, the draft decision and Preoperational Safety Analysis Report (POSAR) chapter 13 on the environmental impacts.

As we already pointed out in our 2018 statement, the public doesn't have information about the nuclear power plant and how it differs from older plants and fulfills higher current safety demands to decrease the environmental impact under normal operation as well as severe accidents. As an example of measures and equipment with direct influence on emissions we already mentioned in our 2018 statement (on the fulfillment of three decisions 246/2008, 266/2008 and 267/2008 under **condition 3.1**)

*3.1. After licensing of nuclear installation commissioning, ensure fulfilment of all conditions stated in ÚJD SR Decisions No. 246/2008/, 266/2008 and 267/2008; after issuance of an ÚJD SR licence for MO34 commissioning and operation, ensure fulfilment of all conditions mentioned in related ÚJD SR licences.*

Again we have to recall that this EIA condition No. 1 („Zmeny vybraných zariadení ovplyvňujúcich jadrovú bezpečnosť sa žiadateľ rozhodol vykonať na základe zmenených legislatívnych požiadaviek platných v dobe plánovanej dostavby 3. a 4. bloku jadrovej elektrárne Mochovce.“ (Rozhodnutí 266/2008)) demands fulfillment of legal provisions valid at the time the plant will be completed; this is not the case, as explained earlier, because this would e.g. involve the robustness against impact of large commercial airliners.

**The fact that Mochovce units 3 and 4 by no means fulfills current demands is actually confirmed by the draft decision itself which will not confirm that WENRA complies with the Safety Objectives for New Power Reactors, but only the Safety Reference Level for Existing Reactors.**

This fact is even aggravated by the aging of the old buildings, structures and components from the period the plant construction was started in the eighties of the past century and the extremely

poor quality management during construction, as confirmed by WANO, several whistleblowers and sometimes even UJD SR.

On **condition 3.4** no information was provided on concrete measures. Quoting the EU Commission's demand to „(...)develop a reference scenario containing a deterministic effect from an external source (e.g. impact of a small aeroplane) in compliance with best international practice“, under **Fulfillment** it reads only that tests were taken and safety proven, however “details on performed safety analyses are not accessible to the public since in the Slovak Republic, they belong to the category of classified information.“

Our demand in the 2018 statement to explain what justifies the Slovak approach of excluding large commercial airplanes from flying over the NPP Mochovce and possibly crashing, went unanswered again. No solution was provided on how this plant can be licenced in the year 2020, when this approach towards airplane crashes is clearly outdated (for comparison, the Czech neighbour's legislation in this field requires new nuclear power plants to withstand the impact of a crash of a commercial airliner in regulation 361/2016). This is also in contradiction of condition 3.4 which demanded “best international practice“.

The conclusions *“Based on risk assessment of an accidental fall of aeroplane according to international methodologies and the current state of air traffic near EMO, endangering of the Mochovce NPP nuclear safety can be considered very low, and not requiring any additional technical and organisational safety measures,”* put forward on page 20 of the draft decision, are not acceptable either. The reference scenario for an airplane impact has only been developed for a small aircraft. This is in full contrast to reality in particular as the Mochovce nuclear plant is located under several highly-frequented airplane corridors with aircraft of all sizes flying above the plant continuously.

In our 2018 statement we already pointed out that the scenario concerning the Hron water temperatures as demanded by the EIA conclusions is missing and the data provided are only up to 1982 (!) instead of providing an outlook for the next at least 60 years.

Concerning the environmental impacts, obviously the emissions are key. The following table was provided to the public in February 2020 (POSAR, chapter 13)

Annex 1 Limit values of the releases from individual NF on sites Jaslovské Bohunice and Mochovce, [Bq/year]

