



ENVIRONMENTAL IMPACT ASSESSMENT REPORT

for Investment Proposal:

**BUILDING A NEW NUCLEAR UNIT OF THE LATEST
GENERATION AT THE KOZLODUY NPP SITE**

**CHAPTER 10: POSITION AND OPINIONS OF THE AFFECTED
COMMUNITY, THE COMPETENT DECISION-MAKING
AUTHORITIES ON THE EIA OR OFFICIALS AUTHORIZED BY
THEM, AND OTHER SPECIALIZED ADMINISTRATIVE BODIES
AND STATES CONCERNED IN A TRANSBOUNDARY CONTEXT,
AS A RESULT OF CONSULTATIONS**

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10 POSITION AND OPINIONS OF THE AFFECTED COMMUNITY, THE COMPETENT DECISION-MAKING AUTHORITIES ON THE EIA OR OFFICIALS AUTHORIZED BY THEM, AND OTHER SPECIALIZED ADMINISTRATIVE BODIES AND STATES CONCERNED IN A TRANSBOUNDARY CONTEXT, AS A RESULT OF CONSULTATIONS

No.	Conducted consultations (municipality, administration, control bodies, other)	Description of positions/recommendations/notes made	Accepted/ Rejected	Motivation
1.	Water Supply and Sewerage OOD, town of Vratsa Letter outgoing No. 264 of 04.04.2013 Angel Prestoyski, Managing Director	<p>Aiming to achieve better accuracy and reliability of the information, some minor amendments have to be made in the Terms of Reference on the scope and content of EIAR, part 1.2.2.2, Drinking water supply for the Kozloduy NPP site, namely:</p> <ul style="list-style-type: none"> ✓ The Raney collector wells are used to supply water not only to NPP Kozloduy, but the town of Kozloduy and the villages of Glozhene and Khurlets; ✓ A pump station draws out the water to the reservoir for Kozloduy NPP with capacity: $V = 2 \times 2000 \text{ m}^3$; ✓ The length of the ascension water pipe from the Pump Station to the reservoir is 0.5 km. <p>We support our position expressed in a letter, outgoing No.53/22.01.2012 and APPROVE the proposed Terms of Reference on the scope and content of EIAR.</p>	Accepted	Reflected in EIAR
2.	RAW SE outgoing No. П-06-00-533 of 05.04.2013 Dilyan Petrov, Executive Director	<p>Regarding your letter, outgoing No. 276/27.03.2013, requesting comments on the Terms of Reference on the scope and content of EIAR of the Investment Proposal for building a new nuclear unit at the Kozloduy NPP site, hereby we express the opinion, as follows:</p> <ol style="list-style-type: none"> 1. The Terms of Reference has been prepared in compliance with the regulatory requirements and is in line with Art. 10, para 3 of the EIA 		

