

**Environmental Impact Assessment Report**  
**for the Decommissioning of Units 1 to 4**  
**at Kozloduy Nuclear Power Plant**

**CHAPTER 5**

**INFORMATION OF THE METHODS USED  
FOR FORECASTING AND ASSESSING THE  
IMPACTS ON THE ENVIRONMENT (LAWS,  
REGULATIONS, METHODOLOGY  
GUIDANCE, INSTRUCTIONS, ORDERS,  
DECREES, RULES, STRATEGIES AND  
PLAN PROGRAMS)**

## CONTENTS

5. Information of the methods used for forecasting and assessing the impacts on the environment (laws, regulations, methodology guidance, instructions, orders, decrees, rules, strategies and plan programs) .....	1
5.0 Environmental impact assessment general methodology .....	1
5.1 Used specific methodologies description.....	5
5.1.1 Air .....	5
5.1.2 Water .....	6
5.1.3 Waste .....	7
5.1.4 Landscape .....	8
5.1.5 Natural sites .....	8
5.1.6 Biodiversity .....	8
5.1.6.1 Flora and vegetation .....	8
5.1.6.2 Fauna .....	9
5.1.7 Health risk .....	9
5.1.8 Earth bowels .....	10
5.1.9 Land and soils .....	10
5.1.10 Cultural heritage .....	11
5.1.11 Methodology for comparison with Greifswald NPP.....	11
5.2 Laws, regulations, methodologies, methodology guidance, instructions, orders, decrees, rules, strategies and plan programs, used in the process of elaboration of EIA report ..	12
5.2.1 International.....	12
5.2.2 European Union .....	12
5.2.3 European Bank for Reconstruction and Development (EBRD).....	12
5.2.4 Legislation related to the use of nuclear energy .....	13
5.2.5 General legislation .....	14
5.2.6 Atmosphere.....	15
5.2.7 Air .....	15
5.2.8 Surface and ground water.....	17
5.2.9 Waste and hazardous substances .....	18
5.2.10 Soils .....	19
5.2.11 Earth bowels .....	20
5.2.12 Landscape .....	20
5.2.13 Natural sites .....	20
5.2.14 Flora and vegetation.....	21
5.2.15 Fauna .....	22
5.2.16 Biological diversity .....	23
5.2.17 Material assets and cultural heritage .....	23
5.2.18 Health risk .....	24
5.2.19 Demographic and socio-economic development.....	24
5.2.20 Other documents .....	25

## **5. Information of the methods used for forecasting and assessing the impacts on the environment (laws, regulations, methodology guidance, instructions, orders, decrees, rules, strategies and plan programs)**

### ***5.0 Environmental impact assessment general methodology***

The impacts arise when there is a connection between an IP activity and a Receptor. The impacts assessment is a procedure for which there are still no strict requirements or a well formulated methodology. Generally, it represents determining the source of impact, identification of the route to the receptor, impact assessment and, finally, establishing control over the effect from the impact. This concept is sensible and useful due to the fact that it helps to understand the process and to focus on applying the control and the mitigation measures at the most effective place. The impact assessment determines the identified impacts in accordance with their “importance”, which is the result of the connection between the “impact degree” and the “receptor sensitivity” for a certain IP activity.

#### ***Impact identification***

The potential impacts are identified in regard to the IP implementation for all stages of implementation – construction, commissioning, operation and decommissioning, as well as in emergency situations. A certain activity or facility often produces impact/impacts on more than one receptor (component/factor of the natural and/or the social environment). Thus, the availability of a detailed and thorough description of the IP is crucial.

The identification of the expected impacts from the IP implementation is performed based on the described specific activities and facilities and the results from the consultations with the project stakeholders.

The results from the consultations performed as part of the procedure in trans-border aspect have also been analyzed and used in the identification and later on in the assessment of trans-border impacts.

Based on the data from the performed field investigations, the available archive information on the state of the environment in the IP impact area and the consultations with the stakeholders, the sensitive areas have been determined. The investment proposals in the site area have been considered during the identification of the cumulative impacts.

The expected impacts on each component of the environment as result from the impact factors are separately determined (in the sub-items of Section 4 – Impacts assessment, of this report).

#### ***Degree /Size/ Magnitude of impact***

The impact magnitude is usually represented by qualitative and quantitative values, compared to local, national and international standards. For some impacts values/parameters are not applicable. In such cases the assessment is subjective and is based on the experience of the expert and the good practice. In emergency cases

(catastrophes, natural disasters, accidents) the impacts are examined in relation with the probability for the event and its consequences.

Generally, the Degree / Size / Magnitude of impact criteria can be considered in terms of:

- Time, for example duration of restoration or impact;
- Space, according to the physical scope of impact, or
- Quality and quantity, when parameters for the condition of the component/factor can be applied.

The specific criteria for each component/factor are described in the methodology for impact assessment for this component/factor.

For this project a 5-degree scale for the impact has been applied, shown in the impact assessment matrix.

### ***Sensitivity of the receptors/resources***

For the purposes of the impact assessment, an evaluation of the quality of the impact receiver, called a receptor, has been made. Receptors are the people, animate and inanimate nature (such as flora and fauna, water, air, soils, landscape), as well as the objects of the social environment (cultural heritage, resources, infrastructure, etc.).

In the assessment process the sensitivity/importance of each receptor has been determined by using individual qualitative and/or quantitative criteria, defined separately for each component/factor of the environment. These criteria represent the specific characteristics of the receptor in terms of:

- Current state of the receptor – geographical distribution, presence and abundance, value (conservation status), etc.
- Restoration capacity/ Stress resistance;
- Restoration period, etc.

All these factors determine the sensitivity of the receptor. For this project a 5-degree scale for the sensitivity/importance of the receptors has been applied, shown in the impact assessment matrix.

### ***Impact assessment***

- (laws, regulations, methodology guidance, instructions, orders, decrees, rules, strategies and plan programs) Positive and negative depending on the final effect;
- Reversible (for a certain period of time) and irreversible (permanent);
- Short-, mid- and long-term;
- Direct and indirect
- Primary and secondary;
- Local, regional, national and trans-border;
- Resulting from routine activity or from accidents.

In addition to the above impacts the potential cumulative impacts have been identified and assessed in the EIAR as well. They can result from various interactions:

- With accumulation – the overall effect from various impacts on the same receptor;
- During interaction – different impacts interact to produce a new significant impact;
- The effect of adding – the effect from the proposed development and other existing or planned projects nearby;
- In time – a series of impacts occurring at different times, which are not individually important, but together they represent a significant impact for the period.

The assessment of the impacts on the receptors/receiving environment is performed considering the sensitivity/value of the receptor or resource, the magnitude/size of the impact, summarized in the following matrix:

Degree / Size / Magnitude of impact		Sensitivity of the receptor/Value of the receptor or resource				
		A	B	C	D	E
		Very low	Low	Medium	High	Very high
1	Very low					
2	Low					
3	Medium					
4	High					
5	Very high					

**Fig. 5.0-1 Sample matrix for impact assessment**

The importance of the impact assessed using the matrix on fig. 5.0-1 does not account for the implementation of measures to mitigate impacts. The matrix defines the importance in three main groups:

**The red color** marks impacts with high importance (unacceptably high);

**The yellow color** marks impacts with medium importance (impacts which need to be proven acceptable under certain conditions);

**The green color** marks impacts with low importance, which does not exclude the need for proposing/planning of mitigation measures.