Type (group) of releases	Jaslovské Bohunice site					Mochovce site			
	JAVYS			SE-EBO	Total	SE-EMO	JAVYS		Total
	JE A-1 <sup>(1)</sup>	MSVP	EBO12	EBO34		EMO12	FS KRAO	RÚ RAO	
<b>ATMOSPHERE</b>									
Radioactive noble gases			2,0.10 <sup>15</sup>	2,0.10 <sup>15</sup>	4,0.10 <sup>15</sup>	4,1.10 <sup>15</sup>			4,10.10 <sup>15</sup>
Long living airborne particulates	9,4.10 <sup>6</sup>	3,0.10 <sup>6</sup>	7,94.10 <sup>10</sup>	7,94.10 <sup>10</sup>	1,6.10 <sup>11</sup>	1,7.10 <sup>11</sup>	8,0.10 <sup>7</sup>		1,70.10 <sup>11</sup>
Alpha particulates	8,8.10 <sup>6</sup>		2,06.10 <sup>7</sup>	2,06.10 <sup>7</sup>	5,0.10 <sup>7</sup>		1,0.10 <sup>6</sup>		1,00.10 <sup>6</sup>
Strontium <sup>89,90</sup> Sr	2,8.10 <sup>7</sup>		1,36.10 <sup>8</sup>	1,36.10 <sup>8</sup>	3,0.10 <sup>8</sup>		2,0.10 <sup>6</sup>		2,00.10 <sup>6</sup>
Iodine ( <sup>131</sup> I)			6,5.10 <sup>10</sup>	6,5.10 <sup>10</sup>	1,3.10 <sup>11</sup>	6,7.10 <sup>10</sup>			6,70.10 <sup>10</sup>
<b>HYDROSPHERE<sup>(2)</sup></b>									
Recipient the Váh River					Recipient the Hron River				
Tritium	3,7.10 <sup>12</sup>		2,0.10 <sup>13</sup>	2,0.10 <sup>13</sup>	4,37.10 <sup>13</sup>	1,2.10 <sup>13</sup>	3,0.10 <sup>11</sup>		1,23.10 <sup>13</sup>
Other radionuclides (except tritium)	1,2.10 <sup>10</sup>		1,3.10 <sup>10</sup>	1,3.10 <sup>10</sup>	3,8.10 <sup>10</sup>	1,1.10 <sup>9</sup>	3,9.10 <sup>9</sup>		5,00.10 <sup>9</sup>
Recipient the Dudvák River					Recipient Čířarský pond				
Tritium	3,7.10 <sup>10</sup>		2,0.10 <sup>11</sup>	2,0.10 <sup>11</sup>	4,37.10 <sup>11</sup>			1,9.10 <sup>10</sup>	1,9.10 <sup>10</sup>
Other radionuclides (except tritium)	1,2.10 <sup>8</sup>		1,3.10 <sup>8</sup>	1,3.10 <sup>8</sup>	3,8.10 <sup>8</sup>			2,9.10 <sup>8</sup>	2,90.10 <sup>8</sup>

(1) The limits for ventilation stack of the "Bohunice waste processing centre" are included into limit for ventilation stack of A-1 and create 10% of this value.

(2) For the volume activity of radionuclides in the wastewater (concentration limit) valid the limit of 1,0.10<sup>5</sup> Bq/m<sup>3</sup> for Tritium and 40.10<sup>3</sup> Bq/m<sup>3</sup> for corrosion and fission products for all recipients.

Part name / Označenie časti: PNM3436176517\_E\_C01 Page No. / Strana č.: 107/113

M O34-002000

VUJE, a. s.

**vuje**

Annex 2 Real values of releases from individual NF on sites Jaslovské Bohunice and Mochovce (Averages in years 1999 to 2002), [Bq/year / %]

