

<i>Answers to the questions of Romanian Ministry of Environment, Waters and Forests</i>		
<i>Ministry of environment, waters and forests</i>		
1	<p>Following your letters from March 2015 and the correspondence from April and May through the Romanian Focal Point for the Espoo Convention, regarding the EIA procedure for the investment proposal for construction of National disposal facility for low and intermediate radioactive waste initiated by State enterprise "Radioactive Waste" we inform you that the Ministry of Environment, Waters and Forests will continue to participate in the transboundary environmental impact assessment procedure of the above mentioned project. In this respect, the Ministry of Environment, Waters and Forest will need the Decision of the Court of Appeal on the EIA documentation in English.</p>	
2	<p>From 2011, when the first documentation was evaluated and the current status of this project, some changes have occurred, particularly in the field data, which were not mentioned in the reviewed documentation, or update terms of reference, such as:</p> <ul style="list-style-type: none"> • not found information on Natura 2000 site ROSPA0135 "Nisipurile de la Dabuleni", established in 2011, located in the Project area and it should be taken into account for assessing the impact. 	<p>The Environmental Impact Assessment of the investment proposal for construction of the NDF on the territory of the village of Hurllets, Kozloduy municipality contains as a separate annex a Report on assessment of the degree of impact <u>on the nearest protected areas from the European ecological network Natura 2000</u>, part of which is the quoted area ROSPA0135 „Nisipurile de la Dabuleni”. <u>These nearest protected areas are as follows:</u></p> <ul style="list-style-type: none"> → <i>Protected area „Zlatiyata” with code BG0002009 under Directive 2009/147/EO for conservation of wild birds. The area is located 0,45km south and west from the NDF site.</i> → <i>Protected area „Kozloduy Islands” with code BG0000533 under Directive 92/43/EC on the conservation of habitats and wild flora and fauna. The area is located 3,8km north from the NDF site.</i> → <i>Protected area „Ogosta River” with code BG0000614 under Directive 92/43/EC on the conservation of habitats and wild flora and fauna. The area is located 6km east from the NDF site.</i> → <i>Protected area „Skat River” with code BG0000508 under Directive</i>

		<p>92/43/EC on the conservation of habitats and wild flora and fauna. The area is located 6,3km east from the NDF site.</p> <p>The above mentioned area ROSPAO135 „Nisipurile de la Dabuleni” is located at the considerable distance of 19,5km to Radiana site, i.e. much further than the quoted nearest areas form Natura 2000. That is the reason why this area was not taken into consideration, neither in the EIA Report, nor in the Report on assessment of the degree of impact, which consider only the nearest protected areas of the European ecological network Natura 2000. In support of the above is the fact that the protected area „Ogosta River” and protected area „Skat River” are located in the same direction like the Romanian area ROSPAO135 „Nisipurile de la Dabuleni”, but are far closer to the site (6km resp. 6,3km). In the Report on assessment of the degree of impact it is proven that the implementation of the investment proposal will not affect the closest protected areas which are in the same direction – protected area „Ogosta River” and „Skat River” in a way that to enter into conflict with the object and purpose of the conservation of these areas. It can be concluded that such effects can not be expected in terms of the Romanian area, which, moreover, is located on the other border of river Danube, (apart from the large distance) which acts as a natural barrier against contaminants reaching the area. By analogous considerations are also not addressed some slightly more remote areas in the Republic of Bulgaria, which, on the other hand, are located closer that protected area ROSPAO135 „Nisipurile de la Dabuleni”. For example, protected area „Kozloduy” with code BG0000527 (under Directive 92/43/EC) is located 12,4 km northwest from the NDF, and protected area „Zlatiya” with code BG0000336 (under Directive 92/43/EC) is located 14,5 km west from the NDF and are not considered, and the Romanian area is even more remote (located at nearly 20km).</p>
3	<p>Since the beginning starts from the premise that the project will not have border impact, but in the meantime on the site were developed other</p>	<p>In the Non-technical summary is presented in non-technical language the detailed analysis made in the EIA Report. Part 6, item 6.11 Cumulative impact on radiation risk to the population from</p>

	<p>projects that have not been taken into account, particularly for the cumulative impacts.</p>	<p>radioactive releases. It contains a comprehensive review of the cumulative impact assessment in radiation aspect.</p> <p>There are analysis and estimation of the potential cumulative effect from the potential impacts which could result from the summing up of the effect of the implementation of the investment proposal “Construction of the NDF” and operation of the other (present and future) facilities at the NPP site “Kozloduy” and outside (operation of Units 5 and 6 of Kozloduy, DSSNF (Dry storage of spent nuclear fuel), RSNF (Repository for spent nuclear fuel), decommissioning of Units 1 ÷ 4, Workshop for size reduction and decontamination, Plasma incineration facility (PIF) and New nuclear power (NNP).</p> <p>Risk assessment for the population of radioactive releases includes:</p> <ul style="list-style-type: none"> • Assessment of individual and collective doses to the population; • Evaluation of radio-biological effects and radiation risk. <p>Assessment of external and internal exposure of the population in the region take into account the impact of these types:</p> <ul style="list-style-type: none"> • External exposure from radioactive cloud; • External irradiation resulting from the deposition in the ground; • Internal exposure by inhalation; • Internal exposure from the consumption of radioactively contaminated foodstuffs. <p>Assessments of the radiation risk are in the following range:</p> <ul style="list-style-type: none"> • Risk of radiation-induced cancer for the general population and persons of working age; • Risk of hereditary diseases of the whole population and for
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		<p>persons of working age;</p> <ul style="list-style-type: none"> • Risks and damage to some tissues for the general population • Risks of hereditary diseases for first generation and for two generations; • Risks of hereditary diseases of the reproductive part of the population evaluated for two generations under irradiation of the first generation before the second; • The risks of hereditary diseases for the reproductive part of the population assessed for the first generation after irradiation. <p>Conclusion In EIA Report, part 6, item 6.11.3 „Doses of all radioactive radiation” it is proven, that the implementation of the NDF will not have transboundary impact, and also in assessing of the cumulative effects are taken into account all near currently operational nuclear facilities and other developed projects. The potential impact is localized within the NDF boundaries and practically there is no cumulative effect for the population in the surveillance zone.</p>
4	<p>For reviewed EIA report, we have the following observations:</p> <p>a. as provided for in art. 6 (3) and (4) of the Habitats Directive (92/43/EEC), it is necessary to be included in the EIA report clear information on cumulative impacts, both with the other objectives of the site and others that could affect natural capital of the two states (Bulgaria and Romania).</p>	<p>In the Report on assessment of the degree of impact of the investment proposal, Chapter II, Table 2.1 are assessed the cumulative effects from other plans, programs and projects/ investment proposals (PPP/IP), existing and/or in process of development or approval which, in combination with the assessed IP, could have an adverse impact on the protected areas.</p> <p>In the EIA Report, part 6, is made the estimation, that as a result of the implementation of the investment proposal for construction of the NDF is not expected an impact, which to result in cumulative adverse effect on all components and factors of the environment in non-radiation and radiation aspect.</p> <p>In item 6.11.3. is made an assessment of the cumulative effect of the radiation exposure on the population in the 30km area of NPP</p>