Clear distinction between these groups, however, is not possible and in many cases the final assessment of the impact importance falls somewhere in-between them.

As the assessment of the impact importance is not an exact discipline, the application of a simple approach with numbers or qualitative indicators in the assessment process is not always possible. Sometimes the assessment is subjective and is based on observations or the individual professional opinion of the expert or third parties.

Considering that, a multidisciplinary approach to the assessment of the impacts from the project has been adopted. This approach uses the expert conclusion, based on their many years of experience, to verify the result from the above presented matrix.

In some cases, where suitable, the risk for the environment as depending on the importance of the impact and the probability of its occurrence has also been determined. As with the importance, the degree of risk is determined in three groups:

- Significant, not acceptable for the environment;
- Acceptable risk, for which mitigation measures should be planned;
- Low risk, for which there is no need to plan mitigation measures.

### ***Mitigation measures***

Another important aspect of the impact assessment is to propose measures and ways to reduce the identified and assessed risk for the environment. An iterative approach has been applied in determining the mitigation measures for the project. Initially, an assessment has been made based on the technical documentation submitted by the Contracting Authority (presented in a table in the Introduction) and the impacts which require mitigation measures have been determined. After the development of suitable measures, the expected impacts have been reassessed, this time taking into account the proposed measures. In some cases the mitigation measures planned in the project technical documentation are complemented by measures proposed by the EIA experts.

### ***Residual impacts***

The impacts which remain after the mitigation are defined as residual impacts. They are described in the EIAR Chapter 4 and are included in the Plan for management and monitoring of the natural and social environment (Chapter 6). The Contracting Authority must consider them together with other costs and benefits (such as ecological or social improvements, employment or economic development) when deciding whether the project should continue and under what conditions.

The specific characteristics of the component approach are presented in the following sub-items of this chapter.

## ***5.1 Used specific methodologies description***

Methods regarding: air, water, landscapes, flora and fauna, harmful physical factors, health risk - population and staff and waste are used for the assessment of the impact on the individual components.

### **5.1.1 Air**

The methodical approach to impact assessment and the forecast of air quality is in accordance with the requirements of Regulation 7 for assessment and management of air quality and is based on data gathered by the air monitoring system - emission and immission control. The main stages are the following:

- Collection and systematization of available information on the organized emission sources – technical characteristics of the emitting equipment, available purification facilities and purification efficiency, data on the flue gases, concentration of pollutants in flue gases, spreading of air pollutants.
- Collection and systematization of statistical information on the transport vehicles – type and number of motor vehicles. Calculation of the transport emissions using methods approved by MEW.
- Analysis and assessment of the available database on the emissions of harmful substances gathered through own or control measurements, as well as using approved calculation methods. In order to assess the emissions, limit values for emissions of harmful substances discharged to the atmosphere emissions, approved in the respective regulations, are used.
- Gathering of information for other significant unorganized emission sources.
- Collection and systematization of information on the ambient air status in the region of the IP. Analysis and assessment of the available database on the ambient air quality.
- In order to assess the ambient air quality, maximum allowable limit values for airborne contaminants in settlements ambient air, approved with Regulation № 14 from 23.09.1997 (maximum allowable limit values for airborne contaminants in settlements ambient air), Regulation 12/15.07.2010 for the limit values for sulfur dioxide, nitrogen dioxide, particulate matter, lead, benzene, carbon monoxide and ozone in ambient air, prom. SG 58/30.07.2010, are used.

Because of national and EU legislation harmonization, EU methodologies approved with Minister's order were applied in line with the Bulgarian methodologies for calculation of the anticipated pollutants emissions dispersion such as:

- Atmospheric pollutants emissions inventory method, (Common methodology for inventory emissions of harmful substances in the air, [http://eea.government.bg/bg/legislation/air/mpg-07/Metodika\\_2007.html](http://eea.government.bg/bg/legislation/air/mpg-07/Metodika_2007.html)), developed on the basis of the guidebook Joint EMEP/CORINAIR Atmospheric Emission Inventory Guidebook, Copenhagen, EEA, 1994;



Joint EMEP/CORINAIR Atmospheric Emission Inventory Guidebook,  
B810 (Other mobile sources and machinery), 3rd edition September 2003  
UPDATE.

For its proper application a number of instructions for preliminary assessment of the air quality, validation, data processing and data storage, etc. were adopted additionally.

### **5.1.2 Water**

The methodology for forecast and assessment of the impact on water is based on the three types of surface water monitoring: control, operational, and if necessary – investigation. The purpose of these monitoring programs is to obtain systematic, comprehensive and comparable information on the status of water.

A monitoring network is used to measure the groundwater level, by which information and reliable assessment of the quantitative status of groundwater is obtained. Data from the control and operational monitoring is also used for assessing the chemical status of groundwater. In terms of groundwater control and operational monitoring have an additional role – to provide the necessary information for the assessment and establishment of long-term trends of changes in the concentrations of pollutants.

The control monitoring also provides data for the assessment of long-term trends of changes in the natural conditions.

Data from the in-house non-radiation and radiation monitoring of water have also been used in the course of the assessment and forecast.

The main and specific approach used for the quantitative impact assessment includes:

- General characterization of the surface waters – identification, representative periods;
- Analysis of the existing information regarding the influence of physical, geographical and geological factors on the hydrological isolation of groundwater in the area concerned;
- Soil characteristics as a factor in the formation of the surface flow;
- Climatic factors influencing the formation of the flow and the variation of the water balance;
- Seasonal and annual course of the flow of water bodies on the territory of the region – assessment of the extreme and average values;
- Characteristics of river flow, associated also with the industrial activity, determination of the water balance;
- Erosion intensity of the catchment area.

The main and specific approach used for the qualitative impact assessment includes:

- Background status of the surface and ground water;
- Existing sources of river flows pollution;



- Use and assessment of the existing water quality information database;
- Influence of the water quantity on the qualitative characteristics;
- Proposal of locations for future monitoring of water quality;
- Relation and influence of the ground waters on the qualitative characteristics;
- Possible sources of contamination of surface water - industrial, municipal, rain;
- Use of information databases in state and other information centers (MEW, ExEA, private centers and others) related to the qualities of the waters;
- Indication of recommendations and measures for prevention, reduction or, where possible, termination of significant harmful impacts on the lands and soils during the IP implementation.