	<p>Regulation.</p> <ol style="list-style-type: none"> 2. The size of the paper is huge, with a lot of descriptions, data, conclusions and repeated information, which is not very reasonable for this type of document. 3. It has to be mentioned in the Terms of Reference that the EIA Report must comply with Art. 14, para 1, item 5 – Plan for implementation of the measures focused on preventing, reducing or eliminating, where possible, significant adverse impacts on the environment, which has to be developed in tabular form, by virtue of Appendix No. 2a of the EIA Regulation. 4. In addition, the suggested alternatives for the choice of a particular site option and technology must be assessed and compared in compliance with Art. 96, para 1, item 2 of the Environmental Protection Act. 5. There are many terminological and other inconsistencies in the text of the Terms of Reference. 6. The document does not contain any conclusions about the impacts on the environmental components and factors, which are mandatory for the EIA Report. 7. It is not suitable to refer to the EIAR of the investment proposal for decommissioning units 1÷4 of NPP Kozloduy EAD (Appendix 3), as the quality of the report has not been approved yet by the Ministry of Environment and Water so as to allow using it for the purpose of input data in the Terms of Reference for the scope and content. <p>In my opinion, the recommendations we have made will contribute to improving the quality of the Terms of Reference, and subsequently of the EIA Report and the Appropriate Assessment Report of the investment proposal.</p>	<p>Rejected</p> <p>Rejected</p> <p>Rejected</p> <p>Accepted</p> <p>Rejected</p> <p>Accepted</p>	<p>The nature of the project requires a more sizeable Terms of Reference</p> <p>Plan for the measures is written in EIAR after completing the assessment on the environmental components and factors by the experts</p> <p>That is an issue to be discussed in EIAR itself</p> <p>These inconsistencies will be refined in the updated Terms of Reference as an integral part of the EIAR, enclosed as an appendix</p> <p>This subject matter is a concern of EIAR after completing the assessment on the environmental components and factors by the experts</p> <p>The reference has been removed</p>
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<p>3.</p>	<p>Ministry of Environment and Water, outgoing No. 26-00-1035/09.04.2013</p>	<p>The Terms of Reference has been developed in compliance with the environmental regulatory requirements and with the instructions given by MOEW in a letter, outgoing No. OBOC-220/09.01.2013. In this respect, we hereby confirm that the recommendations made in the aforementioned letter are still valid as regards conducting consultations on the Terms of Reference with other specialized administrations and affected communities.</p> <p>With reference to the aforesaid, and in view of the willingness to participate in the EIA procedure in transboundary context expressed by Romania and Austria's request for notification, we expect to have the consulted Terms of Reference on EIA's scope and content translated into English. Furthermore, it should be sent to Romania as an affected country and to Austria as an interested country pursuant to the Convention for EIA in transboundary context.</p> <p>In case Romania issues an opinion containing additional notes and/or recommendations about the Terms of Reference on the scope and content of the assessment, then these have to be included in the final version of the EIA Terms of Reference and be further discussed and agreed in the development of the EIA Report.</p> <p>Provided you have taken into account and completed the foregoing, hereby we would like to inform you that the next steps you have to undertake in relation to the EIA procedure, are as follows:</p> <ol style="list-style-type: none"> 1. Award a contract for developing EIA to a team of experts headed by a team leader; the team members and the team leader must hold a Master's degree and satisfy the requirements of Art. 83 of the Environmental Protection Act and Art. 11, para 3 et seq. of the Regulation for EIA. The development of EIAR must be in compliance with the consulted Terms of Reference under Art. 10, para 3 of the Regulation for EIA and with the requirements stipulated in Art. 96, para 1 of the Environmental Protection Act. 2. The Environmental Impact Assessment Report should be presented as an integral document in accordance with the provisions of Art. 12 of the Regulation for EIA. 3. The prepared EIAR with all its enclosures and appendices, including 	<p>Accepted</p>	<p>The EIAR has taken into consideration the recommendations made in items 1, 2 and 3 of the letter.</p>
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		the Appropriate Assessment, have to be submitted to MOEW for quality assessment pursuant to the provision of Art. 13 of the Regulation for EIA.		
4.	Regional Health Inspectorate - Vratsa, outgoing No. КД-04-846/05.04.2013, Dr Aneta Stavrova, Director	<p>The submitted draft of the Terms of Reference on the scope and content of EIAR incorporates the necessary amendments and adjustments in line with the recommendations made by the Regional Health Inspectorate – Vratsa in a letter with outgoing No. КД-04-3513/09.01.2013, concerning the content of the initially submitted draft in the part concerning the health and hygiene environmental aspects and risks for human health. Separate sections have been outlined focusing on the analysis and assessment of the health and hygiene environmental aspects and risks for human health during construction, operation, in the event of accidents, and in the decommissioning period.</p> <p>Based on the above, the Regional Health Inspectorate – Vratsa hereby gives a positive assessment of the submitted draft Terms of reference on the scope and content of EIAR of the investment proposal for building a new nuclear unit of the latest generation at the Kozloduy NPP site.</p>	Accepted	No comment
5.	Bulgarian Energy Holding, outgoing No.01-0913/1 of 09.04.2013, Mihail Andonov, Executive Director	<ol style="list-style-type: none"> 1. Regarding the scope of the submitted Terms of Reference on the scope of EIAR, we find it to be in compliance with the procedures for the development of EIA; 2. Item 2.3.2. – description of A-2 of the Terms of Reference - specifies that only two options of nuclear reactors will be assessed (AP-1000 and AES 2006). As the documents contains a table featuring all currently available reactors of III and III+ generation, a total number of six, we consider it reasonable to discuss and assess all the reactors presented therein from the point of view of their environmental impact. Considering all types of reactor systems will allow comparing the reactors’ parameters and thus expanding the basis for selection of the most appropriate technology with respect to environmental impacts. Moreover, in this way certain speculative judgments that one technology is favoured at the expense of another will be definitely avoided. 	Partially accepted	Different options of facilities and equipment using the same core technology (Pressurised Water Reactor PWR) are the subject of the assessment. In Chapter 2, Alternatives, an amendment was added in view of the requirements under this particular consultation.
6.	Ministry of Economy and Energy, outgoing No.26-A-120/09.04.2013,	<ol style="list-style-type: none"> 1. It should be specified on page 27 that units 1÷4 have been qualified as facilities for radioactive waste management and are owned by the state-owned enterprise RAW. 	Accepted	The Terms of Reference has reflected all the recommendations, except for item 12, in view of the fact that: the considered types of reactors must meet the safety

**Dimitar Kuyumdzhev,
Director, Security of
Public Supply**

2. We suggest the following rewording of the text on Page 29, last paragraph: “Units 1÷4 were handed over to the state-owned enterprise RAW and are managed through the following divisions: Specialised Division Decommissioning and Specialised Division RAW Management – units 3 and 4”.
3. Page 30, item 1.2.1.5, Dry Spent Fuel Storage Facility: The technology does not consist in but rather employs air-cooling storage tanks based on natural ventilation.
4. On page 31, in the description of other facilities and equipment owned by the state-owned enterprise RAW, in item 1, second paragraph, it should be detailed that the basic fitting unit for conditioning and packaging RAW is a reinforced concrete container, not just concrete. In the next paragraph we believe it is better to specify the full name of the storage facility and put the abbreviation in brackets.
5. On page 32, item 3, the national storage facility for low and intermediate level short-lived radioactive waste does not have a specific name, and is located at the Radiana site.
6. On page 47, in the paragraph discussing the growing import energy dependency, it should be taken into account that nuclear fuel is considered as a local resource (which is also mentioned in the last paragraph of item 2 of the document). We recommend to specify separately that the fuel and raw materials prices are comparatively stable, and also mention that fuel supply is planned to be accomplished once a year.
7. On page 58: We would like to emphasize the difference between nuclear waste and radioactive waste, and our recommendation is to specify that the question here is about radioactive waste resulting from NNU operation. In the last paragraph on the same page a mistaken impression is given about the choice of a site option for the new nuclear unit. There is still no official ordinance approving the site.

criteria set down in the Bulgarian regulations, in IAEA documents and in the European Utility Requirements (EUR) for LWR Nuclear Power Plants
The choice of reactors of the WWER/PWR type is determined by the following factors:

In reviewing the requirements set down in the Terms of Reference for the technical-economic analysis (feasibility study), and the types of reactors available on the market, it can be seen that several types of reactors satisfy the standards.

The Terms of Reference on the scope and content of the Environmental Impact Assessment Report of the Investment proposal for building a new nuclear unit of the latest generation at the Kozloduy NPP site will examine the following two types of reactors as illustrative examples:

- AES-2006;
- AP-1000.

The AES-2006 reactor of Atomstroyexport is an evolution of the AES-91/92 project, which was developed for NPP Belene as well. The AES-92 project has undergone a conformity assessment to EUR specifications. Currently, AES-2006 is developed in Leningrad, Novovoronezh and Kaliningrad.

The Westinghouse AP-1000 has undergone a conformity assessment to EUR specifications and has a NRC license.