		<p>“Kozloduy” from all radioactive releases into the environment with taken into account the operation of the NDF on Radiana site as well as all operating conditions of the NPP, from units 5 and 6, Repository for spent nuclear fuel, Dry storage of spent nuclear fuel, from all activities on decommissioning of Units 1÷4, Workshop for size reduction and decontamination, emissions from operation of the facility for plasma incineration, from New nuclear power - maximum value of EUR limits of discards.</p> <p>The maximum annual effective dose in the 30 km area of NPP "Kozloduy", including the site of the NDF, even in this extremely conservative (practically impossible) scenario for reference individual continuously resident at the border of the site of the NDF, result of all radioactive emissions into the environment in cumulation with all nuclear facilities on the site: NPP Units 5 and 6, Decommissioning units 1-4, Plasma incineration facility, New nuclear power and NDF, is estimated of 20.88 $\mu\text{Sv/a}$, which is much lower than the quota 100 $\mu\text{Sv/a}$ for NDF, 250 $\mu\text{Sv/a}$ from exposure to radioactive discharges from nuclear power plants (Regulation on ensuring the safety of nuclear power plants (Prom. SG. issue 66 from 30 July 2004., last. amend. SG. issue 5 of 19 January 2010) and the rate of population 1000 $\mu\text{Sv/ a}$ (BSRP-2012). The resulting additional radiation exposure is about 100 times lower than the natural background (2330 μSv).</p> <p>In the 30 km zone of NPP “Kozloduy” fall also the settlements on Romanian territory.</p>
	<p>b. also specify that Bulgaria not complied our initial requirements transmitted in 2011 regarding the transboundary impacts. Therefore we insist that in the EIA report to be added the impact assessment methodology by which the Bulgarian concluded that this project will has no impact to the border, especially on biodiversity.</p>	<ol style="list-style-type: none"> 1. The used methodologies, guidelines and research methods are described in the developed EIA Report, Part 8. 2. Used methodologies in Report on assessment of impact: Bearing in mind that the requirement for preparation of a Report on assessment of the impact from the decision of the Supreme administrative court concerns the Bulgarian EIA procedure, during the process of update of the EIA Report was prepared as a separate annex Report on assessment of the

		<p>impact of the investment proposal with the subject and purposes for conservation of protected areas on the closest protected areas from the European ecological network Natura 2000 on the territory of Republic of Bulgaria in the 30km zone around KNPP. The used methodologies, guidelines and methods are described in the Report for assessment of the degree of impact, item XI.2.</p> <p>In the prepared assessment of the impact of implementation of the investment proposal over the protected areas on the territory of Republic of Bulgaria it is concluded that in case of implementation of the project technologies for construction and operation, as well as implementation of the mitigating measures, envisaged in the assessment, the implementation of the NDF does not imply direct and indirect effects, and there is no accumulation of such on the Bulgarian areas.</p> <p>Bearing in mind the above quoted conclusion in the prepared assessment of the level of impact from the implementation of the investment proposal on the nearest protected areas on the territory of Republic of Bulgaria, it couldn't be expected a negative transboundary impact on the closest protected areas from Natura 2000 in the Republic of Romania.</p> <p>This conclusion is also based on the fact that the closest Bulgarian areas where no impact is expected are at a distance to Radiana site as follows: (1) – Protected area BG0002009 „Zlatijata” (for conservation of wild birds) at 0.45 km in west and south direction and (2) - Protected area BG0000533 „Kozloduy Islands” (on the conservation of habitats and wild flora and fauna) at 3.8 km in north direction, i.e. in the direction of the Romanian areas. Bearing in mind that the Romanian areas are even more remote and taking into consideration that most of the habitats and species subject of conservation in the Romanian areas overlap the ones in the two Bulgarian areas, there is a reasonable conclusion that there is no expected</p>
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		<p>transboundary impact over the closest protected areas of the European ecological network Natura 2000 on the territory of Republic of Romania.</p> <p>An additional reason for the above estimation for lack of transboundary impact on component biodiversity is justified in the EIA Report, Part 3: there is analysis made of the detailed radiological monitoring of the environment carried out by KNPP, comprising all the components of the environment - air, waters, soil, vegetation, fauna, agricultural production, typical foods produced in the region etc. In the zone around KNPP is also carried out control monitoring, performed by Ministry of Health-NCRRP, Ministry of environment and water, Executive environment agency, Water basin directorate Danube region and RIEW-Vratsa, which is directly connected with the management, development and taking of decisions, related to the activity of every economic entity as part of the other management programs and is a proven tool in the modern understanding of good planning and efficient operation of any production. SERAW performs a predisposal monitoring on Radiana site. The results from the monitoring do not indicate any negative impacts neither on the biodiversity nor on the different components of the environment.</p>
	<p>c. the EIA report should also contain some details of:</p> <ul style="list-style-type: none"> • the impact on flora and fauna from both sides of the Danube, in the project area, located inside and outside of the natural protected areas • the measures to mitigate the impact on biodiversity and • the residual impacts remaining after their application. 	<p>According to the decision of the Supreme Administrative Court (SAC) the EIA Report is supplemented with a Report on assessment of the degree of impact of investment proposal on the protected areas on Bulgarian territory (including river Danube), where the impact on the flora and fauna in these protected areas along river Danube is described.</p> <p>In the EIA Report, Part 4, item 4.6 – Biodiversity, is described the impact on the flora and fauna outside of the protected areas. In chapter 6 of the Report on assessment of the degree of impact on the protected areas and part 9 of the EIA Report are included measures meant to prevent or limit the possible impact on the biodiversity and the residual effects after their implementation.</p>
5	EIA, Part I, chapter 1.5.1.2.1 "Radiana" SITE - compared to the other alternative locations	The geographical coordinates of Radiana site are presented in Chapter I, Attachment 8.1.4. Coordinate register of the corners of Radiana site,

	presented, the geographical coordinates of the Radiana location are missing.	village of Hurllets, Kozloduy municipality. They are presented as an attachment to the present document.
6	EIA, Part I, Figure 1.5-4 GEOMORPHOLOGICAL MAP OF THE REGION - the legend is illegible due to pixelization, and the writing is in Bulgarian.	A translation of the legend to Figure 1.5.-4 is made and presented as an attachment to the present document.
7	<p>Part V, section 5.2.1 DURING THE NDF OPERATION, Table 5.2-1 TIME FRAME OF THE PRESUMABLE ACTIVITIES AFTER THE NDF IS PUT INTO OPERATION - we respectfully request clarification of the following aspects of the timing of the activities presented:</p> <p>What is the estimated time period (50 or 100 years) for activities "Active institutional control period, covering the final closure of the disposal facility and build up of the covering layer "and " Enforcement of measures for active control"?"</p> <p>How are expected to be carried out the activities mentioned above: in parallel or subsequent?</p>	<p>In part 5, section 5.2.1 there is a table with the timeframe of the presumable activities after the NDF is put into operation. The following timeframes and activities during these timeframes are included:</p> <ol style="list-style-type: none"> (1) Operation of the repository. The period lasts 60 years and during this period are performed activities on operation of the NDF. (2) Active institutional control period. At the beginning of this period are implemented activities on final closure of the NDF and construction of the multilayer protective cover and the measures which are to be implemented during the active institutional control are prescribed. These measures are to be implemented until the end of the institutional control period. The whole period of active institutional control lasts from 50 up to 100 years. 50 years is the minimum duration of the active institutional control, according to the nuclear regulator (Regulation for safe management of radioactive waste). In line with the safety standards of IAEA and the good practices in the developed European countries at this early stage of implementation of the investment proposal is prescribed the period, during which this activity will continue, i.e. the active institutional control. The exact number of years - 50, 75, 100 or other intermediate value are defined on a considerably later stage based on continuous research and field tests, which every country operating such type of disposal facilities performs based on the legal requirements, which will be valid at the end of the operation of the NDF, which will last 60 years, and last but not least, on the public requirements. It should be additionally