### **5.1.3 Waste**

- Based on the IP nature the used materials and harmful substances are identified.
- Quantitative and qualitative assessment of the incoming radioactive reagents and materials is made.
- Identification of the chemical substances and preparations in accordance with the CLP Regulation; their properties and recommendations for safe handling and storage are indicated, based on the Safety Data Sheets.
- The quantities and composition of the generated conventional solid waste according to the WML are indicated - industrial, municipal, hazardous and construction waste. The waste is classified according to the normative requirements.
- Proposals for environmentally sound management are made, and the mandatory ones are indicated as measures in EIAR Chapter 6. Proposals for environmental monitoring of conventional waste and hazardous substances are also made.
- With consideration of the IP implementation activities different types of RAW are identified (solid, liquid and gaseous emissions). An assessment of the type and category of the different types of waste under the current legislation is made.
- The composition and quantities of the available RAW, which are stored at the site of Units 1-4, are determined.
- The composition and quantities of RAW generated during the decommissioning activities at each stage are assessed.
- Proposals for safe and environmentally sound RAW management are made, and, if necessary, the respective measures are indicated in EIAR Chapter 6.

### **5.1.4 Landscape**

In the assessment the following methods for physic, geographic and landscape zoning methods developed by BAS were used:

- Methods of physic, geographic and landscape zoning, Georgiev. M, Physical Geography of Bulgaria, Publishing House "St. Kliment Ohridski", Sofia, 1991;
- Basic principles of landscape differentiation, Petrov P., Geography of Bulgaria, BAS, Sofia, 1997, p. 340-345;
- Main principles and methods of landscape zoning, Petrov P., Geography of Bulgaria, BAS, Sofia, 1997, p. 345-356.

### **5.1.5 Natural sites**

Regarding the protected territories and the protected areas the assessment complies with the national plans and strategies for biodiversity conservation, taking into account all the requirements of the Bon and Ramsar conventions as well as the Convention on the Conservation of the Wild European Flora and Fauna and the Natural Habitats. During the EIAR development the following methodical approach has been sequentially performed:

- Determining the extent of impact based on the data for distribution of atmospheric pollutants as well as potential contamination of water bodies.
- Creating a database of primary data, using data from the Register of Protected Areas, sites declaring orders, Internet sources, data from existing studies on individual components of natural ecosystems in the protected areas.
- The assessment of the supposed significant impacts on the protected areas, wetlands, important bird areas and others as result from the IP implementation is performed in accordance with the Protected Areas Act, the Biodiversity Act, the relevant conventions, as well as other existing regulations, laws, ordinances, rules for individual components of the environment - air, water, soils.
- Indication of recommendations and measures to prevent, reduce or, where possible, terminate any significant adverse effects on the protected territories and the protected areas from EN Natura 2000.

### **5.1.6 Biodiversity**

#### **5.1.6.1 Flora and vegetation**

- During the EIAR development the existing information sources on flora and vegetation are reviewed (scientific publications, conducted investigations, photos, maps, national and international normative documents and other information sources related to the rational use and protection of the vegetation resources and the biological diversity). Published materials on the condition of flora and vegetation in the territory affected by the IP are

analyzed and field investigations are conducted to assess the condition of critical areas.

- Taxonomic affiliation and geographical distribution of plants are determined using the flora of Bulgaria (v. I-X, 1962 – 1994), Identification guide of the higher flora in Bulgaria (Kozhuharov and others, 1992) and Synopsis of the higher flora of Bulgaria (Assiov and others, 2002). Syntaxonomic origin of plant communities is determined using Synopsis of the plant communities in Bulgaria (Apostolova, Slavova, 1997) and publications on syntaxons in different parts of the country after 1995.
- When performing field investigation of the vegetation the ecological-phytocenotic investigation method is applied in key (characteristic) areas. Depending on the purposes, the floristic composition of plant communities is described and a qualitative assessment of the phytocenotic structure or a quantitative evaluation of the structure and the quantitative species ratio is performed. In more detailed investigations abundance of species can be assessed using the "coverage" indicator or the cover-abundance scale of Brown-Blanke and others (Pavlov, 2006).

#### **5.1.6.2 Fauna**

During the development of the EIAR part for the birds the existing scientific literature about the ornithofauna of Bulgaria and the region concerned is used. National and international normative documents, expert opinions, photographs, maps, information sources related to the conservation of ornithofauna (Bulgaria's fauna - birds in 3 parts, the Red Book of Bulgaria - Second Edition 2011, Atlas of the Breeding Birds in Bulgaria, the results of the mid-winter waterfowl survey in Bulgaria and others) have also been considered. Field inspections were carried out about the current status of the ornithofauna in the region.

#### **5.1.7 Health risk**

Health risk assessment for the population in the health protection areas and surveillance zone around the KNPP during decommissioning of Units 1-4 of Kozloduy NPP is based on information submitted by the Investor and information for hazard identification, determination of dependencies for the chemical, physical, physiological, environmental factors, exposure assessment and the risk of accidents and incidents independently collected by us. The recommendations and methodology for health risk assessment of international organizations (WHO, Assessment of the human health risk related to chemical substances, 1994 [148] WHO, Approaches for integrated risk assessment, 2001 [149]) were used in the assessment. The European indicators for the environmental impact assessing concerning human health were taken into consideration. The principles and methods for assessing indirect and cumulative non-radiation (conventional) impacts on the environment (including living environment and working environment) affecting human health and their interaction, presented in the monograph of Walker & Johnston, Guidelines for assessing indirect and cumulative impacts and their interactions, the EU, Luxembourg, 1999 [163]).

To assess the additional radiation exposure of the population within the 30 km zone of Kozloduy NPP validated and verified models based on the methodology CREAM

(Consequences of Releases to the Environment Assessment Methodology) adopted by the EU were used.

#### **5.1.8 Earth bowels**

During the preparation of the expert assessment of the state of the earth bowels and the estimated impact on them during the IP implementation the following approach is used:

- Analysis of the existing geological documentation for the site;
- Analysis of data from the laboratory analyses of core material - of physical and mechanical properties of the geological environment, incl. the porosity and permeability of the rocks in the geological section;
- Analysis of the geological hazard map and the seismic activity;
- Comparative analysis and synthesis of the existing materials with regard to the requirements reflected in the legislation of the Republic of Bulgaria for construction activities in seismic regions.

#### **5.1.9 Land and soils**

Forecast and impact assessment for the activities performed for decommissioning of Units 1 to 4 of Kozloduy NPP related to land use and soil is made by use of the comparative ecological method. It consists in determining the components of the ecosystems (in this case - types and kinds of soils) and the possibilities of damage to their productivity, which affects the human and animal health, in making comparative analysis of the management of their internal interactions, links between ecosystems respectively soil and surrounding environment, at the inlet and the outlet of the system, the functioning of soil system and its changes due to external influences. The summaries and conclusions are made based on analysis of reference data, data from the experience of the decommissioning of such facility (NPP Greifswald), data from measurements made by the Department “Environmental Radiological Monitoring” of KNPP and records from measurement performed by the competent departments of MEW.

The main and specific approach includes a comparative environmental analysis of data obtained by own research, literature sources and research by other professionals in relation to the requirements of the Bulgarian legislation and the standards for quality of soils established in the country. Based on the collected information an estimate is made of the direct, primary effects (where possible quantitative) on the soil characteristics and their influence on other environments during the construction, operation and closure of the IP. A forecast is prepared in regard to the future land use and the possible changes.