8. On page 61, in the section entitled „Areas necessary during decommissioning”, it is not clear on what grounds it is concluded that additional areas on a permanent or temporary basis will not be needed during the NNU decommissioning period. It remains unclear where and how dismantled equipment will be temporarily stored.
 9. On page 79 please specify the name of EURATOM Supply Agency.
 10. On page 80 the following text must be reworded: „the operator is obliged to deposit contributions for the management of spent nuclear fuel into a separate account “Spent nuclear fuel” of the Decommissioning fund”. The fund “Decommissioning of nuclear facilities” does not support a separate account. When spent fuel is not planned to be transported in a certain year, NPP Kozloduy should pay in the equivalent amounts into a designated account, which will be used later where spent fuel has to be transported.
 11. We recommend clarifying the text of the first paragraph on page 109.
 12. On page 113, right after the figure, the authors propose to discuss only two types of reactors for the purposes of EIAR. We recommend drawing on NPP Paks experience, which has recently presented its EIA Terms of Reference to the interested parties. It plans to consider the impact of all six types of reactors. The feasibility study has recommended a pressurized water reactor not only because 80% of the reactors in operation are of this type, but also in view of the fact there is an extensive professional expertise gained in the construction and management of NPP Paks. It is expected to make the choice between the following pressurized water reactors: AP1000, Toshiba-Westinghouse (Japan-USA); MIII200, Atomstroyexport (Russia); ATMEA1, AREVA-Mitsubishi (France-Japan); EPR, AREVA (France) and APR, KEPCO (South Korea).
- We believe this will allow having a largely representative picture of the potential impacts thus enabling a much better informed choice of technology.
1. On page 126, regarding the final disposal of spent nuclear fuel, it

At present it is being constructed in China (4 units to be commissioned by 2015) and in the USA (14 units have received a combined license for construction and operation by NRC). These technical solutions are actually options of the investment proposal for which the environmental impact assessment has been done. The requirements as regards the environment and safety issues are similar for all types of reactors and their impacts have been assessed for their potential maximum values. For the purposes of the EIAR, the so-called conservative approach has been chosen, and the assessment always takes into account the values that are less favourable in terms of environmental effects.

should be taken into account that the Yucca Mountain project for spent nuclear fuel facility in the USA has been suspended yet again.

2. On page 166, regarding the sewerage network for technical water supply to NPP Kozloduy in emergency mode of operation, it should be taken into account that in 2012, following an analysis made based on a recommendation from the Nuclear Regulatory Agency, it was found that it is technically unreasonable to use water from the Shishmanov Val Dam. In the Performance Status Report of the „Program for implementation of recommendations following the stress-tests for the nuclear facilities of NPP Kozloduy“, N9 12.ДП.ОТЧ.183 for Measure C-2-1: Make an assessment on the status, efficiency and availability of water supply from Shishmanov Val Dam, it was reported that a tour and inspection of the dam was conducted. The results were duly described, photodocumented and discussed at a technical council meeting. The conclusion was that the facilities and equipment are not in a condition to allow using the dam as an emergency water source. It is recommended not to include the option of using the dam as an emergency water source in the emergency plans due to unavailability.
3. On page 296, item 3.11.3, „Models and software for the assessment of radiobiological effects and radiation risk " for a reference individual and for assessing the doses for the population resulting from the release of liquid and gaseous radioactive emissions in the environment, we consider it reasonable to use the Early Warning System in case of major nuclear accident – depositions and dose uptake, developed by the National Institute of Meteorology and Hydrology of the Bulgarian Academy of Sciences.
4. On page 328, the text after the table: we would like to note that the Terms of Reference was drafted in 2013 and to date the classification of the Fukushima accident should be more clearly identified. We think the expression “up to now” followed by referring to data from 2011 is inappropriate.
5. On page 330 regarding the update of the Emergency Plan of NPP

		<p>Kozloduy, we think the text has to be reworded. The Contractor has to evaluate to what extent the Emergency Plan should be updated in view of building a new nuclear unit.</p> <p>6. On page 340 regarding the results from the implementation of the automated information system for radiation monitoring of the settlement areas within the 30-kilometer zone around the NPP, we think it is a good idea to provide results about places and localities beyond this zone, and include data for 2012 where possible.</p> <p>7. On page 351, Table 1.1-1 „Major features of the six units”, please take into account that our country has clearly stated its priority to extend the life limit of units 5 and 6. Moreover, considering that NPP Kozloduy has started an audit and will put forward relevant measures for extending the life limit in 2013, we suggest to split the last column in two: “life limit” and “decommissioning date for units 4, 5 and 6”, by specifying N/A for units 5 and 6.</p> <p>8. On page 359 regarding the capacities to be constructed at the Kozloduy NPP site, we would like to note that the RAW National Storage Facility is not located exactly at the Kozloduy NPP site, and the new nuclear unit is planned to be constructed at a new site (one of the four considered). It should be clarified what exactly is meant by “NPP site”.</p> <p>9. On page 376, after the text about Romania’s participation in the discussions, we recommend to mention in the text that Austria has also expressed its intention to participate in the discussions of EIA.</p> <p>In conclusion, the Security of Public Supply Department has a favourable opinion affirming that the Terms of Reference on the scope and content of the Environmental Impact Assessment Report has been developed in compliance with the requirements of the Bulgarian legislation and hereby agrees on the text with the recommendations and notes made herein.</p>		
7.	Regional Inspectorate of Environment and Water - Vratsa, outgoing No.B-	1. The Terms of Reference is in compliance with the Regulation for EIA and the Environmental Protection Act stipulating the EIAR scope and content;	Accepted	The recommendations have been taken into account.