		<p>emphasized, that the closure of the NDF and the activities during the period of institutional control are also subject of licencing. As presented in part 1 of the EIA Report, a separate plan for closure of the NDF and for the period of institutional control will be prepared, based on future technical and detailed designs, which take into consideration the above mentioned longterm research and the operation history during the operation of the NDF. Preparation of separate EIA Report is obligatory.</p> <p>(3) Period of passive institutional control. The period lasts 200 years. During this period are implemented measures for preventing the land use of the site of the NDF.</p> <p>(4) Period of unrestricted access. This is the period after expiration of the institutional control when all the restrictions concerning the site are removed. The site can be used for settlement of people, cultivation of agricultural products, construction of roads.</p> <p>Information on the above mentioned reports is presented in part 1 of the EIA Report.</p>
8	<p>Part VII, section 7.2.2.6 ESTABLISHED EMERGENCY PLANNING ZONE AROUND THE KOZLODUY NPP SITE, page. 23 - we respectfully request to communicate the relevance of the 12 km distance to Kozloduy NPP, considering the following aspects:</p> <p>Nuclear facility of interest in this case is not Kozloduy NPP;</p> <p>In accordance with the submitted documentation are considered only two distances from the NPP Kozloduy: PAZ - 2 km from it, respectively UPAPZ - at 30 km;</p>	<p>For the purposes of completeness in the EIA Report is discussed the program of radiation monitoring of the environment of NPP "Kozloduy" as the investment proposal will be implemented in an area with regulated scope of sampling and measurement of radiation parameters in areas around the plant. In section 7.2.2.6 are presented the established emergency planning zones around KNPP, in accordance with the Regulation on emergency planning and emergency preparedness, which exist presently and will continue to exist during the operation of NPP "Kozloduy". These zones are:</p> <ul style="list-style-type: none"> - Precautionary action zone (PAZ) with radius 2km; - Urgent protective action planning zone (UPAPZ) with radius 30 km. <p>The statute of the so-called 12km zone is only with the purpose of early announcement in case of emergency, as regulated in Article 25, paragraph</p>

<p>On the Romanian territory there are localities which may be inscribed within the 12 km limit mentioned: Ostroveni, Ghighera and Bechet.</p> <p>We note that the distance of 12 km to Kozdoduy NPP is used only to demonstrate the distance to Romanian localities to the mentioned facility, without making any reference to the localities situated on Bulgarian territory.</p>	<p>1 of the Regulation on early announcement.</p> <p>This zone is presented in the emergency preparedness of KNPP only as a part of the system for announcement by settlements (Signal-2), which is already substituted by a contemporary system Tetra of Ministry of interior, covering all the settlements in the 30 km UPAPZ, and all regional cities in the country.</p> <p>The 12km zone has no sense in the frame of the Regulation for emergency planning and emergency preparedness. As stated above, there are covered the 2km PAZ and 30km UPAPZ, and for the purposes of radiation protection – the zones are 2km PAZ (as a term it overlaps with the Regulation for emergency planning and emergency preparedness, in frame of the amendments of Art.104 of ASUNE), as well as 30km MA (monitored area).</p> <p>According to the Regulation for emergency planning and emergency preparedness in case of nuclear and radiation emergency, the NDF is classified as third category (for comparison KNPP is first category radioactive source), nuclear facility in relation to the risk from emergencies. This is described in the previous item 7.2.2.5. The zones around the NDF are as follows:</p> <ul style="list-style-type: none"> - Precautionary action zone (PAZ) of the NDF is within the boundaries of Radiana site - within the fence of the NDF; - Supervized zone (SZ) is less than 4 km around the facility and does not reach the Bulgarian border of river Danube. <p>This shows that the impact of the implementation of the investment proposal for construction of the NDF on Radiana site in case of emergencies is only within the fence of the NDF, and the supervised zone is less than 4km. Therefore, the sampling points, which will be used for monitoring of the radiation parameters from the activity of the NDF will not reach 12 km. It also shall be noted that neither the PAZ, nor the SZ of the NDF affect settlements on Romanian territory.</p> <p>Concerning the settlements Ostroveni, Ghighera and Bechet in the 12km zone there is a typo mistake.</p>
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		Concerning the possible development of the sampling network and the own monitoring of KNPP in the Romanian part of the 12 km and 30 km zone is within the competence of KNPP and can be a subject of future discussions and agreements between the two countries on institutional level. This question is not within the competence of the Employer and can not be resolved within the EIA procedure.
9	<p>Part IV, section 9.2.2 RADIOLOGICAL ASPECT - we respectfully request to inform why the estimated lifetime for the first barrier is 50 years, considering the following aspects:</p> <ol style="list-style-type: none"> a. What happens with the security barriers after these first 50 years? b. What is the extent and the speed of deterioration in time of the first barrier? c. What is the form that will reach the first barrier after 300 years (the maximum estimated life for the second barrier)? How do you intend to ensure long-term monitoring of emissions from radioactive waste, as well as those of R-222 and R-220 resulting from barriers? d. What is the resistance while other barriers to long-lived radionuclides deposited, while the first security barrier has been compromised? e. How is planned to be conducted the environmental radioactivity monitoring in and around the repository in the last 10 years of its operation (under Part VI, the estimated life of the repository is 60 years) in the area where will already exists containers who will have reached the age of 50 years and for which we already know that their security is compromised? f. We respectfully ask you to tell us know why you decided in choosing a storage medium 	<p>In the NDF will be disposed only low- and intermediate level RAW, category 2a. No long-lived wate will be disposed. The radioactive waste, category 2a, shall be isolated from the environment and the people throughout 300 years according the Regulation for safe management of radioactive waste and the safety standards of IAEA. The NDF will be operated for a period of 60 years (period of operation), and the period of institutional control after the closure of the facility will not exceed 300 years. After that the site will be released for unrestricted use, which means that constructions of roads, settlement of people, planting of agricultural crops or other uses of the site will be possible. In line with the nuclear legislation of Republic of Bulgaria, the safety standards of IAEA and the good practice in the developed European countries it is envisaged the NDF to be multibarrier engineering facility. In accordance with the international requirements the safety of the NDF is based on a complex of measures, which include a multi-barrier engineering system and the establishment of a period of institutional control. The multibarrier engineering system of the NDF is also developed on the basis of the requirements of the Bulgarian nuclear legislation, the safety standards of IAEA and the good practice of the developed European countries (the contemporary disposal facility Obe in France, the Spanish disposal facility El Cabril, which is operated by Enresa, the later being a reference facility for the NDF). The multibarrier engineering system is described in details in the EIA Report and the statement that the lifetime of the first barrier is 50 years is incorrect and is not based on the information concerning the multilayer engineering system presented in the EIA report. On Radiana site the degradation mechanism of the first barrier is carbonization which is a slow process and defines stability time of</p>