Type (group) of releases	Jaslovské Bohunice site					Mochovce site	
	JAVYS			SE-EBO	Total	SE-EMO	JAVYS
	JE A-1	MSVP	EBO12	EBO34		EMO12	RÚ RAO
<b>ATMOSPHERE</b>							
Radioactive noble gases / % from the limit			1,4.10 <sup>13</sup>	8,14.10 <sup>12</sup>	2,22.10 <sup>13</sup> / 0,55	1,28.10 <sup>13</sup> / 0,31	
Long living airborne particulates / % from the limit	2,23.10 <sup>7</sup>	2,88.10 <sup>7</sup>	3,07.10 <sup>8</sup>	9,46.10 <sup>6</sup>	3,26.10 <sup>8</sup> / 0,20	1,53.10 <sup>7</sup> / 0,009	
Iodine ( <sup>131</sup> I) / % from the limit			9,57.10 <sup>8</sup>	2,03.10 <sup>7</sup>	9,77.10 <sup>8</sup> / 0,75	4,87.10 <sup>7</sup> / 0,073	
<b>HYDROSPHERE</b>							
Recipient the Váh River					Recipient the Hron River		
Tritium	1,37.10 <sup>12</sup>		6,12.10 <sup>12</sup>	7,57.10 <sup>12</sup>	1,48.10 <sup>13</sup> / 33,8	8,66.10 <sup>12</sup> / 72,15	
Other radionuclides (except tritium)	1,04.10 <sup>8</sup>		5,92.10 <sup>7</sup>	2,63.10 <sup>7</sup>	1,89.10 <sup>8</sup> / 0,50	5,76.10 <sup>7</sup> / 5,23	
Recipient the Dudvák River					Recipient Čířarský pond		
Tritium	9,24.10 <sup>5</sup>				9,24.10 <sup>5</sup> / 0,0002		6,27.10 <sup>6</sup> / 0,03
Other radionuclides (except tritium)	3,16.10 <sup>5</sup>				3,16.10 <sup>5</sup> / 0,08		1,36.10 <sup>6</sup> / 0,47

These tables are not usable for the following reasons:

The values are averaged over 4 years, for unclear reasons 1999–2002, whereby EBO12 was closed in 2000. In general, data is almost 20 years old for no reason. Maximum real values until the present time would be more useful.

- Why are the limit values so high, when they are hardly used up to a very low percentage?

Wouldn't it make more sense to have lower limit values or were the higher values necessary in other years?

- How come that some values for EMO12 are higher than for EBO34 (tritium into the hydrosphere?) It is unclear whether EMO12 was operating more in this period or whether standstill times were taken into account, since there is no explanation for this data.
- The allowed values for EMO34 seem to be simply 50% of those established in 1997 for four units, see following table from the POSAR chapter 13.

To fulfill the above-mentioned condition (250  $\mu\text{Sv}/\text{year}$ ) the annual reference levels of discharges for activity of radionuclides in gaseous effluents and liquid releases originally have been established in 1997, prior the commissioning of NPP Mochovce [I.2]. These limits were related to the operation of all four NPP units. They were updated for operation of two units of EMO12 (limit 50  $\mu\text{Sv}/\text{year}$ ) after the start-up of EMO12 operation, last time in 2011, by the Decision of PHA SR in Bratislava No.: OOZPŽ/6773/2011 [I.3]. The original limits for four units as well as the limits for MO34 (Technical specification of safe operation [I.4], [I.5]) which are equal to the actual limits for EMO12 operation are listed in the following tables.

**Tab. 13-1 Annual reference level of the annual effluents**

Effluents from ventilation stack	Original annual reference levels for 4 NPP units from 1997	Actual annual reference levels for EMO12 and MO34	unit
Noble gases (any mixture)	$8,2 \cdot 10^{15}$	$4,1 \cdot 10^{15}$	Bq/year
Iodines ( $^{131}\text{I}$ )	$2,4 \cdot 10^{11}$	$6,7 \cdot 10^{10}$	Bq/year
Long living particulates	$3,5 \cdot 10^{11}$	$1,7 \cdot 10^{11}$ (1)	Bq/year
Short living particulates	$4,8 \cdot 10^{12}$	-	Bq/year
Strontium $^{89}\text{Sr} + ^{90}\text{Sr}$	$1,2 \cdot 10^9$	-	Bq/year
Liquid effluents into the Hron river:			
Tritium	$2,4 \cdot 10^{13}$	$1,2 \cdot 10^{13}$	Bq/year
Other radionuclides (except tritium)	$2,2 \cdot 10^9$	$1,1 \cdot 10^9$	Bq/year

(1) – The radionuclides with the half-time longer than 8 days are limited except  $^{131}\text{I}$  that is limited separately. Radionuclides with half-time shorter than 8 days are not limited.