	<p>825/10.04.2013, Hristo Hristov, dipl. eng., Director, Prevention and Control</p>	<p>2. The Terms of Reference has reflected the recommendations (which will be mirrored in EIAR) made in the letter of the inspectorate, outgoing No.B-2975/10.01.2013 (in view of the consultations conducted under Art. 10, para 3 of the EIA Regulation);</p> <p>3. The Appropriate Assessment Report is planned to be enclosed as an appendix to EIAR.</p>		
<p>8.</p>	<p>Municipality of Kozloduy, reg. index 7300-28/1/11.04.2013, Rumen Manoev, Mayor</p>	<p>1. Specify annual and monthly limit values of gaseous and aerosol releases from the ventilation pipes for radioactive noble gas, and of iodine-131 and long-lived aerosols releases;</p> <p>2. Carefully consider the requirements of Regulation No.5/15.04.2003 for preventing environmental pollution with asbestos during construction;</p> <p>3. Introduce mandatory radiation control of all non-radioactive waste leaving the NPP territory;</p> <p>4. During construction, set up adequate organization for the control over storage facilities for materials and over the technical safety of machinery so as to prevent accidental fuel and lubricating oil spillage.</p>	<p>Partially accepted</p>	<p>The specification of annual and monthly limit values of gaseous and aerosol releases from the ventilation pipes for radioactive noble gas, and of iodine-131 and long-lived aerosols releases does not fall within the competence of the team developing EIA.</p>
<p>9.</p>	<p>Danube Region Water Management Basin Directorate, based in Pleven, outgoing No.3804/12.04.2013, Rumen Penkov, Director, WMBD</p>	<p>The Directorate hereby expresses its positive opinion on the Terms of Reference submitted. All the recommendations made by the Danube Region Water Management Basin Directorate regarding the Terms of Reference on the scope and content of EIAR of the Investment Proposal for building a new nuclear unit of the latest generation at the Kozloduy NPP site have been taken into consideration (our letter with outgoing No. 3804/08.01.2013).</p>	<p>Accepted</p>	<p>No comment</p>
<p>10.</p>	<p>NPP Kozloduy EAD, outgoing No.3145 of 18 April 2013, Valentin Nikolov, Executive Director</p>	<p>1. The Terms of Reference submitted is in compliance with the basic requirements of Art. 10 of the Regulation on the terms and conditions for conducting environmental impact assessments. The instructions and recommendations we made in our letter, outgoing No.РиМ-98/14.01.2013, at the stage of prior consultations were duly observed.</p>	<p>Accepted</p>	<p>Reflected in EIAR</p>

		<p>2. For the sake of greater precision of the information in the document, it is advisable to eliminate the following inaccuracies:</p> <p>2.1 Figure1.2-1 does not represent a master plan of Kozloduy NPP, but is a sampling scheme for the purposes of radio ecological monitoring of the industrial site. The schematic representation of the site facilities and equipment on the Master Plan accompanied by a description were sent to you by our letter, No.992/05.02.2013, DVD 1, folder 11.</p> <p>2.2. From the point of view of emergency preparedness, in listing the settlements in the Urgent protective action planning zone – Zone No. 3, with relative radius of 30 km around Kozloduy NPP EAD, the following details have not been included:</p> <ul style="list-style-type: none"> – in 1.3. Special status zones around NPP Kozloduy – the municipalities of Boychinovtsi, Krivodol and Borovan; – in 3.5.1. Existing situation - municipality of Krivodol; – on page 231 Forest landscape – municipality of Krivodol; – in 3.10.2. Impact estimate – the municipalities of Boychinovtsi, Krivodol and Borovan. <p>43 towns and villages numbering a total of 71321 inhabitants fall into the Urgent protective action planning zone.</p> <p>3. In addition, enclosed please find the positions and opinions of experts from Kozloduy NPP which should be considered in drafting the next version of the Terms of Reference on the scope and content of EIAR.</p> <p>Recognizing the importance of the Terms of Reference on the scope and content of EIA of the Investment Proposal for building a new nuclear unit of the latest generation at the Kozloduy NPP site, we believe that acknowledging our remarks would definitely improve the quality of the document and, consequently, of EIAR itself.</p> <p>Position No.HM-34/10.04.2013 of the New Capacities Division; Position No.YHM-23/10.04.2013 of the Safety and Quality Directorate; Position No.XTC-CT-44/15.03.2013 of the Generation Directorate; Position No.13.YOC.CT.212 of the Safety and Quality Directorate; Position No.Y(B) 299/08.04.2013 of the Safety and Quality Directorate</p>	<p>Rejected</p>	<p>The Environmental Impact Assessment Report draws on the figures about the population number within the 30-kilometer zone based on the last census of 2011.</p>
<p>11.</p>	<p>Executive Environment</p>	<p>1. Regarding the radiation aspect of impact, the suggestions and</p>	<p>Accepted</p>	<p>Reflected in EIAR</p>

	<p>Agency, outgoing No.26-00-8/18.04.2013, Vania Grigorova, Executive Director</p>	<p>recommendations made on EIAR scope and content have been accepted and reflected in the Terms of Reference. We also advise to use updated data from various sources in conducting the impact assessments.</p> <p>2. Regarding biological diversity:</p> <p>3.6.1.1 Flora. Some of the species are protected plants, their management and usage are settled by the Medicinal Plants Act. The impact of the investment proposal on the state and development of medicinal plants has to be assessed.</p> <p>3.6.3 Protected areas. There are another two protected areas within the 30-kilometer zone – the protected area of Daneva mogila and the protected area Isle of Tsibar. The impact of the investment proposal on the protected areas, Daneva mogila and Isle of Tsibar, should be also assessed.</p> <p>3.6.4 NATURA 2000 zones. Yet another protected area falls within the 30-kilometer zone – Zlatia BG0000336, designated under the Directive on the conservation of natural habitats and of wild fauna and flora. The protected area Zlatia BG0000336, designated under the Directive on the conservation of natural habitats and of wild fauna and flora, should be added in Table 3.6-1. Note that this area is different from the protected area Zlatia BG0002009, designated under the Directive on the conservation of wild birds.</p> <p>The investment proposal is to be subject to an assessment with regard to its compatibility with the aims and purposes of the conservation of protected areas within the 30-kilometer zone.</p>		
<p>12.</p>	<p>Chief Directorate Fire Safety and Civil Protection, No.ΠΟ-31414/18.04.2013, Nikolay Nikolov, Director</p>	<p>Regarding the draft Terms of Reference submitted for consultation, we found that item 4.2 has been added, intended to make an assessment of potential impacts and develop a special matrix for assessing the different types of releases, the type and perimeter of pollution, and the type of impact, including on the population. This information is sufficient for the development of the emergency plan and the disaster response plans. The Chief Directorate Fire Safety and Civil Protection does have any remarks</p>	<p>Accepted</p>	<p>No comment</p>