	<p>whose security is lost before the closing of the repository. Why did you not chose a material whose minimum lifetime exceeds the repository usage period?</p>	<p>thousands of years.</p> <p>The assessment of the radiological impacts is another aspect of the system for radioactive waste management. The assessment of the radiological impacts shall be done using the ISAM methodology of IAEA (the methodology is available online on IAEA site) in compliance with the requirements of the Bulgarian nuclear legislation and the good practices in the developed European countries. The main principle in the safety assessment, incl. the assessment of the radiological impacts of NDF, is that the safety assessments are very conservative and they include a number of conservative assumptions. One of these conservative assumptions is that no credit is given to the waste form, which does not mean that the lifetime is 50 years. Even in these conservative assumptions, without considering the retaining functions of the first barrier, as well as in the other conservative assumptions, the modelling of the radiological impacts demonstrates that NDF is absolutely safe for the population – the estimated annual individual dose is 0.803 μSv. This value is significantly lower than the limit of 100 $\mu\text{Sv}/\text{year}$, which was determined as marginal in the Nuclear Regulatory Agency’s Permit for design of NDF. This value is also significantly lower than the international norms – the International Commission for Radiation Protection determines the maximum individual dose for radioactive waste disposal to be within 100 - 300 μSv.</p>
<p>10</p>	<p>Part IX, chapter 9 - we respectfully request to specify clearly the area of monitoring, environmental factors monitored, indicators pursued and how it is to be carried out (frequency) throughout the period of 300 years take to analysis for deposit, including Romanian territory.</p> <p>Given the importance of the repository to the Bulgarian state economy, and possible long-term impediments that can bring people living in</p>	<p>Currently on the Bulgarian territory a monitoring is in process under the Programme for Monitoring of the 30 km area around Kozloduy NPP. The monitoring is for the various environmental components (air, water – underground and surface, soils, biodiversity, waste). A monitoring also is conducted in benchmark points up to 100 km in the Bulgarian section.</p> <p>The local population from the adjacent municipalities is being informed through buletines, which contain summary of the main radiation parameters in the area – radiation gamma-background, aerosol activity of the air, Danube river water’s status and main analysed foods (milk) from</p>

	<p>Romania, we require the following:</p> <ol style="list-style-type: none"> 1. Ensuring adequate and permanent informing to the Romanian population. 2. Ensure the exchange of information (data on environmental radioactivity) in real time with the National Environmental Radioactivity Surveillance Network from Romania (we emphasize that existence the EURDEP platform is not a sufficient condition, since most of the data currently posted by member states are mostly about gamma dose rate). 	<p>local farms. The buletines are sent monthly to the mayors of the municipalities of Kozloduy, Mizia and Oriahovo.</p> <p>The population is informed directly from the readings on the information screens of the 13 local measuring stations (LMS) by the automated information system for radioation monitoring (AISRM), situated in 13 towns and villages in the 30 km monitored area (MA).</p> <p>SERAW performs monitoring at Radiana site. It covers all the main ecological parameters – air, surface waters, underground waters, soils, vegetation, farm produce, etc. The radiation gamma-background is being permanently monitored. This monitoring is predisposal and is conducted in compliance with the requirements of the Bulgarian regulations, IAEA safety standards and the good practices in the developed European countries. The sampling's frequency is determined by the main requirement – to receive the whole information for the environmental parameters before the NDF commissioning. The program covers the NDF site and the supervised zone, which is under 4 km radius. The Danube river water is additionally monitored, as well as the fauna (fish) in the Danube river. The supervised zone for the NDF does not reach the Romanian territory.</p> <p>Before starting the NDF commissioning an Upgraded Monitoring Programme will be prepared for the various components and factors of the environment, taking into consideration the results from the predisposal monitoring. This programme will be updated periodically as part of the licensing procedures according to the nuclear legislation.</p> <p>With regard to the monitoring program in the period of institutional control which will be applied after 60 years of operation of the NDF, at this stage of the investment proposal we can only state that its scope and sampling frequency will not differ from the programs for predisposal and operational monitoring, and most probably in the beginning of the period</p>
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		<p>for active institutional control they will be even more active. The monitoring program will cover the established separate areas around the NDF – the site and the supervised zone, which does not cover the Romanian territory. The detailed program for after-operational monitoring will be developed before the closure of the facility, as required by the Bulgarian regulations, the IAEA safety standards and the good practices in the developed European countries.</p> <p>It has to be emphasized that the closure of the NDF will be subject to another licensing regime. The closure will be based on detailed plan and design which will consider the operational experience during the NDF operation stage as well as the extensive long-term field studies for test multi-barrier covers. Separate EIA procedure for the NDF closure is a mandatory condition.</p> <p>The fact that the areas with special status around NDF are only on the Bulgarian territory. This does not affect the monitoring on the Romanian territory. Besides, the performance of additional monitoring on the Romanian territory and the information of the population on the Romanian territory and the exchange of information in real time are not among the Employer’s responsibilities. This decision could be taken by the Nuclear Regulator (NRA) based on intergovernmental agreement.</p>
11	<p>What happens is the most favorable site for Romania, given the fact that the Romanian region near the NDF lives a large population, which deals exclusively with agriculture?</p>	<p>The requirements to the activities for selection of site for radioactive disposal facility are defined in the nuclear legislation of the Republic of Bulgaria.</p> <p>According to the IAEA standards, the international experience and the good practices for RAW management in the developed European countries, as well as according to the requirements in art.25, para. 1 of the Regulation for Safety Management of Radioactive Waste the site selection process goes through four phases, which are described in details in EIAR, Chapter 1, i. 1.5 justification of the site selection, and namely:</p> <p>⇒ Phase 1: Development of concept for disposal and planning the</p>

