

**MINUTES OF THE MEETING**  
**in the framework Transboundary Consultations**  
**based on the results of Environmental Impact Assessment**  
**of SS Zaporizhzhya NPP and South Ukraine NPP**

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Aarhus Center of the Ministry of Ecology and Natural Resources of Ukraine  
35 Mitropolita Vasylia Lypkivskogo Str., Kyiv, Ukraine

November 24, 2017

**LIST OF ATTENDEES:** the register of participants is given in Annex 1, which is an integral part hereof.

**AGENDA:**

1. Introductory speech of a representative of the Ministry of Ecology and Natural Resources of Ukraine and a representative of SE NNEGC Energoatom, introduction of moderators and a secretary of the meeting, announcement of the agenda and time limits of the event.
  2. Presentation of a representative of Zaporizhzhya NPP on the ZNPP site's EIA, presentation of the EIA report writer. Amendments and clarifications to the reports by the experts of SE NNEGC Energoatom.
  3. Presentation of a representative of South Ukraine NPP on the SUNPP site's EIA, presentation of EIA report writer. Amendments and clarifications to the presentations by the experts of SE NNEGC Energoatom.
  4. Questions of representatives of Affected Parties, answers of the presenters and discussion of the information presented by the meeting participants.
  5. Conclusions, informing of the meeting participants on the procedure of addressing remarks and proposals of the affected parties and adjournment of the meeting.
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1. **Introduction of moderators from the Ministry of Ecology and Natural Resources of Ukraine and SE NNEGC 'Energoatom', of the meeting's secretary, announcement of the agenda and time limits of the event.**

**SPEAKERS HEARD:**

**A.Tarasenko**, Deputy Director of Department for Strategy and European Integration –Head of Division of International Projects Coordination of the Ministry of Ecology and Natural Resources of Ukraine (a contact person on compliance with Espoo Convention in Ukraine), who welcomed the meeting participants and took the floor over to the representative of SE NNEGC Energoatom (hereinafter referred to as the Company).

**N.Shumkova**, Executive Director for Nuclear & Radiation Safety and Scientific & Technical Support of the Company, also welcomed the participants on behalf of the Ministry of Energy and Coal Industry of Ukraine, as well as on behalf of SE NNEGC Energoatom, she assumed responsibility to nominate the persons listed below as moderators and the secretary of the meeting, provided the other participants of the meeting have no objections:

- N.Shumkova – a moderator for the Company;
- A.Tarasenko – a moderator for the Ministry of Ecology and Natural Resources;
- D.Pyshna – a secretary for the Company.

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**N.Shumkova** also explained the aim and the procedure of the meeting in the framework of transboundary consultations, procedure of accounting the remarks and proposals of the Affected Parties. The background analytical information on ZNPP and SUNPP transboundary consultation procedure in the framework of implementation of Espoo Convention was presented. In total, 8 foreign states took part in the procedure. By June 30, 2017, the deadline specified in the notification, Ukraine received the following comments:

- from Austria and the Republic of Moldova – 1 comment from each;



- from the Slovak Republic and the Republic of Belarus – 8 comments from each;
- from Poland – 1 proposal;
- from Romania – 153 comments;
- comments from Germany had not been received by the established deadline.

In addition, it was noted that EIA reports were developed by and on the initiative of the Company and upon agreement with the Ministry of Ecology and Natural Resources. Such decision is positive practice that demonstrates openness of the Company in the areas of ecology, nuclear and radiation safety.

Based on the number of speakers and participants of the meeting in the framework of transboundary consultations, **N. Shumkova** announced the agenda and the time limits as presented in the Programme of the Meeting (which is an integral part of the Minutes –Annex 2).

**2. Presentation of the representative of SS Zaporizhzhya NPP on the ZNPP site's environmental impact assessment, presentation of the EIA report writer. Amendments and clarifications to the presentations by experts of SE NNEGC Energoatom.**

**SPEAKERS HEARD:**

**V.Ivanov**, deputy chief engineer on modernization and resources management of SE ZNPP, **N. Khudoshina**, representative of SE 'Ukrainian Scientific R&D Institute for Industrial technology' organization that developed EIA for ZNPP.

A summary of the EIA was presented along with the results of the assessment performed; the emphasis was laid on the initiative underlying the beginning of the whole ZNPP site EIA procedure. EIA's developer reported on the object of assessment, limiting conditions and scope of analysis performed. The results of the work performed revealed that tolerable limits of environmental impact were not exceeded. The results of the assessment showed that in case of NPP normal operation and design-basis accidents there would not be any impact on the neighboring countries. In addition, it was specified that the EIA report had been prepared in full compliance with requirements of the national legislation and international recommendations.

**A.Nemtsov**, Head of Section of Ecology of the Executive Directorate for Nuclear and Radiation Safety and Scientific and Technical Support of the Company, observed that Bankwatch (Romania) mentioned in its comments the problem related to the nuclear fuel management because of 'the civil war' in Ukraine and clarified that this information was erroneous. There is an anti-terror operation on the territory of Ukraine in connection with temporary occupation by the Russian Federation of the territory of Crimea and some districts (raions) of Donetsk and Luhansk regions (oblasts).