		or suggestions on the scope and content of the Terms of Reference.		
13.	Ministry of Interior, No.I-10057, copy 1 of 23.04.2013, Dimitar Georgiev, Deputy Minister	In the course of prior consultations on the Terms of Reference, the Chief Directorate Fire Safety and Civil Protection of the Ministry of Interior has submitted its recommendations concerning the addition of a new section featuring analysis on the emergency planning of the new nuclear unit. The draft Terms of Reference, enclosed to your letter, clearly indicates that these recommendations have been taken into consideration. The Ministry of Interior does not have any other comments and recommendations.	Accepted	No comment
14.	NEC EAD, outgoing No.73-01-55/26.04.2013, Krum Atanasov, Executive Director	<p>After reviewing the documents enclosed to your letter, the following general comments and remarks can be made:</p> <ol style="list-style-type: none"> 1. The remarks made by NEC EAD (our letter, outgoing No. 73-01-7/16.01.2013) have not been taken into account, and the concrete information about the investment proposal needed to make an assessment is lacking. 2. In that connection, it is necessary to do the following: <ul style="list-style-type: none"> ✓ Provide actual information required within the meaning of the Convention on Environmental Impact Assessment in a Transboundary Context; ✓ Provide tangible information at the earliest possible stage in view of Chapter II, Art. 4, para 3 of the Regulation on the terms and conditions for conducting environmental impact assessments; ✓ Pursuant to Art. 93, para 2 of the Environmental Protection Act, to identify the need to conduct EIA is mandatory for investment proposals included in Appendix 1 of Art. 92 of the Environmental Protection Act, and pursuant to Art. 93, para 4 of the Environmental Protection Act, the submission of the information listed below is mandatory: <ul style="list-style-type: none"> • data about the Client; • executive summary of the proposal, including description of major processes, capacity, total area used; • specify whether the investment proposal is independent or intends to expand existing operations; 	Accepted	The comments and remarks of NEC concern some procedural steps that are mandatory pursuant to the provisions of EIA regulatory documents, together with the transboundary context aspect. As of the current stage of the EIA procedure for this investment proposal, all procedural requirements have been fully satisfied.

- need of other additional and/or supporting activities, equipment and facilities related to the main line of operation;
- relation to other activities within the impact scope of the investment proposal, either existing or approved by virtue of a zoning or other plan;
- location of the site – town or village, municipality, district, land plot, ownership status, proximity to or infringement of protected areas, expected transboundary impact, scheme of new road infrastructure or need to change the existing road infrastructure;
- Natural resources that need to be used during construction and operation;
- waste expected to be generated and treatment options;
- specific features of the construction, operations and technology: volume, efficiency, dimensions, relationship and cumulation with other proposals, use of natural resources, generated waste, pollution and discomfort of the environment, as well as risk of accidents;
- location issues, including sensitivity of the environment, existing land use status, relative availability of suitable areas, quality and regenerative potential of natural resources in the region;
- capacity of the ecosystem for assimilation into the natural environment with respect to the following:
 - * areas and habitats protected by law;
 - * mountain and forest areas;
 - * wetlands and coastal areas;
 - * areas where the environmental quality standards have been infringed;
 - * strongly urbanized areas;
 - * protected areas of single and group cultural heritage designated by virtue of the Cultural Heritage Act;
 - * areas and/or zones and sites with specific sanitary status or subject to health protection;
- features of potential impacts – territorial scope, affected communities, including transboundary impact, nature, size, complexity, probability, duration, frequency and reversibility;
- public interest to the construction proposal, operations and

- technologies.
- ✓ Satisfy the provisions of Chapter II, Art. 9, para 1 through 13 of Regulation No. 4 on the scope and content of investment projects of 21.05.2001;
 - ✓ Describe the electrical part of NPP in connection with Regulation No. 4 on the scope and content of investment projects of 21.05.2001 and Art. 2, para 1, item 1 of Regulation No. 6 on the connection of electric energy producers and users to the electrical transmission and distribution grid of 9.06.2004;
 - ✓ Describe the infrastructure of the proposed alternative sites in accordance with the Regulation on the terms and conditions on conducting environmental impact assessments (Title amended SG, No. 3, 2006);
 - ✓ Satisfy the provisions of the Rules for electrical power systems management, developed and promulgated by virtue of Art. 21, para 1, item 7 of the Energy Law by the Chairman of the State Energy and Water Regulatory Commission, Appendix to item 1 of Decision No. П-5 of 18.06.2007, SG, No. 68 of 21.08.2007;
 - ✓ Satisfy the provisions of all acting and applicable regulatory documents in the Republic of Bulgaria, the directives of the European Commission, the international conventions to which the Republic of Bulgaria has become party, as well as the requirements in the field of nuclear energy of IAEA. All these have to be mentioned in the Terms of Reference as a list, specifying the relevant Bulgarian and international codes and standards pertinent to the use of nuclear energy. In addition, set the requirement to analyze the compatibility of the investment proposal to all the above-mentioned documents;
 - ✓ Provide references to the official domestic and foreign information sources used in preparing the Terms of Reference.
3. The baseline input data for the preparation of EIAR have to be explicitly and clearly defined in the Terms of Reference, namely:
- ✓ Number of nuclear facilities at the site (“one or two units”)
 - ✓ Electrical and thermal output („installed electrical power of about 1200 MW).

The detailed and explicit specification of this subject matter in the Terms of Reference is essential in order to be able to properly identify the quantitative characteristics of the sources of risk and make a viable

estimate on the importance of expected environmental impacts resulting from the activities and operations causing them.