		<p>activities for site selection;</p> <p>⇒ Phase 2: Data collection and analysing of areas (regions), which includes:</p> <ol style="list-style-type: none"> a. Analysis of the areas – analysis and evaluation of the territory of the whole country is performed, excluding big areas with unfavourable conditions for situating RAW disposal facility and establishing areas for analysis which areas are big territories with favourable geological and tectonical, geomorphological (topographical), hydrogeological, engineering and geological, hydrological, climatic and other climatic characteristics. b. Selection of prospective sites – the potential sites which meet the criteria for situating facility for RAW disposal are localised in the areas for analysis, then the prospective sites for thorough analysis are identified. <p>⇒ Phase 3: Sites characterisation – the prospective sites are examined thoroughly and one preferred site is selected;</p> <p>⇒ Phase 4: Confirmation (approval) of the site – examinations are performed related to approval of the preferred site.</p> <p>12 potential sites are localised during phase 2 from which there were four most prospective sites for NDF selected for multi-factoral analysis. The four sites are: Radiana, Marichin valog, Brestova padina and Varbitsa.</p> <p>These sites are subject to detailed field and laboratory examinations for phase 3 Characterisation of the site. During the implementation phase 3 Varbitsa site was dropped from further examination. The sites, which are examined in details, are described in identical way in the report, presented to NRA. A multi-factoral analysis was conducted for comparing the characteristics of the potential candidate-sites with selected criteria. The criteria are organised in 4 main groups, namely – Safety, Impact of unfavourable processes and phenomena, Probable impact to the environment and the population, Social and economical acceptability.</p>
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		<p>This way the motivated selection of the site for NDF was made, which was described in details in EIAR, Chapter 1.5, i. 1.5.1.3.</p> <p>The comparison of the results between the various groups of criteria demonstrates that Radiana site is leading.</p> <p>During phase 4 there were conducted the necessary examinations for verifying Radiana site for construction of NDF in compliance with the approved plan for implementation of the activity and the quality assurance programme. The results confirm the selection of Radiana site as most suitable site for construction of NDF.</p> <p>The selection of Radiana site for the construction of NDF was discussed in details in the EIAR.</p>
12	How does this project in the development of organic farming and other environmental projects?	<p>The results from the conducted by Kozloduy NPP monitoring are analysed in details in EIAR, Chapter 3 under the environmental components and factors. The main conclusions are that for the long years of Kozloduy NPP operation there was no any impact established to the farming produce, incl. the vineyards. A regular monitoring was performed by Institute “N.Pushkarov” on the soils and the produce related to Kozloduy NPP activities. On the Bulgarian territory vineyards are grown even in the 2 km precautionary action zone, which have not demonstrated any problems and reasons for concerns due to contamination, incl. radioactive contamination.</p> <p>The technology selected for disposal of low and intermediate RAW in NDF is a modern technology, well tested in the practice. There are modern trench disposal facilities constructed in number of countries with developed nuclear energy sector, e.g. U.K., USA, Japan, France, etc. The following facilities are typical examples for similar modern disposal facility – surface multi-barrier modular trench disposal facilities in Centre d’Obe - France, El Cabril – Spain, Mohovce in Slovakia, Dukovani in Czech Republic, etc. In reality this modern technology for disposal of radioactive waste was developed in France – the country with highest share of nuclear energy in its energy mix, which is a leading country in</p>

		<p>the radioactive waste management. The technology is based on the French experience in constructing and operating the Le Manch storage facility, it is applied in the construction and operation of the new French storage facility in Centre d'Obe, which capacity is 1 million cubic meters of radioactive waste and will be operated till 2040. Significant development of the technology is made in the construction of the Spanish storage facility El Cabril, which is a referent technology for the trench type NDF. The same technology will be used for the Belgium disposal facility which is in construction phase.</p> <p>In the assessment provided in the EIAR the conclusion was made that the implementation of the NDF will not impact negatively the land and the soils out of the NDF site. The conclusion made is definite – it is not possible there to impact on the farming land, the farm produce, incl. the produce from the biological agriculture. The experience from the operation of similar disposal facilities abroad is mentioned as well.</p>
13	<p>How does this project linked to the Danube tourism development? Specific in the EIA Report are losses romanian the population in these respects.</p>	<p>There is no expected impact on the tourism along the Danube River caused by the construction of NDF. We should not forget that at Kozloduy NPP site there were 6 units operating at the end of 2002, and 4 units were in operation till the end of 2006. In the period from 1974 till now the tourism was not affected in any way. Since the beginning of 2007 there are only 2 operating units. In the EIAR there are examples mentioned for similar disposal facilities in operation in the developed European countries, where the operation of such facilities does not affect neither the tourism, nor the agriculture in the region.</p> <p>The more significant tourist attractions on the Bulgarian territory are: <i>Radetzky Hotel Complex, which is new, built in 2004; it attracts tourists for cultural, historical, fishing and hunting tourism, etc. It is located in the National Botev Park, near the Museum “Kozloduy – the new station of Bulgaria” and in close proximity to the historical memorial on the Kozloduy bank. In the park there are unique tree species, typical for the temperate climate zone. Opposite to the hotel is the unique floating museum – the National Museum Radetzky, which is one of the 100</i></p>

		<i>national tourist sites</i> . These tourist sites are visited all the time by Bulgarian and foreign tourists.
14	It is possible to find another site, located in an isolated area for both Romania and Bulgaria ?	See the answer of questions 11, 12 and 13
15	What guarantees are there that the geopolitical situation in the region remains stable in the next 300 years and operating conditions of the target will be met?	This is not under the EIA procedure in its trans-border aspect.
16	Specify the EIA Report, which is Romania's obligations in connection with monitoring this goal and how much it costs.	This is not in the competence of the Employer and the EIAR. It is demonstrated in the EIAR that there is no impact on the implementation of IP on the Romanian territory. It is demonstrated that ZPPM of NDF is completely on the site within the limits of NDF fence, and the monitored area is of 4 km radius and does not reach the Romanian territory, which demonstrates that there is no technical reason for performing similar monitoring from the Romanian party.
<i>Comments of the public authorities and institutions, consulted by MEWF</i>		
National Commission for Nuclear Activities Control		
17	<p>Furthermore, for the purpose of resuming the procedure of environmental impact assessment in a transboundary context, CNCAN views as important the Bulgarian party's approach to the following:</p> <ul style="list-style-type: none"> • the radiological safety assessment of the repository during operation and after closure; • the long term radiological impact assessment, taking into account the following: long-lived radionuclide inventory, possible ways of radionuclide migration in the Danube and in the groundwater feeding the Romanian territory, normal evolution and alternative scenarios, doses being calculated for the Romanian population; 	<p>The opinion of the National Committee for Control of Nuclear Activities (NCCNA) for the scope and the way of presenting the EIAR for NDF completely corresponds also to the understanding of the Bulgarian party and the experts who have prepared this report. All the aspects mentioned as important to the assessment of the NDF impact were presented and evaluated in the various chapters of the report (especially part 4, part 5, part 6 and part 7). The experts who have prepared the EIAR are satisfied that the NCCNA understanding for the important aspects and characteristics of such a facility, which have impact on the environment, completely coincide with the requirements of the Bulgarian institutions for complete and relevant assessment of all important factors both during the operation and during the closure</p>

	<ul style="list-style-type: none"> the radiation monitoring programme, the institutional control, the emergency preparedness and response programme in case of a radiological accident. 	of NDF.
Ministry of Health		
18	No mentions were found as to the means and routes of transportation of the radioactive waste to the storage facility (roads, Danube, etc.), nor the analysis of the potential risk associated to this component of the normal operation of the facility.	<p>Detailed description is presented in EIAR, part 1, i. 1.6.3.1.</p> <p>The transportation of radioactive waste for disposal in NDF will be carried out through internal road of Kozloduy NPP following the scheme: Storage for conditioned RAW, situated on Kozloduy NPP site – internal transportation net at Kozloduy NPP site – EP-1 check point – Kozloduy NPP internal factory road of – SERAW check point. No municipal or republican roads will be used, i.e. away from settlements. The transportation of RAW using internal roads on the territory of Kozloduy NPP is a safe routine operation, which does not present potential risk to the population and the environment.</p>
19	The report states that the construction, normal operation and closure of the storage facility do not imply any transboundary impact; no mentions were found as to the closure of the facility.	The process of closure of NDF and the requirements to it are described in details in EIAR, part 1. In compliance with the requirements of the nuclear legislation for shut down of facilities for disposal of low and intermediate radioactive waste has to be done according to a technical design for closure, a plan for closure, safety assessment in the post-operational period and safety assessment during closure, which all have to be approved by the Nuclear Regulatory Agency. The closure of the disposal facility after the end of its operational period is subject to separate environmental impact assessment.
20	The risk of major accidents or accident scenarios (explosion, malevolent act, major earthquake, etc.) are not analyzed.	The types of risks for the environment from potential emergencies and incidents are described in details in EIAR, part 5. During operation – seismic risk, floods, extreme winds and tornados, human interference – aircraft impact, container fall, and beyond design basis accidents – fall of heavy aircraft. A complete evolutionary scenario was reviewed for after the closure, during

