



MINISTRY OF ENVIRONMENT,  
WATERS AND FORESTS

Cabinet of the Minister

Reg.No 3495 /GLG/ 07.05.2015

Subject: EIA procedure for the investment proposal for construction of National disposal facility for low and intermediate radioactive waste initiated by State enterprise "Radioactive Waste" -

*Dear Mrs. Vassileva,*

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.

After analyzing the new notification of Bulgaria and the revised documents of terms of reference and environmental impact assessment report for the project "Construction of National Disposal Facility for Low and Intermediate Level Radiactive Waste /NDF/", we communicate the following:

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:

- not found information on Natura 2000 site ROSPA0135 "*Nisipurile de la Dăbuleni*", established in 2011, located in the Project area and it should be taken into account for assessing the impact.
- 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 projects that have not been taken into account, particularly for the cumulative impacts.

**Mrs. IVELINA VASSILEVA**  
**Minister of Environment and Water,**  
**Republic of Bulgaria**



For reviewed EIA report, we have the following observations:

- 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).
- 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.
- c. the EIA report should also contain some details of:
  - 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.

EIA, Part I, chapter 1.5.1.2.1 "Radiana" SITE - compared to the other alternative locations presented, the geographical coordinates of the Radiana location are missing.

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.

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:

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"?

How are expected to be carried out the activities mentioned above: in parallel or subsequent?

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:

Nuclear facility of interest in this case is not Kozloduy NPP;

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;





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On the Romanian territory there are localities which may be inscribed within the 12 km limit mentioned: Ostroveni, Ghighera and Bechet.

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.

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:

- 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 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?

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.

Given the importance of the repository to the Bulgarian state economy, and possible long-term impediments that can bring people living in Romania, we require the following:

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).

The EIA documentation must give answers to the following questions:



- What happens is the most favorable site for România, given the fact that the Romanian region near the NDF lives a large population, which deals exclusively with agriculture?
- How does this project in the development of organic farming and other environmental projects?
- How does this project linked to the Danube tourism development? Specific in the EIA Report are losses romanian the population in these respects.
- It is possible to find another site, located in an isolated area for both România and Bulgaria ?
- 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 ?
- Specify the EIA Report, which is Romania's obligations in connection with monitoring this goal and how much it costs.

*Comments of the public authorities and institutions, consulted by MEWF*

#### **National Commission for Nuclear Activities Control**

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:

- 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;
- the radiation monitoring programme, the institutional control, the emergency preparedness and response programme in case of a radiological accident.

#### **Ministry of Health**

- 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.
- 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 risk of major accidents or accident scenarios (explosion, malevolent act, major earthquake, etc.) are not analyzed.
- The population of the Bechet town is 4300 persons, not 3400, as found in the report (most probably typing error).
- In Ch. 7, p. 15: "For normal operation with sources of ionizing radiation,





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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.

### **Ministry Regional of Development and Public Administration**

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).

However, the data on the total population of the Romanian area (30 km from Radiana) differs from one chapter to another.

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/>).

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.

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.

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.

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:



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- 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;
- 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 9/24 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.

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.

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".

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).

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 provided by the Bulgarian ministry for this proposal of construction of the radioactive disposal facility.

### **General Inspectorate for Emergency Situations**

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.

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;

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.

In case of an radiological emergency and unexpected situatios at the repository, for the limitation of possible effects to the population of Romania, we consider necessary the following:

- 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**

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.

The estimation of the pollution possibilities of area ground water and of Danube is not sufficiently analysed, in particular on risk situations (floods, earthquakes etc.) 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



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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.

Also, there are no specifications regarding the need for monitoring the Danube water quality in the section of works location and downstream.

Taking into consideration the provision of article 3 paragraph 8 of the Espoo Convention, Romanian authorities find necessary that after receiving the required information to the EIA documentation, to organise public debates on the Romanian territory in the area influenced by the project.

Ministry of Environment, Waters and Forests from Romania will establish, high-priority, in accordance with art. 4, para. 2, from the Espoo Convention, the dates of public debate on the Romanian territory, and this will be communicated to the Bulgarian party.

Please accept, Mrs. Minister, the assurance of my highest consideration and esteem.

*Yours sincerely,*

GRAȚIELA LEOCADIA GAVRILESCU  
  
MINISTER