The main methods for assessment of land and soils are the system-ecological analysis and synthesis of data, facts and literature on the problem. The summary of data and conclusions is based on the existing regulations, laws, ordinances and rules. The assessment also includes a site visit and field study; analysis of map materials and schemes; analysis of the available documentation; analysis of scientific literature; synthesizing the results of the analyses and preparation of expert assessment.

### **5.1.10 Cultural heritage**

The study of the archaeological sites was conducted in accordance with the requirements and methodology for investigations, referred to in the Rules for conduct of archaeological field research in Bulgaria, and in accordance with the actual data provided by competent authority.

### **5.1.11 Methodology for comparison with Greifswald NPP**

Because of the specific character of the facilities, subject to decommissioning and by reason of its similarity to Greifswald NPP units, the EWN experience in assessment of impacts as a result of the dismantling activities during decommissioning of Greifswald NPP nuclear power units was used as a basis in the decommissioning impact estimation. The comparative analysis is mainly oriented to site conditions, technical design, units operation, emissions of radionuclides (in the operational and post-operational phase), the collective effective dose (CED) for the personnel during operation and post operation and during the dismantling activities.

All data from the measurement of environmental impact parameters (radiological and non-radiological) during the decommissioning process in Greifswald NPP, including the post-operational phase (1990-1995) and the dismantling phase (since 1996) were recorded and evaluated.

The methods laid down in the radiological and non-radiological monitoring programs are described in the EWN Environmental Impact Register (EEIR) [50].

An Environmental Information System (EIS), as a part of the Decommissioning Management System (DeManS), is used for data recording and evaluation of the environmental parameters.

The actual state of the already evaluated environmentally related parameters is summarized in the EEIR [50] (see the summary in Chapter 11, Appendix 11.4).

## ***5.2 Laws, regulations, methodologies, methodology guidance, instructions, orders, decrees, rules, strategies and plan programs, used in the process of elaboration of EIA report***

The list of the laws, regulations, methodologies, methodological guidelines, instructions, ordinances, decrees, rules, strategies and plan-programs, used in the elaboration of the EIA-R, is presented below.

### **5.2.1 International**

*Rio Declaration on Environment and Development, 1992*

*Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, 25 June 1998*

*Espoo Convention (Convention on Environmental Impact Assessment in a trans-boundary context), 1991*

### **5.2.2 European Union**

This EIA Report was elaborated also according to the EC guidance for EIA development related to NPP decommissioning “*Guidance for Undertaking an EIA of Proposals to Decommission a Nuclear Power Plant*”; (EC Contract B4-3040/99/MAR/C2, Volume 2) June 2001.

*Council Directive of 25 June 1985 on the assessment of the effects of certain public and private projects on the environment (85/337/EEC), amended by the Directive 97/11/EC of 3. March 1997.*

*Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for Public Participation in respect of the Drawing up of Certain Plans and Programs relating to the Environment and amending with regard to Public Participation and Access to Justice Council Directives 85/337/EEC and 96/61/EC*

*Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on Public Access to Environmental Information and repealing Council Directive 90/313/EEC.*

### **5.2.3 European Bank for Reconstruction and Development (EBRD)**

The requirements are based on the *EBRD Environmental Policy (April 2003)* and the *Public Information Policy (May 2008)*. They are similar to the practice of the International Finance Corporation (IFC) to ensure that projects in which it invests are implemented in an environmental and socially responsible manner.



#### **5.2.4 Legislation related to the use of nuclear energy**

- Act on Safe Use of Nuclear Energy, promulgated in State Gazette No 63 of June 28, 2002, last amended State Gazette No 38/18.05.2012.
- Regulation on the Procedure of Granting Licenses and Permissions for Safe Use of Nuclear Energy, adopted with CMD 93/04.05.2004, promulgated in State Gazette No 41 of May 18, 2004, last amended State Gazette No 76/05.10.2012;
- Regulation on Safety of Nuclear Power Plants, adopted with Council of Ministers Decree No 172 of July 19, 2004, promulgated in State Gazette No 66 of July 30, 2004, last amended State Gazette No. 53/10.06.2008, in effect since 10.06.2008;
- Regulation on Safety during Decommissioning of Nuclear Facilities (art. 26, par. 2 from ASUNE), adopted with Council of Ministers Decree No 204 of August 5, 2004, promulgated in State Gazette No 73 of August 20, 2004;
- Regulation on Safe Management of Spent Nuclear Fuel, adopted with Council of Ministers Decree No 196 of August 2, 2004, promulgated in State Gazette No 71 of August 13, 2004;
- Regulation on Safety of Radioactive Waste Management, adopted with Council of Ministers Decree No 198 of August 3, 2004, promulgated in State Gazette No 72 of August 17, 2004;
- Regulation on the Terms and Procedure for Delivery of Radioactive Waste to the State Enterprise “Radioactive waste” (SE RAW), adopted with Council of Ministers Decree No 164 of July 14, 2004, promulgated in State Gazette No 64 of July 23, 2004;
- Regulation on the Basic Norms for Radiation Protection (BNRP 2012), adopted with Council of Ministers Decree No 229 of September 25, 2012, promulgated in State Gazette No 76 of October,05 2012;
- Regulation of Radiation Protection during Activity with Sources of Ionizing Radiation, adopted with Council of Ministers Decree No 200 of August 4, 2004, promulgated in State Gazette No 74 of August 24, 2004, last amended State Gazette No 76/05.10.2012.
- Regulation on the terms and procedure for determining the special statute areas around nuclear facilities and facilities with sources of ionizing radiation, promulgated SG 69/2004 of 06.08.2004, last amended SG 53/10.06.2008, in effect since 10.06.2008.
- Regulation on Emergency Planning and Emergency Preparedness in Case of Nuclear and Radiological Emergency (Promulgated SG, 94/29.11.2011).
- Regulation on the Conditions and Procedure for Notification of the BNRA about Events in Nuclear Facilities and Facilities with Sources of Ionizing Radiation (SG 71/13.08.2004, last amended SG 46/12.06.2007).
- Regulation on the Provision of Physical Protection of Nuclear Facilities, Nuclear Material and Radioactive Substances (Promulgated SG.77 of September 3, 2004, last amended SG 44/9.05.2008).