		which the whole protection system of NDF “evolves” in a long period of time. Other modified evolutionary scenarios were reviewed as well. In summary for all conservatively developed and analysed scenarios after the NDF closure the assessed individual effective dose is below 100 mSv/a, excl. “system failure for control of the infiltrated substance”, for which in all extremely conservative assumptions the result is 358 mSv/a.
21	The population of the Bechet town is 4300 persons, not 3400, as found in the report (most probably typing error).	A mechanical mistake was made, the population of Bechet as of 2014 was 4397 people.
22	In Ch. 7, p. 15: “For normal operation with sources of ionizing radiation, the above mentioned limit of the annual effective dose is fixed by the International Commission on Radiological Protection at life risk 10 ⁻³ . ” In Ch. 6, Tab. 6.11-19, "normal risk", "nominal risk with reporting of death" and "damage" are computed as 10 ⁻² . We consider that a clear definition of the different risk entities is needed.	<p>The text, quoted in chapter 7, page 15 is correct.</p> <p>The coefficient 10⁻³ is adopted by International Commission for Radiation Protection as individual life-long risk for people working in ionising radiation environment. The proposed annual limit for the individual effective dose for professional workers category A was determined based on this coefficient. The limit of this individual annual dose for the whole body is 20 mSv.</p> <p>The values for nominal radiation risk for separate organs and tissues considered for cases per 10 000 people population, are presented in part 6, table 6.11-19. These are two completely different by meaning risk coefficients and they cannot be compared.</p> <p>The table in Chapter 6 are presented as illustration of the cumulative effects from all radiation sources in order to know what is the nominal risk for each body organ.</p>
Ministry Regional of Development and Public Administration		
23	Among the 23 Romanian villages listed as part of the 30 km range distance from the chosen site, Radiana, two villages that appear on the maps are missing and are not considered in the analysis (Caciulesti and Comosteni with a total population of over 1500 inhabitants).	All the settlements within the 30 km zone on the Romanian territory were taken into consideration – they were omitted due to a technical mistake in the listing with their Romanian names.

24	However, the data on the total population of the Romanian area (30 km from Radiana) differs from one chapter to another.	There is a technical mistake.
25	Concerning section 7.4 Summary assessment of the potential impact at the territory of the Republic of Romania, for a better illustration of the land structure in the communes from the 30 km area of Radiana site it is necessary to use LAU 2 level statistical data provided by the National Institute of Statistics (http://statistici.insse.ro/shop/).	<p>A definite conclusion was made in the EIAR that due to the implementation of the NDF it was not expected impact to the population within the 30 km zone on the Bulgarian territory and respectively on the Romanian territory.</p> <p>For better illustration of the structure of the settlements in the municipalities within the 30 km zone from Radiana site there were used and could be presented detailed data from the National Institute for Statistics of Romania (http://statistici.insse.ro/shop/) на ниво LAU 2, as well as data from the census in 2011. The details in the data do not change the assessment made in the EIAR.</p> <p>We have to underline that the demographic characteristics of district Dolj and Olt show definite negative trends in the natural migration of the population, especially the population of the villages, which prevails for the territory within the 30 km zone around Kozloduy NPP and in proximity to Radiana site, where the IP will be situated. The population of the districts Dolj and Olt is not an exception to the general trend for Romania and the South-West region of Oltenia.</p> <p>According to the data base, created under the programme Trans-border Cooperation Romania – Bulgaria 2007-2013¹, the natural growth of Dolj and Olt is permanently negative in recent years.</p>

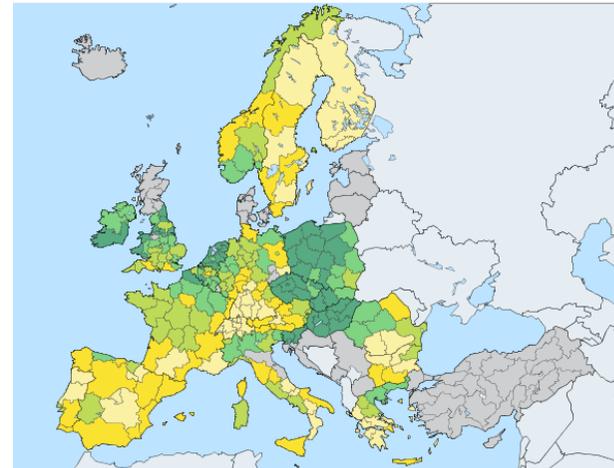
¹ <http://www.ro-bg.ro/bg/>

		<p>The specificity of the natural movement of population in the areas defines and pronounces tendency for significant population aging with all the negative health consequences.</p> <p>On this background it shall be concluded that, although serious differences in the scale of the constituent units, the status, dynamics and structure of settlements in the region of Vratsa and Dolj and Olt are similar and can be expected identical development in the medium and long term period.</p> <p>We assume that the data is sufficiently informative, more so due to the implementation of the NDF is not expected to have an impact on the population in the 30 km zone on the territory of Romania.</p>
26	<p>We also highlight the importance of data collection from the County Departments of Public Health (Dolj, Olt) and of the analysis in this chapter of some indicators for measuring the morbidity by causes of disease among the population of Romanian communes and towns, not only the mortality by causes of death.</p>	<p>Unlike Bulgaria, where from 50-ies of the last century, exists a National Cancer Registry, in Romania are currently available only regional statistics - Cancer Registry in Cluj Napoca, Timisoara and children's cancer registry in Bucharest (EUREG. List of Registries. http://eco.iarc.fr/eureg/LinksList.aspx; Globocan project 2012 http://globocan.iarc.fr/Default.aspx), so that for validity and reliability of data is used only the indicator of mortality by causes by the National Statistical Institute of Romania and Eurostat. According to NSI -Romania data, death rates from cancer in whose genesis radiation factor may be leading is close to that in Bulgarian territory. Also mortality from congenital anomalies (defects of development), deformations and chromosomal abnormalities are rare and tend to decrease.</p> <p>The comparative analysis of Eurostat data for mortality from</p>

cancer in the European Region for 2008-2010 shows that the Northwest region and Southwest Region Oltenia are the regions with the lowest mortality by cancer.

Death due to cancer by NUTS 2 regions

Standardised death rate per 100 000 inhabitants, 3 years average - 2008_2010



Legend



Source of Data Eurostat

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Last update: 12.06.2014

Date of extraction: 13 Jun 2014 16:13:30 MEST

Hyperlink to the map: <http://app.eurostat.ec.europa.eu/tgm/mapToolClosed.do?tab=map&init=1&plugin=1&language=en&pcode=ts00058&toolbox=legend>

Disclaimer: This map has been created automatically by Eurostat software according to external user specifications for which Eurostat is not responsible.