4. The submitted Terms of Reference for EIA includes a description of the Kozloduy NPP site and the existing infrastructure in the immediate vicinity of the areas designated for the construction of a new nuclear unit. The features of the actual sites and ground identified as suitable for building a new nuclear unit by NPP-New Builds EAD should be outlined by demonstrating their compliance with the requirements laid down in Chapter III of the Regulation on ensuring the safety of nuclear facilities, as well as the general framework of the infrastructure to be built at these sites. The terrains No.No.1, 2 and 3 shown on Figure 1.6-1 fall outside the boundaries of the site approved and operated by NPP Kozloduy EAD (according to Figure 1.2-1) and are actually separate and independent potential sites that have to be approved by the Bulgarian Nuclear Regulatory Agency after satisfying the requirements of the Act on the Safe Use of Nuclear Energy, the Regulation on Ensuring the Safety of Nuclear Facilities, Regulation for the Procedure for Issuing Licenses and Permits for Safe Use of Nuclear Energy, the Law on Territory Planning and Regulation No. 4 on the scope and content of investment projects. Only terrain No.4 falls within the boundaries of the approved existing site of the Kozloduy NPP, but pursuant to the acting Bulgarian legislation it has to undergo a license procedure for issuing a separate authorization to specify the location of the nuclear unit (choice of site) and having a subsequent order of approval of the site chosen provided all the legal requirements are observed.
5. The Terms of Reference should specify the individual features for each of the terrains identified as suitable for building a new nuclear unit, and accordingly assess their environmental impact throughout the lifecycle of the power plant. In developing the EIAR, all estimates and projections have to be based on accumulated quantitative and qualitative data drawn from a comparable reference nuclear unit. For each of the prospective sites, a review should be also done on the overall impact of all nuclear facilities located at the site of the new unit and at the adjacent site of the Kozloduy NPP, including: storage facilities for RAW and spent nuclear fuel, decommissioned nuclear facilities where the spent fuel pools still store spent nuclear fuel

- (spent fuel pools of units 3, 4, 5 and 6; reactors of units 5 and 6; spent fuel storage facility; dry spent fuel storage facility, RAW National Storage Facility, plasma incineration facility, and other, if any), accounting for the extension of the life limit term of units 5 and 6.
6. For each of the proposed terrains, the expected effect of any preliminary demolition and new construction works has to be clearly defined for buildings and facilities relocated to additional terrains that are not specified herein.
 7. According to section 2.3: „Based on interim results from the feasibility study for NNU, two reactor options are discussed below – AP-1000 and AES-2006, which will be assessed in the EIAR. Both options satisfy the requirements of Bulgarian legislation in the field of nuclear energy use, the IAEA requirements, and the European safety standards specified in the European Utility Requirements (EUR, Revision D) for LWR Nuclear Power Plants", and according to section 1.7: „The nuclear unit project will comply with the European standards described in the European Utility Requirements for LWR Nuclear Power Plants" (EUR). The texts quoted from section 2.3 and section 1.7 are incorrect. The two potential types of reactors for the new nuclear unit identified and assessed in the Terms of Reference have not undergone a conformity assessment in compliance with the Bulgarian legislation and at present they do not have a certificate of conformity with the European requirements described in EUR.
 8. Item 1.8 presents the classification of all types of waste valid for Bulgaria. The preparation of EIAR should seek to define the maximum volume of all expected waste by type and draw up a waste management plan for the whole life span of the new power plant.
 9. In item 2, „Alternatives for the implementation of the investment proposal", alternative locations have been identified for the investment proposal, and by virtue of the EIA directive, alternatives of the polluting technology have to be either offered or good reasons must be given why they are absent. Within the meaning of Art. 5 of the Convention for EIA in transboundary context, here should be outlined „the possible alternatives of the proposed operations, including the alternative not to undertake any action".
 10. Section 3.7.1.2, „Radioactive waste" describes the characteristics of RAW storage facilities intended for the capacity of units 1 through 4 of

NPP Kozloduy, including the facilities and equipment needed for their treatment in the state-owned company RAW. The section must outline the storage facilities and equipment planned for the management of RAW which will be generated by the new units within their capacity throughout commissioning, operation and decommissioning of the unit (one or two units). In case the construction of a new unit intends to use the existing storage facilities of units 1 to 4, the EIAR should specify the routes, means and ways of transportation of the waste, especially those in liquid state, by type according to the classification in the Regulation for safety in RAW management of the Act on the Safe Use of Nuclear Energy, accounting for their activity rate and potential impact on the environment, including in the event of accidents, due to the fact the sites are far apart from the existing facilities, and complying with the provisions of the Regulation on the conditions and procedure of transport of radioactive material. In preparing this part of EIAR, the team should take into account the insufficient capacity of the existing storage facilities of units 1 to 4, given that they are almost filled due to the ongoing decommissioning of these units by the state-owned company RAW, as well as the current implementation phase of the National RAW storage facility, in view of its maximum capacity of 138 200 m³. The Terms of Reference should include an obligation of complying with the provisions of Bulgarian legislation regarding RAW management, and in particular the Regulation for safe management of radioactive waste, where according to Art. 1, para 2: “...determines the requirements, norms and rules for safety upon siting, design, construction, commissioning, operation and decommissioning respectively closure, of radioactive waste management facilities”. In preparing EIAR, the team should also take into account the provisions of Art. 4 of the same regulation, namely: “The potential non-radiological impact on the environment and the health of the workers and the population shall be taken into account when implementing radioactive waste management activities.”

11. In the submitted document it is demonstrated that „Industrial waste will continue to be disposed into the Landfill for non-radioactive domestic and industrial waste of Kozloduy NPP”, but according to section 3.7, the projected capacity of the landfill of 45 000 m³ is 85% filled (38 250 m³) and it will be exhausted only by units 1 to 6 by 2016 with a rate of increase of 9% and average annual waste output

of approximately 5000 m3.