### **5.2.5 General legislation**

- Environmental Protection Act, promulgated in State Gazette No 91/2002, amended SG 103/29.12.2009, last amended SG 53/13.07.2012;
- Regulation for the Conditions and the Order for Implementing Environmental Impact Assessment (Title amended – SG 3/2006), adopted with CMD 59/7.03.2003, prom. SG 25/18.03.2003, amended SG 3/10.01.2006, SG 80/9.10.2009, SG 29/16.04.2010, SG 3/11.01.2011, SG 94/30.11.2012, in effect since 30.11.2012;
- Biological Diversity Act, promulgated in State Gazette No 77 of August 9, 2002, last amended State Gazette 33/26.04.2012;
- Protected Areas Act, promulgated in State Gazette No 133 of October 11, 1998, last amended State Gazette 19/08.03.2011, last amended 38/18.05.2012;
- Regulation No 4 from May 21, 2001 on the Scope and Content of the Investment Projects, promulgated in State Gazette No 51 of June 5, 2001, last amended State Gazette No 96/4.12.2009;
- Ordinance on the National Scheme for Environmental Management and Audit, adopted with CMD 61/2.03.2003, prom. SG 26/21.03.2003, last amended SG 31/04.04.2003.
- Law for ratification of UN Convention on Biodiversity (UNCBD), promulgated in State Gazette No 22 of March 15, 1996;
- Law for ratification of Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus, Denmark, 1998), promulgated in State Gazette No 91 of October 14, 2003;
- Law for ratification of Convention on Environmental Impact Assessment in a Trans-boundary Context (Espoo, Finland, 1991), promulgated in State Gazette No 28 of March 28, 1995;
- Regulation On Type, Amount And Procedure For Imposing Sanctions in Case of Environment Damage or Pollution beyond Allowable Limits and/or failure to comply with the emission standards and limitations, adopted with Council of Ministers Decree No 247/30.08.2011, promulgated in State Gazette No 70/09.09.2011;
- Regulation No 3, 15.05.2003 on the National Eco-labeling Scheme, promulgated in State Gazette No 49 of May 27, 2003, last amended State Gazette No 42 of May 23, 2006;
- Measurements Act, promulgated in State Gazette No 46 of May 7, 2002, last amended State Gazette No 82 of October 16, 2009;
- Law on ratification of Agreement between the European Community and the Republic of Bulgaria concerning the Participation of the Republic of Bulgaria to the European Environment Agency and the European Information and Observation Network, promulgated in State Gazette No 105 from 19.12.2000;
- Act for Responsibility for Prevention and Removal of the Environmental Damage, promulgated in State Gazette No 43/29.04.2008, amended SG 12/13.02.2009,

amended SG 32/28.04.2009, amended SG 35/12.05.2009, amended SG 77/1.10.2010, amended SG 98/14.12.2010, amended SG 92/22.11.2011, amended SG 14/17.02.2012, amended SG 53/13.07.2012;

- Regulation No 1 from 29.10.2008 for Preventive and Remedial Measures in accordance with the Provisions envisaged by Act for Responsibility for Prevention and Removal of the Environmental Damage and Minimum Implementation Cost, promulgated in State Gazette No 96 from 7.11.2008.

### **5.2.6 Atmosphere**

- Application of WMO recommendations on climate analysis and assessment;
- Application of digital model in wind mode definition, in compliance with EU regulatory requirements.

### **5.2.7 Air**

- Convention on Long-range Trans-boundary Air Pollution, (Geneva 1979), Ratified by Decree No 332 from 19.02.1981 - State Gazette 16 from 24.02.1981;
- Vienna Convention on the Protection of Ozone Layer, Ratified by Decree No 2235 from 17.10.1989 - State Gazette 82 from 20.10.1989;
- Ratification Law of the United Nations Framework Convention on Climate Change. Ratified with Act on 16.03.1995 -State Gazette 28 from 28.03.1995;
- Ratification Law of the Kyoto Protocol to the United Nations Framework Convention on Climate Change Ratified with Act on 17.07.2002 - State Gazette 72 from 25.07.2002, issued by the MEW, prom. SG 68/19.08.2005 , in force since 16.02.2005;
- Clean Ambient Air Act, promulgated in State Gazette No 45 from 28.05.1996, last amended State Gazette No 77 from 09.10.2012;
- Regulation No 6 from 26.03.1999 on the Terms and Procedure for Measurement of Harmful Substances Point-source Emissions discharged to the Atmosphere, promulgated in State Gazette No 31 from 6.04.1999, last amended State Gazette No 34/29.04.2011;
- Regulation No 1 from 27.06.2005 on the Emission Limit Values for Harmful Substances, Discharged to the Atmosphere from Point-source emissions, and promulgated in State Gazette 64 from 5.08.2005, in force since 06.08.2006;
- Regulation No 7 from 3.05.1999 on Ambient Air Quality Assessment and Management, promulgated in State Gazette No 45 from 14.05.1999;
- Regulation No 8 from 24.08.2004 on the Conditions and Requirements for Construction and Operation of Landfills and Other Facilities and Installations for Waste Disposal and Recovery, promulgated in State Gazette 83 from 24.09.2004 , amended State Gazette 87 from 30.10.2007, last amended SG 27/01.04.2011;
- Regulation on the Requirements for Liquid Fuels Quality, Terms, Procedure and Method of Control, adopted with Council of Ministers Decree No 156 from 15.07.2003 , promulgated in State Gazette 66 from 25.07.2003 , last amended State Gazette 36/10.05.2011, in force since 10.05.2011;

- Regulation on the Control and Management of Ozone Depleting Substances, Appendix No 6 art. 8 adopted with Council of Ministers Decree No 254 from 30.12.1999 , promulgated in State Gazette 3 from 11.01.2000 , last amended State Gazette 3 from 13.01.2009;
- Regulation No 7 from 21.10.2003 for Emission Limit Values of VOC Emitted into the Air Due to the Use of Solvents in Certain Installations, promulgated in State Gazette 96 from 31.10.2003 , last amended State Gazette 67 from 21.08.2009;
- Regulation No 14 from 23.09.1997 on Maximum Allowable Limit Value for Airborne Contaminants in Settlements Ambient Air, promulgated in State Gazette 88 from 3.10.1997 , last amended State Gazette 42 from 29.05.2007, in force since 01.01.2008;
- Regulation No 16 from 12.08.1999 on the Control of Volatile Organic Compound (VOC) Emissions Resulting from the Storage, Loading or Unloading and Transportation of Petrol, promulgated in State Gazette 75 from 24.08.1999 , last amended State Gazette 9 from 29.01.2008;
- Regulation 12/15.07.2010 for the limit values for sulfur dioxide, nitrogen dioxide, particulate matter, lead, benzene, carbon monoxide and ozone in ambient air, prom. SG 58/30.07.2010;
- Guidance for Development of Programs for Harmful Substances Emissions Reduction and Limit Value Respect, in the Areas of Ambient Air Management and Assessment, where Limit Values Violation is Present, effective as per Ordinance ПД-996/20.12.2001 of MEW + Appendix Guidance on the procedure of preparing statements of finding and measuring record of the harmful substances emissions discharged in the ambient air, adopted by MEW on 10.08.2001;
- Guidance on Preliminary Air Quality Assessment, adopted with Order No ПД - 76/07.02.2002 of MEW;
- Guidance on Manual Validation of Data Obtained from Air Quality Monitoring Points, approved by EEA Executive director;
- Guidance on the Procedure of Preparing Statements of Finding and Measuring Record of the Harmful Substances Emissions Discharged in the Ambient Air, adopted by MEW on 10.08.2001;
- Instruction No 1 from 3.07.2003 Requirements for Registration Procedures, Treatment, Storage, Presentation and Evaluation of In-house Continuous Measurements of Point-source Emissions of Pollutants Discharged in the Ambient Air, promulgated in State Gazette 69 from 5.08.2003;
- Common Methodology for Inventory Emissions of Harmful Substances in the Air. MEW, EEA, 2007. [http://eea.government.bg/bg/legislation/air/mpg-07/Metodika\\_2007.html](http://eea.government.bg/bg/legislation/air/mpg-07/Metodika_2007.html);
- Methodology on the Assessment of Volatile Organic Compound (VOC) Emissions Resulting from the Storage, Loading or Unloading and Transportation of Petrol (approved with Ordinance NoПД-1238/01.10.2003 - MEW);