General Disclaimer of the EC website: http://ec.europa.eu/geninfo/legal_notices_en.htm

Short Description: Causes of Death data refer to the underlying cause which - according to the World Health Organisation (WHO) - is the disease or injury which initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury". Death due to cancer refer to all death caused by a malignant neoplasm."

Code: ts00058

Due to given above data, and because the evidence is not expected

		cross-border impact from the Investment Proposal, we think that the data from the regional Department of National Health (Dolj, Olt) for morbidity would not change this picture and the conclusions of the EIA report on transboundary impact.
27	We appreciate as necessary the translation in English (including annexes) of the text and legends of the figures in the updated Terms of reference because they provide important details regarding the location and characteristics of the project.	Translation of the legends of the charts is made, which is given as an appendix to this document.
28	At the same time we would like to request the clarification of the distance of the Radiana location from Vrancea seismogenic area and the observed/expected seismic intensity which appears with different values in the consulted documents (REIA Report in 2015, with all of its sections; the "EN Terms of Reference" document in 2014), as follows: distance of 240 km as against 320 km, the last case stating that the Vrancea epicentre has a "peripheral positioning" in the north-east side of the regional zone taken into consideration for the analysis of major surface and depth earthquakes; seismic intensity I=VII compared to I=VI on MSK-64 scale.	<p>The distance from the KNPP to Vrancea is 320 km. Vrancea seismic zone is located about 160 kilometers north of the town of Bucharest in Romanian Vranca County between the Eastern and Southern Carpathian Mountains.</p> <p>For more information we give the following data:</p> <p>Most of the observed seismic events in Bulgaria are tied to earthquake zones: Sofia, Marishka, Gorna Oryahovitsa, Shabla, Provadiyska Kresna, Negotinska-krayna and Kampuling-Vrancea (shallow and medium deep) and local. These areas have been extensively investigated in respect of spatial, temporal and energetic characteristics.</p> <p>On a minimum distance of NPP Kozloduy, respectively and site Radiana is located Sofia seismic zone. For this area is documented maximum intensity in the epicentral area of the IX-th degree (MSK) with a magnitude of M = 6.6 earthquake on 09.30.1958. With a similar force was and the earthquake in 1641. Registered are and many other earthquakes with -small variations, among which is the earthquake of 18/10/1917 with magnitude of M = 5.5. The observed maximum macroseismic effect from earthquake in Sofia zone on the site of NPP "Kozloduy" is Ikoz = 3 (MSK).</p>

		<p>The area with the greatest impact on the hazard of site Radiana and NPP "Kozloduy" is Vrancha zone in the neighboring Romania, which generated events with magnitudes $M > 7$ at a depth of $80 \div 120$ km. Maximum macroseismic effects on site Ikoz = $6 \div 7$ are monitored by the earthquake in 1977 with $M = 7.2$ and $I_0 = 8,0$ (MIBK). The effect is due to the specificity focal processes (strong extension in the direction of South-West isoseismic field).</p> <p>The strongest earthquakes outside those areas are: event in Northern Greece in 1828 with $M = 7.5$ and $I_0 = 10$ (MIBK) and the earthquake in the region of Dulovo 1882 with $M = 7.3$ and $I_0 = 7.8$ (MIBK), with observed macroseismic effects on the site of NPP "Kozloduy" - Ikoz = $5 \div 6$ (MIBK).</p> <p>According to the EIA report, Chapter 3, Figure 3.3-5 - Seismic zoning map of Bulgaria for a period of 1,000 years and 10,000 years, the investment proposal is located within the area of seismic intensity of expected impacts of level VII scale MSK-64, in which buildings and facilities according to regulatory requirements in Bulgaria is necessary to provide a seismic coefficient $K_c = 0.10$.</p> <p>Buildings and facilities of the NDF are provided with several levels of greater security.</p>
29	<p>Given the importance of the analysis and monitoring of the disposal facility construction to seismic action (during operation and after closure), we request information on:</p> <ul style="list-style-type: none"> • the characteristics of the concrete/steel reinforcement to be used in construction and their performance compliance with the international requirements imposed to construction products directly exposed to radioactive environment; 	<p>The structures of NDF are designed and will be constructed entirely in full compliance of the code system EUROCODE, in adopting more conservative requirements from those laid down in the regulations parameters for structures related with the safety in short and long term aspect.</p> <p>The NDF structures are designed and shall be constructed in such a way that during the foreseen operational period reliably :</p> <ul style="list-style-type: none"> - to withstand the impacts and influences that will occur during the implementation and operation thereof, and - to maintain the required operational capability.

		<p>The structure is designed to have sufficient load-bearing capacity, operability and durability.</p> <p>The design of the structure meets the criteria for reliability and conceptual requirements that shall be met. Structures having safety functions are designed for:</p> <ul style="list-style-type: none"> - Class of responsibility CC3 according to BS EN 1990; - Class of reliability RC3 according to BS EN 1990; - Level of control over the design DSL3 according to BS EN 1990; - Level of inspection IL3 according to BS EN 1990. <p>These structures are designed to continue to perform their safety functions at acceleration of the ground of 0,2g, according to accepted norms for construction of nuclear facilities and the IAEA recommendations. Determination of this ratio as adequate based on the vast operational experience of NPP Kozloduy, and nearly half a century of seismic monitoring of the site, located in a seismically slightly active region, according to BS EN 1990.</p> <p>For the construction of cells for disposal and buffer storage for RAW packages the concrete that will be used has the following parameters:</p> <p>Concrete grade C35 / 45 BS EN 1992-1-1 and BS EN 206-1.</p> <p>Concrete grade on impact of the environment:</p> <ul style="list-style-type: none"> - XC4: Cyclic wet and dry (bare concrete surfaces); - XF4: High water saturation with de-icing substances; - XA3: Highly aggressive chemical environment <p>The concrete shall contain sulphate cement according to BS EN 197-1. Concrete should be implemented in a manner not allowing the size of the micro cracks to be larger than 0.15 mm. with which</p>
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		to ensure water-tightness of structures. Reinforcing steel grade B500B according to BS EN 10080.
30	<ul style="list-style-type: none"> the seismic design data taken into account, as specified in the seismic zoning map of Bulgaria and in the design legislation specific to nuclear constructions (Ordinance No RD-02-20-2/2012 on Design of Buildings and Installations in Seismic Areas (SG.13/2012) - document indicated on page 9/2A of Section V of REIA). In this respect, we would like to emphasise that In Romania the seismic design of regular buildings and their technical systems (installations) is based on the peak horizontal ground acceleration with a mean return period (recurrence interval) of 225 years, equal to 0.20g for constructions located in the area of Bechet locality, situated opposite to the Radiana site in the Danube cross border area. 	<p>The information on this topic including the performed seismic monitoring of KNPP and pre disposal monitoring of Radiana site is included in the EIA report, chapter 3, item 3.3.5. - Seismic activity.</p> <p>According to BDS EN 1998-1/NA. Eurocode 8; Design of structures for earthquake resistance:</p> <ul style="list-style-type: none"> The reference return period, TNCR, of seismic impact on insurance against the demolition of structures and facilities is considered the recommended period of 475 years. For reference probability of exceeding the seismic impact for 50 years, PNCR, accepted the recommended value of 10%; The reference return period, TDLR, of seismic impact to ensure the requirement for limiting damages is considered the recommended period of 95 years. For reference probability of exceeding the seismic impact for 10 years, PDLR, accepted the recommended value 10%. <p>Radiana site is in area with reference value of maximum acceleration of 0,07g for return period of 95 years and 0,11g for return period of 475 years.</p>
31	The Ministry of Regional Development and Public Administration, through the General Department for Regional Development and Infrastructure, developed within the SPATIAL project the Common Strategy for sustainable territorial development of the cross border area Romania-Bulgaria. The Strategy project was accepted by Bulgaria and will be launched for public consultation in the upcoming period.	<p>These two procedures shall not be mixed and they are out of scope of the EIA subject.</p> <p>This issue is not in the competencies of the Employer.</p>