#### 13.1.4 Evaluation of the impact of operation of EMO12 till to now to the living environment

##### 13.1.4.1 Releases of radioactive substances from EMO12 operation and their comparison with limits

The operation of EMO34 will be controlled in such a way as to not exceed the annual reference levels of releases into atmosphere and hydrosphere established by Chief Hygienist of the SR in his Decision No OOZPŽ/6773/2011 [I.3] on introduction of radioactive substances into the environment by releases through the ventilation stack and by waste water releases through pipe from the EMO site into river Hron - see chapter 13.1.1. This conclusion can be supported by up to date knowledge of radioactive substances releases into the environment of the EMO - see Tab. 13-6 and Tab. 13-7.

The comparison of these limits for NF in the Mochovce site with limits of releases from NF on the Bohunice site is in Annex 1. In Annex 2 there are assigned the values of real releases from individual NF on the site Bohunice and on the site Mochovce (averages for years 1999 to 2002) as well as the percentage expression of the real release to the limit. It is possible to observe that except liquid releases into the Hron River and the Váh River does not exceed 1% of the limit.



Also not helpful and misleading information is provided in the last sentence, when most people reading it might not understand that tritium is emitted with water and makes use of almost the entire permitted value.

As in 2018, still no information on the bilateral seminars (**condition 3.2**) was made available to the public.

Ad 11) on the **nuclear liability for accidents** according to law No. 54/2015 Coll. we would like to point out the well-known fact that the sum of 300 million euro of compensation for damages (whereby the operator Slovenské elektrárne has insurance only to a much lower amount) is several orders below what a major accident would cause in damages. For comparison, in 2014 the French IRSN (Technical Support Organisation) calculated that the costs of an accident in Europe would be around 400 billion euros<sup>2</sup>.

Information policy towards the public remains a difficult issue for both Slovenské elektrárne and UJD. What is rather astonishing, is that not even the UN or more precisely member states under the CNS (Convention on Nuclear Safety) of the UN nuclear agency receive correct information, when Slovakia reported in the 2020 ANSWERS TO QUESTIONS ON NATIONAL REPORT OF THE SLOVAK REPUBLIC<sup>3</sup> about information for the public that the Aarhus Convention's requirements are fulfilled. The Aarhus Convention Implementation Committee, however, concluded already earlier several violations; not even in the latest hearing in March 2020 the Slovak representatives hinted that changes would be envisaged.<sup>4</sup>

We listed the most important conditions of the documents (<https://www.ujd.gov.sk/ujd/www1.nsf/viewByKeyMenu/En-xx-06-08-33>) which were not fulfilled and the information not provided.

We demand that the NPP Mochovce 3 is not granted a license and not operated.

Yours sincerely

A handwritten signature in black ink, appearing to be 'R. UJD' or similar, written in a cursive style.

<sup>2</sup> [www.nucnet.org/news/nuclear-accident-in-france-could-cost-more-than-eur-400-billion-says-irsn](http://www.nucnet.org/news/nuclear-accident-in-france-could-cost-more-than-eur-400-billion-says-irsn), accessed March 27 2020

<sup>3</sup> [www.ujd.gov.sk/ujd/WebStore.nsf/viewKey/Q&Aapril2020/\\$FILE/CNS%20-%20Answers%20to%20Question%20on%20NR%20SR%202020\\_FINAL.pdf](http://www.ujd.gov.sk/ujd/WebStore.nsf/viewKey/Q&Aapril2020/$FILE/CNS%20-%20Answers%20to%20Question%20on%20NR%20SR%202020_FINAL.pdf), p. 25

<sup>4</sup> for more information: [www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppcc/implementation-of-decisions-of-the-meeting-of-the-parties-on-compliance-by-individual-parties/sixth-meeting-of-the-parties-2017/decision-vi8i-concerning-slovakia.html](http://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppcc/implementation-of-decisions-of-the-meeting-of-the-parties-on-compliance-by-individual-parties/sixth-meeting-of-the-parties-2017/decision-vi8i-concerning-slovakia.html)