- Methodology on the Definition of the Emissions from Motor Vehicles and Their Ground Level Concentration (approved with Ordinance No ПД-994/04.08.2003 of MEW);

#### **5.2.8 Surface and ground water**

- Water Act, promulgated in State Gazette 67 from 27.07.1999 , last amended State Gazette 82 from 26.10.2012;
- Regulation 1/11.04.2011 for Water Monitoring, prom. SG 34/29.04.2011, in force since 29.04.2011;
- Regulation 2/8.06.2011 for issuance of Permits for Discharge of Wastewater into Water Bodies and setting Individual Emission Limits for Point Sources of Pollution, prom. SG 47/21.06.2011, in force since 21.06.2011, amended SG 14/17.02.2012, in force since 17.02.2012;
- Regulation No 3 from 16.10.2000 on the Terms and Procedures for the Exploration, Design, Approval and Operation of Sanitary Protected Areas Around Water Sources and Installations for Drinking and Domestic Water Supply and Around Water Sources of Mineral Waters Used for Therapeutic, Preventive, Drinking and Hygienic Purposes, promulgated in State Gazette 88 from 27.10.2000;
- Regulation No 4 from 20.10.2000 on the Quality of Waters Supporting Fish and Shellfish Organisms' Life, promulgated in State Gazette 88 from 27.10.2000;
- Regulation No 6 from 9.11.2000 on the Limit Values for Admissible Contents of Dangerous and Harmful Substances in the Waste Water Discharged in the Water Bodies, promulgated in State Gazette 97 from 28.11.2000 , last amended State Gazette 24 from 23.03.2004;
- Regulation No 7 from 14.11.2000 on the Terms and Procedure for Discharge of Industrial Waste Waters into Settlement Sewer Systems, promulgated in State Gazette 98 from 1.12.2000;
- Regulation No 7 from 08.08.1986 for Indicators and Standards for Determining the Quality of Surface Water, prom. SG 96/12.12.1986;
- Regulation No 9 from 16.03.2001 on. the Quality of Water Intended for Human Consumption, promulgated in State Gazette 30 from 28.03.2001, last amended State Gazette 15/21.02.2012 , in force since 21.02.2012;
- Regulation No 13 for Characterization of Surface Water, prom. SG 37/08.05.2007;
- Regulation on Standards for Environmental Quality for Priority Substances and Certain other Pollutants, prom. SG 88/9.11.2010;
- Regulation on Use of Surface Water, prom. SG 56/22.07.2011;
- Regulation No 10 from 3.07.2001 on Issuing Permits for Waste Water Discharge into Water Bodies and Setting Individual Emission Limit Values for Point Sources of Pollution, promulgated in State Gazette 66 from 27.07.2001;

- Ordinance No ПД-272/2001 on the Categorization of the Surface Waters in Water Bodies and in parts of them;
- Ordinance No ПД-970/2003 for Determining the Sensitive Areas in Water Bodies.

### **5.2.9 Waste and hazardous substances**

- Waste Management Act, promulgated in State Gazette 53/13.07.2012, in force since 13.07.2012;
- Law on Ratification of the Basel Convention on the Control of Trans-boundary Movements of Hazardous Waste and their Disposal, promulgated in State Gazette 8 from 26.01.1996;
- Regulation No 3 from 1.04.2004 on Waste Classification, promulgated in State Gazette 44 from 25.05.2004, last amended SG 23/20.03.2012;
- Regulation on Packaging and Packaging Waste, Adopted with Council of Ministers Decree No 271/30.10.2012, prom. SG 85/6.11.2012, in effect since 6.11.2012;
- Regulation No 2/22.01.2013 on the Procedure and Formats, used to Submit Information on Waste Activities, as well as the Procedure for Keeping a Public Register, promulgated in State Gazette 10/05.02.2013;
- Regulation No 7 from 24.08.2004 on the Requirements for Sites Determined for Placing of Waste Treatment Facilities, promulgated in State Gazette 81 from 17.09.2004;
- Regulation No 8 from 24.08.2004 on the Conditions and Requirements for Construction and Operation of Landfills and Other Facilities and Installations for Waste Disposal and Recovery, promulgated in State Gazette 83 from 24.09.2004 , amended State Gazette 87 from 30.10.2007, last amended SG 27/01.04.2011;
- Regulation on the Requirements for Treatment and Transportation of Industrial and Hazardous Waste, adopted with Council of Ministers Decree No 53 from 19.03.1999 , promulgated in State Gazette 29 from 30.03.1999;
- Regulation on the Requirements for Treatment and Transportation of Waste Oils and Waste Oil Products, adopted with Council of Ministers Decree No 352/27.12.2012, prom. SG 2/08.01.2013;
- Regulation on the Requirements for Marketing of Batteries and Accumulators and for Treatment and Transportation of Spent Batteries and Accumulators, adopted with Council of Ministers Decree No 351/27.12.2012, prom. SG 2/08.01.2012, in effect since 08.01.2013, amended SG 6/22.01.2013;
- Regulation on the Requirements for Marketing of Electrical and Electronic Equipment and Treatment and Transportation of Waste Electrical and Electronic Equipment, adopted with Council of Ministers Decree No 355/28.12.2012, prom. SG 2/08.01.2013, in effect since 08.01.2013, amended SG 5/18.01.2013;
- Regulation on the Requirements for Treatment of Waste from Motor Vehicles, adopted with Council of Ministers Decree No 1/15.01.2013, prom. SG 7/25.01.2013;