<p>The construction project for a nuclear waste disposal facility at Radiana is mentioned only in the text of the strategy in the chapter Diagnosis by domains, in the section concerning the environment: "The Ministry of Environment and Water of the Republic of Bulgaria initiated in 2011 an organising project for the radioactive waste disposal facility in the area of Kozlodui locality, district of Vratsa in the cross border area. The radioactive waste disposal facility will be built in the area called Radiana, near the village of Harlets, Kozlodui municipality, four kilometres of the Danube shore. In this disposal facility there are to be stored almost 350.000 tonnes of radioactive waste by the year 2075".</p> <p>As partners in the SPATIAL project, the representatives of the Ministry of Development in Bulgaria did not communicate the intention to include this project in the Strategy nor have they provided any details concerning it, taking into account that it could be included in the danger list in the SWOT analysis (general diagnosis).</p> <p>Even if in the report made by the EIA it is sustained that there will be no cross border impact of this project, taking into account the negative reactions of the representatives of the Romanian local authorities, of the inhabitants and of the non-governmental organisations in the public consultations that took place in 2011, we consider as being of great importance a rigorous analysis carried out by the experts of the Romanian authorities with responsibilities in the field of environmental protection and public health, of the technical details</p>	
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	provided by the Bulgarian ministry for this proposal of construction of the radioactive disposal facility.	
General Inspectorate for Emergency Situations		
32	The content of the report does not include the modality to inform/notificate the romanian authorities in case of an radiological emergency and neither the method of data transmission regardin the measurements at the site. In the content of the report it seems that in all forms of exploiting the repository is not specified a significant radiological impact for the population living near the site, and neigher cross-border effects to the romanian territory.	The obligation to inform / announce of the Romanian authorities is not in the competences of the Employer and in the EIA procedure in transboundary context.
33	From the risk map of NPP Kozloduy, on a 30 km radius, considered the urgent protective action planning zone, that contains a part of the romanian territory, there are not included positive action measures to implement at the repository in case of a major nuclear accident at NPP Kozloduy;	Description of the action measures in NDF in case of nuclear accident in KNPP, according to the in force Regulation on emergency planning and emergency preparedness in case of nuclear and radiological emergencies is in the responsibilities of the operator KNPP. KNPP will include the personnel of NDF in an updated Plan for action in case of nuclear accidents (Emergency plan of KNPP) before commissioning of NDF. The NDF personnel after acquaintance and training on this emergency plan will be obliged to follow these measures. Before commissioning NDF will elaborate and put into force its own emergency plan. NDF's own emergency plan will be elaborate according to the fact that NDF is a nuclear facility risk category III and will be in accordance with the type of potential accidents during operation of NDF. It will differ from the emergency plan of KNPP, sequent risk category I .
34	In the period during closure of the repository it is estimated that the radiological impact to the population in a 30 km radius is about null. We are considering necessary Romanian authorities access the site measurements during the closure of the repository.	Such procedures could be subject of future discussions and negotiations between the competent authorities in Bulgaria and Romania.

	<p>In case of an radiological emergency and unexpected situations at the repository, for the limitation of possible effects to the population of Romania, we consider necessary the following:</p> <ul style="list-style-type: none"> • to implement a direct line of communication between the Bulgarian local authorities and the Romanian local authorities; • to implement unique notification messages for emergency situations on the repository that must be agreed upon both states; • simultaneous data transmission to the Romanian authorities regarding the environmental radioactivity in case of an radiological emergency at the repository site. 	
“Romanian Waters” National Administration		
35	<p>In this project stage there are made only general comments regarding environment pollution, which do not allow a correct estimation of the all ground and surface water pollution or about the way of border propagation mode. EIA report das not deepen border issues and local environment protection, so there are not any environmental impact estimate on Romanian territory.</p>	<p>Nontechnical summary is a short version in non-technical way of the details analysis and assessments, developed in EIA report.</p> <p>EIA procedure, according to the Bulgarian legislation, is a main preventive instrument that guarantees the impact of the investment proposal on the environment analyses and evaluates on a very early stage. It is a part of the licensing process for the construction of NDF (National disposal facility) that is defined in the Act of safe use of nuclear energy (ASUNE), described in details in EIA Report, Chapter 1, point 1.10 – Description of the licensing process and responsibilities of various institutions.</p> <p>In specific reports, following the EIA procedure will be included more such details.</p>
36	<p>The estimation of the pollution possibilities of area ground water and of Danube is not sufficiently analyzed, in particular on risk situations (floods, earthquakes etc.)</p>	<p>The possibilities for contamination of the ground waters in non radiation and radiation aspect are analysed in details in EIA report, chapter 4, point 4.2.2. - Ground Waters and in respect of risk situations in chapter 5, point 5.2.1.1 - Seismic risk and in 5.2.1.2 –</p>

<p>EIA offers just a reference to the monitoring programmes, following to make specific details in a future stage of technical projection. By eliminating a priori the possibilities of pollution, the chapter regarding the necessity of the monitoring system is generally submitted, without a definitely support of the monitoring compulsoriness and without any specification of the achievement solutions. Thus, the proposal „at least" one upstream and one downstream drilling, on the flow direction of the groundwater is insufficient to obtain the research highlights, because the flow direction can be modify depending on the hydrological regime.</p> <p>Also, there are no specifications regarding the need for monitoring the Danube water quality in the section of works location and downstream.</p>	<p>Flooding.</p> <p>In respect of flooding is made a definite conclusion that:</p> <p>“Radiana site, which is located on the second non-flooded terrace (T2) of the Danube River, is not a <i>flood-threatened area</i> for the entire period of existence of the surface disposal facility of the NDF even in case of catastrophic events such as the collapse of the dam wall of 'Jelezni vrata'. This conclusion is supported by the geological and geomorphological analyses, which confirm that the terrain on which the Radiana site is located, has not been flooded by Danube waters over the last 186,000 years.</p> <p>For monitoring of the ground waters on Radiana site are installed 12 monitoring points (piezometers) and in the north direction from the Radiana site on the site of KNPP is performed a non radiation monitoring in 17 boreholes and radiation monitoring in 186 boreholes.</p>
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