**N.Shumkova** added that the Company is ready to provide all materials that substantiate safe management of nuclear fuel at Ukrainian NPPs and that information in question is contained in the EIA. She also informed that Ukraine was preparing the National Report on spent fuel and radioactive waste management under the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management for the meeting of the Convention Parties in Austria.

**3. Presentation of the representative of SS South Ukraine NPP on the SUNPP site's environmental impact assessment, presentation of the EIA report writer. Amendments and clarifications to the presentations by experts of SE NNEGC Energoatom.**

**SPEAKERS HEARD:**

**I.Kravchenko**, Deputy Chief Engineer for Lifetime Extension, Technology and Engineering of SS South Ukraine NPP, after some comments of Romania had been discussed, presented general information on SUNPP environmental impact assessment, its positive results and summed up that operation of the NPP did not have significant impact on the natural and socio-economic environment. Besides, it was noted that for the recent 10 years the plant undergone 11 international top-professional reviews by the IAEA, WANO, etc. that showed good results.



Since major provisions of the EIA reports of ZNPP and SUNPP, as well as results of the assessment performed duplicate each other in many instances, except for some numerical indicators, it was decided to pass on to questions and comments of representatives of the Affected Parties related both to SUNPP and ZNPP EIAs.

#### 4. Questions of representatives of the Affected Parties, answers of the speakers and discussion of the information received by the meeting participants <sup>1</sup>

Out of the Affected Parties present at the meeting (Romania, Poland, Republic of Moldova) the questions were asked only by a representative of Romania - contact person on the Espoo Convention from the Romanian Ministry of Environment.

**A. Tarasenko** emphasized that the Affected Parties were provided with all scope of information as required according to the Espoo Convention.

**N. Shumkova** added that significant part of the questions received from the Affected Parties represent a subject of the other Conventions under which Ukraine met its obligations and prepared respective national reports (Convention on Nuclear Safety, Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, etc.)

Participants of the discussion agreed to include herein links to the Company's reports that contained more detailed information on specific questions of nuclear and radiation safety not covered by EIA reports but being of interest to the Affected Parties.

Item	Questions to the speakers	Answer, if given
1	Impact of NPP operation on the population density	Statistics on the birth and mortality rates was given both with reference to the town of Energodar (satellite town of ZNPP) with a positive birth rate dynamics and around Ukraine in the whole
2	Biodiversity in the area of NPP impact	Comprehensive ecological monitoring is carried out by the National Academy of Sciences of Ukraine around NPPs that covers flora, fauna, hydrobiological environment, climatology, etc., based on whose results the annual reports are produced. Specifically, as far as SUNPP is concerned, preparation of the report for the 20-years' period of NPP operation is at the final stage of preparation. According to this report all "Red Book" species of fauna and flora are preserved. In addition, in case of potential negative impact recreational development is carried out in the NPP location.
3	Questions related to radiation monitoring, nuclear accidents, aircraft crash, spent fuel and radioactive waste management	In addition to the answers that have been earlier presented in writing, there are given references to the reports that provide detailed answers to those questions: <b>Zaporizhzhya NPP:</b> PSR report – Safety Factor #14 – Environmental impact of ZNPP Units 1 and 2 operation: <a href="http://www.npp.zp.ua/Content/docs/prolong/oppb-factor-14-01.pdf">http://www.npp.zp.ua/Content/docs/prolong/oppb-factor-14-01.pdf</a> PSR report – Safety Factor #14 – Environmental impact of ZNPP Units 3 and 4 operation: <a href="http://www.npp.zp.ua/Content/docs/prolong/sf14-psr-bl34-20170717.pdf">http://www.npp.zp.ua/Content/docs/prolong/sf14-psr-bl34-20170717.pdf</a> Comprehensive safety analysis of ZNPP Unit 1 (Rev. dd. 03.08.2016): <a href="http://www.npp.zp.ua/Content/docs/prolong/kab-znpp-1-160803.pdf">http://www.npp.zp.ua/Content/docs/prolong/kab-znpp-1-160803.pdf</a> Comprehensive safety analysis of ZNPP Unit 2: <a href="http://www.npp.zp.ua/Content/docs/prolong/kab-znpp-2-160818.pdf">http://www.npp.zp.ua/Content/docs/prolong/kab-znpp-2-160818.pdf</a> Comprehensive safety analysis of ZNPP Unit 3: <a href="http://www.npp.zp.ua/Content/docs/prolong/kab-znpp-3-170926-2.pdf">http://www.npp.zp.ua/Content/docs/prolong/kab-znpp-3-170926-2.pdf</a> (Rev. dd. 26.09.17)

<sup>1</sup> answers to some of the questions of the meeting participants have already been provided in writing (they were sent to the Ministry of Ecology and Natural Resources by letters #11483/18 of 17.08.2017 and #14884/18 of 27.10.2017).