- Regulation on Management of Construction Waste and Use of recycled Building Materials, adopted with CMD 277/5.11.2012, prom. SG 89/13.11.2012, in effect since 13.11.2012;
- Guidance on Pre-treatment of Waste prior to Disposal, MEW, Sofia, 2005;
- Guidance on Basic Characterization of Waste and applying the Criteria for acceptance of Waste at different Classes of Landfills, MEW, Sofia, 2011;
- Law of Protection from the Harmful Impact of the Chemical Substances and Preparations (title amended SG 114/2003, SG 63/2010, in effect since 13.08.2010), Promulgated in State Gazette 10 from 4.02.2000 , last amended State Gazette 84/2.11.2012, in effect since 2.01.2013;
- Regulation on the Procedure and Manner of Classification, Packaging and Labeling of Chemical Substances and Mixtures, prom. SG 68/31.08.2010, in effect since 31.08.2010, to be applied until 31.05.2015;
- Regulation on the Procedure and Manner of Storage of Dangerous Chemical Substances and Mixtures, adopted with CMD 152/30.05.2011, prom. SG 43/07.06.2011;
- Regulation on Prevention of Major Accidents involving Dangerous Chemical Substances and Limiting their Consequences, in effect since 01.01.2013, adopted with CMD 238/28.09.2012, prom. SG 76/05.10.2012;
- Regulation on Safety during Decommissioning of Nuclear Facilities (art. 26, par. 2 from LSUNE), adopted with Council of Ministers Decree No 204 of August 5, 2004, promulgated in State Gazette No 73 of August 20, 2004;
- Regulation on Safe Management of Spent Nuclear Fuel, adopted with Council of Ministers Decree No 196 of August 2, 2004, promulgated in State Gazette No 71 of August 13, 2004;
- Regulation on Safety of Radioactive Waste Management, adopted with Council of Ministers Decree No 198 of August 3, 2004, promulgated in State Gazette No 72 of August 17, 2004;
- Regulation on the Terms and Procedure for Delivery of Radioactive Waste to the State Enterprise “Radioactive waste” (SE RAW), adopted with Council of Ministers Decree No 164 of July 14, 2004, promulgated in State Gazette No 64 of July 23, 2004;
- Regulation of Radiation Protection during Activity with Sources of Ionizing Radiation, adopted with Council of Ministers Decree No 200 of August 4, 2004, promulgated in State Gazette No 74 of August 24, 2004, last amended State Gazette No 76/05.10.2012;

#### **5.2.10 Soils**

- Law on Environmental Protection, prom. SG 91/25.09.2002, last amended SG 53/13.07.2012;
- Arable Land Protection Act, promulgated in State Gazette 35 from 24.04.1996 , last amended State Gazette 38/18.05.2012;

- Law on Ownership and Use of Agricultural Land, prom. SG 17/01.03.1991, last amended SG 44/12.06.2012;
- Rules for Application of Arable Land Protection Act, promulgated in State Gazette 84 from 4.10.1996 , last amended 20.05.2011;
- Regulation No 26 from 2.10.1996 for Land Reclamation, Improvement of Infertile Land, Humus Layer Removal and Utilization, promulgated in State Gazette 89 from 22.10.1996 , last amended State Gazette 30 from 22.03.2002;
- Regulation for the Conditions and the Order for Implementing Environmental Impact Assessment, prom. SG 25/18.03.2003, last amended SG 38/2012;
- BDS 17.4.1.04-88 – General requirements to soil classification in reference to chemical contaminant's impact on soils;
- BDS 17.4.3.01-86 – General requirements to the methods for contaminants definition;
- Documents presented by the Investor.

#### **5.2.11 Earth bowels**

- Ores and Mineral Resources Act, promulgated in State Gazette No 23 of March 12, 1999, last amended State Gazette No 45 of June 15, 2012;
- Law on Environmental Protection, prom. SG 91/25.09.2002, last amended SG 53/13.07.2012;
- Regulation on geological and technical documentation of prospecting and mining sites (prom. SG 108/10.12.1999);
- Regulation on the National Geofund, adopted with Council of Ministers Decree No 264 of December 30, 1999, promulgated in State Gazette No 6 of January 21, 2000, last amended State Gazette No 54 of July 4, 2006;
- Regulation for the Conditions and the Order for Implementing Environmental Impact Assessment (Title amended – SG 3/2006), adopted with CMD 59/7.03.2003, prom. SG 25/18.03.2003, amended SG 3/10.01.2006, last amended SG 94/30.11.2012, in effect since 30.11.2012;
- Explanatory note to the geological map of Bulgaria in scale 1:100 000.

#### **5.2.12 Landscape**

- Country Regional Landscape Zonation. Geography of Bulgaria, Monograph BAS, Sofia. 1996;
- Country Landscape Zonation by Types Geography of Bulgaria, Monograph BAS, Sofia 1996;
- Petrov P. “Basic geo ecological landscapes classification in Bulgaria”. C. 1989;
- Landscapes Protection, Sofia 1986.

#### **5.2.13 Natural sites**

- Protected Territories Act, prom. SG 133/11.11.1998, amended SG 19/08.03.2011, last amended SG 38/18.05.2012;
- Biological Diversity Act, prom. SG 77/09.08.2002, last amended SG 33/26.04.2012;



- Convention on Wetlands of International Importance Especially as Waterfowl Habitat (The Ramsar Convention) - ratified, in force for the Republic of Bulgaria since 24.01.1976, last amended State Gazette 56 from 10.07.1992;
- Convention on the Conservation of Migratory Species of Wild Animals (The Bonn Convention) - ratified on 03.08.1999, in force for the Republic of Bulgaria since 01.11.1999 – last amended State Gazette 69 from 3.08.1999;
- Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) - ratified on 25.01.1999, last amended State Gazette 13 from 1991, in force for Bulgaria since 01.05.1991;
- National Plan on the Priority Action to Undertake for the Protection of the Most Important Wetlands in Bulgaria, 1995;
- National Strategy on the Protection of the Biological Diversity, 1993;
- National Plan on the Protection of the Biological Diversity 2005-2010;
- Sites in Bulgaria, important from ornithological point of view. Bulgarian Society for the Protection of Birds (BSPB), 1997;
- Protected Areas Register, Executive Environmental Agency, [eea.government.bg/zpo/index.jsp](http://eea.government.bg/zpo/index.jsp);
- Notification Ordinance for: protected landmark Propadnaloto blato- No.ПД-566/02.06.2005 of MOEW; protected landmark Zlatno pole- No.ПД476/11.07.2001 of MOEW; natural monuments (NM) Dolmen in the site Tchereshkata No.1187 /1976 of the Ministry of forestry and forestry industry;
- Regulation on Terms and Procedure for assessing the Compatibility of Plans, Programs, Projects and Investment Proposals with the Object and Purpose of Preservation of Protected Areas, prom. SG 73/2007, last amended SG 3/11.01.2011.

#### **5.2.14 Flora and vegetation**

- Biological Diversity Act, prom. SG 77/09.08.2002, last amended SG 33/26.04.2012;
- Medicinal Plants Act, prom. SG 29/07.04.2000, last amended SG 28/05.04.2011;
- Regulation on Terms and Procedure for assessing the Compatibility of Plans, Programs, Projects and Investment Proposals with the Object and Purpose of Preservation of Protected Areas, prom. SG 73/2007, last amended SG 3/11.01.2011;
- Council Directive 92/43/EEC from May 21 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora;
- National Plan on the Protection of the Biological Diversity, 2000. MEW;
- Handbook of Existing Methodologies to Assess and Predict the Impact on the Environment. 1997. MEW;
- Flora of Bulgaria, 1963 –1995. V. I – X, BAS;
- Red Book of Bulgaria, V I, 1984. BAS;