12. In section 3.9.1, „Noise" the impact on the ornithofauna in the area of the four potential sites should be assessed, especially during construction when maximum level of noise is expected.
13. In section 3.9.4, „Thermal impact on the Danube River" the impact of the new unit on thermal pollution should be assessed, both separately and cumulatively, i.e. sum up the pollution generated by NNU with that of NPP Kozloduy and assess the effect of the water temperature increase in the Danube River on the flora and fauna.
14. In section 3.10. „Health and hygiene aspects of the environment" 2 zones have been postulated: Preventive protective measures zone – 2 km, and Emergency protective measures zone – 30 km. By virtue of Art. 4 of the Regulation on emergency planning and emergency preparedness in case of nuclear and radiological emergencies of the Nuclear Regulatory Agency, these special status zones are designated after careful calculations accounting for the specific features of the particular site based on a technical project.
15. In section 6, „Characteristics of the risks for the environment in the event of potential accidents and emergencies" definite requirements are set for compliance with the Declaration of the European Nuclear Safety Regulators Group (ENSREG) with respect to carrying out comprehensive and transparent risk and safety assessments (stress tests) in the light of the Fukushima accident. Notwithstanding the fact that the construction of the new unit is at its earliest stage, risks such as loss of electrical power, including station blackout, loss of the ultimate heat sink, or a combination of both will have to be definitely considered. Moreover, convincing arguments have to be provided to demonstrate the long-term sustainable behaviour of the two reactors indicating how long the site can withstand the situation, in particular for AP-1000, as this reactor does not have a core-catcher in the event of a core meltdown in severe accident scenarios. In addition, the environmental risk should be assessed in the event of malevolent or terrorists act and sabotage, and an evaluation and demonstration of the containment integrity of the two chosen reactors, AP-1000 and AES-2006, should be performed, including in the event of aircraft clashes.
16. In item 8.1, „Initial assessment of potential transboundary impacts",

the expected impact of the new nuclear unit should be assessed in combination with the existing nuclear facilities. "... this chapter includes data and information from the operation of the facilities at the Kozloduy NPP site with the purpose of providing the necessary information about the expected transboundary environmental impact of the investment proposal to the competent authorities". The data from the monitoring of NPP Kozloduy for past periods should be considered as a basis for calculating the expected cumulative impact after explicitly defining the new technology, including the needed additional infrastructure and facilities that have to be constructed at the new site. The document makes conclusions based entirely on data about the now operating NPP Kozloduy, while for the purposes of EIAR data from comparable reference power plants with respect to the new power station planned to be constructed by NPP Kozloduy-New Capacities EAD should be taken into consideration.

17. Item 9 defined the structure and content of EIAR. Item 2 should be aligned with Art. 5 of the Convention for EIA in transboundary context. Pursuant to item 9 (item 15) and item 12 of the Terms of Reference, the Contractor is required to make his own decision on the specifics of the norms and regulations, methodology and input data to be used. The general framework, however, has to be predefined by the Client, NPP Kozloduy – New Capacities EAD in view of ensuring clear criteria, high quality EIAR implementation and efficient follow-up control. Moreover, the list of norms and regulatory documents must necessarily include both Bulgarian and applicable international standards and rules addressing the peaceful use of nuclear energy marked by respect for the international best practices.
18. The Terms of Reference must give a detailed picture of the intentions of NPP Kozloduy – New Capacities EAD on how the existing NPP Kozloduy structure will be used in the EIA context with the aim of reviewing and assessing all potential risks for the environment.

This letter comes within the framework of the consultation procedure by virtue of Art. 95, para 3 of the Environmental Protection Act (Art. 9 of the Regulation on the terms and conditions for conducting environmental impact assessments).

In your letter, outgoing No. 181/20.02.2013, it is stated that NPP Kozloduy – New Capacities EAD has fulfilled the provisions of Art. 4 of the

		<p>Regulation on the terms and conditions for conducting environmental impact assessments, and the information required herein has been already submitted pursuant to paragraph 3 of Art. 4 of the cited regulation.</p> <p>All said above is based on the experience of the Investor NEC EAD in the procedure for obtaining a Decision on EIA by the Minister of Environment and Water for NPP Belene.</p> <p>We believe every investor is independent in making decisions on the steps, methods and approaches in fulfilling its license plan for the purposes of the investment proposal.</p>		
15.	<p>Bulgarian Nuclear Regulatory Agency, outgoing No.47-00-58/13.05.2013, Dr Sergey Tsochev, Chairman</p>	<p>Concerning the draft Terms of Reference submitted for consultations on the scope and content of the Environmental Impact Assessment of the investment proposal for building a new nuclear unit of the latest generation at the Kozloduy NPP site, we would like to inform you that the Nuclear Regulatory Agency hereby takes note of the printed matter sent.</p> <p>As far as the requirements for the scope and content of the EIA Report are governed by the Environmental Protection Act and relevant by-laws and regulations, and the EIA Report is approved by a decision of the minister of environment and water, the Nuclear Regulatory Agency shall refrain from any notes of recommendations on the matter.</p>	Accepted	No comment
16.	<p>National Center of Radiobiology and Radiation Protection, outgoing No.ПД-02-08-17(12)/2013.05.20, Prof. Eng. Radostina Georgieva, PhD, DSc</p>	<p>Concerning the procedure for developing an environmental impact assessment of the investment proposal for building a new nuclear unit at the Kozloduy NPP site, the National Center of Radiobiology and Radiation Protection within its competence hereby puts forward the following remarks on the submitted Terms of Reference on the scope and content of EIAR:</p> <ol style="list-style-type: none"> 1. The last paragraph of section 1.8.2.1.2, „Radioactive emissions to air” (page 91), should be amended by adding the instructions and guidelines of the Bulgarian Nuclear Regulatory Agency on the requirements for a new nuclear unit, letter No.47-00-171/12.02.2013: „for a new nuclear unit located at the Kozloduy NPP site, the annual individual effective dose caused by the impact of liquid and gaseous releases in the environment under any operating conditions should not exceed 0.05 mSv”. 2. Section 3, “Characteristics of the environment...”, section 4.2 „Assessment of potential impacts ” [on the environment] and section 	Accepted	Reflected in the Terms of Reference and in EIAR.