Item	Questions to the speakers	Answer, if given
		<p>Report on environmental audit of SUNPP site:  <a href="http://www.npp.zp.ua/Content/docs/prolong/Zvit%20pro%20ekoaudit_VP%20ZAES.pdf">http://www.npp.zp.ua/Content/docs/prolong/Zvit%20pro%20ekoaudit_VP%20ZAES.pdf</a></p> <p>Radiation situation of ZNPP: <a href="http://www.npp.zp.ua/Home/Ascro">http://www.npp.zp.ua/Home/Ascro</a></p> <p><b>South Ukraine NPP</b>  Comprehensive safety analysis of SUNPP Unit1:  <a href="https://www.sunpp.mk.ua/sites/default/files/life-time-extention-docs/kompleksnyy_analiz_bezopasnosti.pdf">https://www.sunpp.mk.ua/sites/default/files/life-time-extention-docs/kompleksnyy_analiz_bezopasnosti.pdf</a>  PSR report of SUNPP Unit 1:  <a href="https://www.sunpp.mk.ua/sites/default/files/life-time-extention-docs/sostav_oppb_yuuaes-1.pdf">https://www.sunpp.mk.ua/sites/default/files/life-time-extention-docs/sostav_oppb_yuuaes-1.pdf</a>  Safety Factor #14 Report. Environmental impact of NPP operation::  <a href="https://www.sunpp.mk.ua/sites/default/files/life-time-extention-docs/otchet_fb-14_vozdeystvie_ekspluatacii_aes_na_okruzhayushchuyu_sredu_0.pdf">https://www.sunpp.mk.ua/sites/default/files/life-time-extention-docs/otchet_fb-14_vozdeystvie_ekspluatacii_aes_na_okruzhayushchuyu_sredu_0.pdf</a>  Comprehensive safety analysis of. SUNPP Unit2:  <a href="https://www.sunpp.mk.ua/sites/default/files/life-time-extention-docs/kompleksnyy_analiz_bezopasnosti_yuuaes_2_napravlen_v_giyaru_na_so_glasovanie.pdf">https://www.sunpp.mk.ua/sites/default/files/life-time-extention-docs/kompleksnyy_analiz_bezopasnosti_yuuaes_2_napravlen_v_giyaru_na_so_glasovanie.pdf</a>  PSR Report. Factor #14. Environmental impact of SUNPP operation: operation  <a href="https://www.sunpp.mk.ua/sites/default/files/documents/fb-14_vliyanie_yuuaes_2_na_okruzhayushchuyu_sredu_soglasovan_v_giyaru_1.pdf">https://www.sunpp.mk.ua/sites/default/files/documents/fb-14_vliyanie_yuuaes_2_na_okruzhayushchuyu_sredu_soglasovan_v_giyaru_1.pdf</a>  Radiation situation at SUNPP:  <a href="https://www.sunpp.mk.ua/ru/activities/radiation">https://www.sunpp.mk.ua/ru/activities/radiation</a></p>
4	<p>Impact on air medium in case of radiation accident</p> <p>Is possible to receive information on radiation monitoring on a regular basis?</p>	<p>The information is contained in a separate annual report of the Company on radiation factor impact assessment. In addition to that an independent assessment of such impact is performed by the National Academy of Sciences of Ukraine.</p> <p>In 2016 Ukraine joined EURdep project in which all European states participate. The project represents a platform for real time radiological data exchange.</p> <p>Real time radiation situation at:  ZNPP: <a href="http://www.npp.zp.ua/Home/Ascro">http://www.npp.zp.ua/Home/Ascro</a>  SUNPP: <a href="https://www.sunpp.mk.ua/ru/activities/radiation">https://www.sunpp.mk.ua/ru/activities/radiation</a></p>

In total, there were 9 questions asked by the parties during consultations that received qualified answers.

##### 5. Conclusions, informing of the meeting participants on the procedure of addressing remarks and proposals of the affected parties and adjournment of the meeting.

SPEAKERS HEARD:

A.Nemtsov informed on the coming meeting (27-29.11.2017) in Luxembourg of the special group established based on the results of the Seventh Meeting of the Espoo Convention Parties with the aim to develop recommendations on implementation of the Convention to nuclear power facilities. This group includes both representatives of the countries operating NPPs and of the environmental protection organizations.



**N.Shumkova** informed representatives of the Affected Parties on participation of the public in decision-making process related to long-term operation of NPPs in Ukraine, and invited, upon support of the Ministry of Ecology and Natural Resources, the participants of transboundary consultations, who are interested, to visit sites of Ukrainian NPPs.

In conclusion, positive effect of the work carried out in the framework of transboundary procedure on systematization of the Company's activity in public relations was emphasized.

Taking into account openness and detailed answers of SE NNEGC 'Energoatom' to the comments of the parties the consultations at considered as been conducted and effective.

While closing the meeting **N.Shumkova** and **A. Tarasenko**, the moderators of the meeting, thanked the representatives of the Affected Parties for participation and personal presence at the transboundary consultations.

The Annexes to the Minutes are as follows:

1. Register of participants is an integral annex hereto – on 2 pages.
2. Programme of the Meeting – on 5 pages.

**For Ministry of Ecology and  
Natural Resources of Ukraine**

**A.Tarasenko**

**For SE NNEGC Energoatom**

**N.Shumkova**