		<p>6.1 „Radiation risks from accidents and emergencies" should be amended by adding a description of foods, potential impacts on them during operation and decommissioning, and projected levels of radioactive pollution of foods as a result of radiation accidents (in accordance with the requirements of Appendix I and III to the Recommendation of the Commission 2010/635/Euratom). Accordingly, amend section 9, "Structure of the EIA Report".</p> <p>3. Section 3.2.1.2, „Projection of the impact" on surface water should be amended by adding projection of the impact in radiation aspect.</p> <p>4. The quoted source in note 134 of section 3.10.1 "Existing situation" of the health and hygiene aspects of the environment (page 288) should be reworded to render it clear.</p> <p>5. In table 8.1-2 „Data from the radiation monitoring for the 1998 - 2002 and 2011, (page 353-354), in the column „Standard by norms and regulation" specify how the figures were derived in the lines "Natural waters", "Milk" and "Agricultural products (wheat)".</p>		
17.	<p>Ministry of Agriculture and Food, outgoing No.76-1457 22.04.2013, Prof. Ivan Stankov, Minister</p>	<p>Concerning your letter about conducting an environmental impact assessment of the investment proposal for building a new nuclear unit at the Kozloduy NPP site, we approve the submitted Terms of Reference on the scope and content of the Environmental Impact Assessment Report of the investment proposal for building a new nuclear unit of the latest generation at the Kozloduy NPP site without any remarks, giving preference to option No. 4.</p>	Accepted	No comment
18.	<p>Ministry of Health, outgoing No.26-00-621/30.05.2013, Dr Angel Kunchev, Chief Health Inspector</p>	<p>1. The last paragraph of section 1.8.2.1.2, „Radioactive emissions to air" (page 91), should be amended by adding the instructions and guidelines of the Bulgarian Nuclear Regulatory Agency on the requirements for a new nuclear unit, letter No.47-00-171/12.02.2013: „for a new nuclear unit located at the Kozloduy NPP site, the annual individual effective dose caused by the impact of liquid and gaseous releases in the environment under any operating conditions should not exceed 0.05 mSv".</p> <p>2. Section 3, "Characteristics of the environment...", section 4.2 „Assessment of potential impacts " [on the environment] and section 6.1 „Radiation risks from accidents and incidents" should be amended by adding a description of foods, potential impacts on them during operation and decommissioning, and projected levels of radioactive pollution of foods as a result of radiation accidents (in accordance</p>	Accepted	Reflected in the Terms of Reference and in EIAR

		<p>with the requirements of Appendix I and III to the Recommendation of the Commission 2010/635/Euratom). Accordingly, amend section 9, “Structure of the EIA Report”.</p> <p>3. Section 3.2.1.2, „Projection of the impact” [on surface water] should be amended by adding projection of the impact in radiation aspect.</p> <p>4. The quoted source in note 134 of section 3.10.1 “Existing situation” [health and hygiene aspects of the environment] (page 288) should be reworded to render it clear.</p> <p>5. In table 8.1-2, Data from the radiation monitoring for the period 1998 - 2002 and 2011, (page 353-354), in the column „Standard by norms and regulation” specify how the figures were derived in the lines “Natural waters”, “Milk” and “Agricultural products (wheat)”.</p> <p>Hereby we would like to ask you to consider our remarks and suggestions in developing the final EIA Report.</p>		
19.	<p>Austrian Ministry of Agriculture, Forestry, Environment and Water Management, outgoing No.541402 of 26.06.2013</p>	<p>Austria informed Bulgaria that pursuant to the provisions of Art. 3, para 3 of the Espoo Convention and Art. 7, para 2 of the EIA Directive, the country intends to participate in the transboundary procedure in view of the fact that significant transboundary impacts on Austria’s environment cannot be ruled out.</p> <p>For this reason Austria requests Bulgaria to submit the documentation on the environmental impact assessment accompanied by information about the public participation options (for example, forms and options for public participation, time limits, etc.) so as to offer equivalent opportunities to Austrian public circles, pursuant to Art. 2, para 6 of Espoo Convention. Therefore, Austria asks Bulgaria to have the documentation in German.</p> <p>Regarding the EIA scope, Austria expects to see an overall analysis and assessment of major accidents with long-range impact in the environmental impact assessment report.</p>	Accepted	Reflected in EIAR
20.	<p>Romanian Ministry of Environment and Climate Change, outgoing No.3072/RP/06.08.2013</p>	<p>The Terms of Reference was submitted to the competent Romanian authorities, and they asked this document to be completed by adding the following information, taking into account that there are Natura 2000 and other protected areas in the regions lying on either side of the Danube River near the town of Kozloduy:</p> <p>1. Impact assessment of high-temperature water, discharged into the Danube River, by types of legally protected fish species, with special accent on <i>Alosa Sp.</i> Special technical measures should be taken on the</p>	Accepted	Reflected in EIAR

Bulgarian side as these are fish species that must not in any way be threatened by the hot flow of discharged water. The same issue, raised in connection with NPP Cernavodă, was solved by employing relevant technical measures.

2. Moreover, it is necessary to make an assessment on the stage of development and expansion of the population of invasive alien species (for example, *Corbicula fulminea*) and the potential impact they might have on biodiversity.
3. Impact assessment on the flora and fauna in the project region on both sides of the Danube River, within or beyond the protected areas.
4. Project impact assessment on biodiversity for every alternative, including in the case of “zero alternative” – when the project is not going to be implemented.
5. Assessment of the cumulative impact, together with other projects developed at the proposed site or in the vicinity that might harm the natural capital of Romania and Bulgaria.
6. What measures are taken to reduce the impact on biodiversity and what are the data about the residual effect after they have been implemented.
7. Monitoring program of biodiversity, including for invasive species.

Taking into account the interests of the Romanian population living within the 30-kilometer zone, we think the discussion of the measures to mitigate the effects and impact of the project in the EIAR is of vital importance.