- Red Book of Bulgaria. Volume I Plants and mushrooms. 2011. BAS and MoEW.
- Red Book of Bulgaria. Volume III Natural habitats. 2011. BAS and MoEW.
- Apostolova, I., L. Slavova. 1997. Synopsis of plant communities in Bulgaria.
- Assiov, B. I all.. 2002. Synopsis of the higher flora of Bulgaria. Horology and flora elements. C. Bulgarian- Switzerland program for biological diversity protection ;
- Bondev, I. 1991. The vegetation in Bulgaria. St.Kliment Ohridski University edition;
- Bondev, I, 1997. Geo botanical zonation. B: Geography of Bulgaria, 1997, Acad. Edition “prof. M. Drinov”);
- Delipavlov, D. and others 2003. Determinant of the plants in Bulgaria.
- Kojuharov, St. and others 1992. Determinant of vascular plants in Bulgaria.
- Natura 2000 Manual. Environment Protection Series – b.5, BSPB.
- Pavlov, D. 2006. Phytocoenology.
- Pavlov, D., M. Dimitrov. 2010. Botany.
- Bern Convention. Council of Europe. 1979 (2000) STE ;
- Walter, K.S. and Gillett, H.J/ (eds) (1998) 1997. IUCN Red List of Threatened Plants. IUCN – The World Conservation Union, Gland.;

#### **5.2.15 Fauna**

- Biological Diversity Act, prom. SG 77/09.08.2002, last amended SG 33/26.04.2012;
- Simeonov, S., T. Michev, D. Nankinov 1999. Fauna of Bulgaria, v. 20 Aves Part I, BAS publishing, Sofia, 350 p.;
- Nankinov, D, S. Simeonov, T. Michev, B. Ivanov, 1997. Fauna of Bulgaria, V. 26. Aves. Part II., Sofia;
- Jankov, P. (eds.). 2007. Atlas of Breeding Birds in Bulgaria. Environment preservation series, Book 10. Sofia, BSPB.
- Michev, T., L. Profirov. 2003. Midwinter Numbers of Waterbirds in Bulgaria (1977-2001). Results from 25 years of mid-winter count carried out at the most important Bulgarian Wetlands. Publ. House Pensoft;
- Michev, T., M. Stoyneva (eds). 2007. Inventory of Bulgarian Wetlands and their Biodiversity. Publ. House Elsi-M, Sofia, 364 pp. + CD supplement;
- Golemanski and others (eds.). 2011. Red book of Bulgaria. Volume 2. Animals. BAS & MoEW, Sofia, 383 p.
- Council Directive 79/409/EEC or from April 2 1979 on the Protection Wild Birds;
- Council Directive 92/43/EEC or from May 21 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora;
- Instruction on Methodologies and Biological Programs;

- National plan for biological diversity protection;
- National program for biological monitoring;
- National strategy for biological diversity protection – vol. I, II, III;
- Biodiversity protection international conventions collection.

#### **5.2.16 Biological diversity**

- Biological Diversity Act, prom. SG 77/09.08.2002, last amended SG 33/26.04.2012;
- Council Directive 79/409/EEC or from April 2 1979 on the protection wild birds;
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.
- National Plan on the Protection of the Biological Diversity 2005-2010;
- Natura 2000 Manual. Environment Protection Series – b.5, BSPB.
- National Plan on the Protection of the Biological Diversity, 2000. MEW.
- Witeker, 1980 Biocenoses and ecosystems. Progress edition.

#### **5.2.17 Material assets and cultural heritage**

- Cultural Heritage Act, promulgated in State Gazette 19 from 13.03.2009 , in force from 10.04.2009; amended with Decision No 7 from 29.09.2009 - SG 80 from 9.10.2009; last amended State Gazette 92 from 20.11.2009 , in force from 20.11.2009, last amended State Gazette 82 from 26.10.2012;
- Protection and Promotion Culture Act, promulgated in State Gazette 50 from 1.06.1999 , last amended State Gazette 77/09.10.2012;
- Regulation No 5 from 14.05.1998 on Announcement of Immovable Cultural Monuments, promulgated in State Gazette 60 from 27.05.1998 , last amended State Gazette 20 from 6.03.2001;
- Regulation No 6 on the Use and Presentation of the Immovable Cultural Monuments, promulgated in State Gazette 30 from 13.04.1979;
- Regulation No 11 on the Procedure for the Acceptance of Conservation and Restoration Works Performed on Immovable Cultural Monuments, promulgated in State Gazette 25 from 29.03.1983;
- Regulation No 17 on Determining the Limits and the Regime for Use and Protection of Immovable Cultural Monuments Outside Towns and Villages, promulgated in State Gazette 35 from 4.05.1979;
- Regulation No 26 from 10.04.1996 on the Development, Use and Management of the Automatic Information System “Archaeological Map of Bulgaria”, promulgated in State Gazette 34 from 23.04.1996.
- European Convention for Protection of Archeological Heritage, (Ratified by law on 01.04.1993; prom. SG 30/1993; in effect since 25.05.1995);
- Convention for Protection of the European Archeological Heritage, (Ratified on 25.01.1991; prom. SG 13/1991; in effect since 01.05.1991).

### **5.2.18 Health risk**

- Health Act, promulgated in State Gazette 70 from 10.08.2004 , last amended State Gazette 82 from 26.10.2012;
- Law on Health and Safe Work Conditions, promulgated in State Gazette 124 from 23.12.1997 , last amended State Gazette 7 from 24.01.2012;
- Regulation No 29/16.09.2005 on the Health Limits and Requirements During Work in Ionizing Radiation Environment, issued by the Minister of Health, promulgated SG 78 from 30.09.2005;
- Regulation No 3 from 25.01.2008 on Condition and Regime for the Activities of Occupational Medicine Offices, promulgated in State Gazette 14 from 12.02.2008;
- Regulation No 7 from 23.09.1999 on Minimum Requirements for Healthy and Safe Occupational Work and Equipment Use Conditions, promulgated in State Gazette 88 from 8.10.1999, last amended State Gazette 40 from 18.04.2008;
- Regulation No 5 from 11.05.1999 on the Terms, Procedure and Frequency of Risk Assessment Performance, promulgated in State Gazette 47 from 21.05.1999;
- Occupational Safety Code during Loading-Unloading Operation.
- Occupational Safety Code for Compressed Air Facilities and Installations Operation.
- Regulation No 3 from 19.04.2001 on Minimum Requirements for Safety and Occupational Health Protection in Use of Personal Protective Equipment, promulgated in State Gazette 46 from 15.05.2001, in force from 16.08.2001, last amended State Gazette 40 from 18.04.2008;
- Regulation No 15/1999 on the Terms, Procedure and Requirements for the Development and Implementation of Physiological Work/Rest Mode at Work, promulgated in State Gazette 54 from 15.06.1999;
- Regulation No ПД-07/8/20.12.2008 for the Minimum Requirements for Signs and Signals of Safety and / or Health at Work, prom. SG 3/13.01.2009;
- Instruction for Informing the Population in Case of Exceeding the Established Alarm Thresholds, approved by MEW in 2003.

### **5.2.19 Demographic and socio-economic development**

- Law on Employment Promotion, [www.mlsp.government.bg](http://www.mlsp.government.bg;);
- Regional Development Act.-SG82/2009;
- National Strategic Plan for Rural Development 2007-2013. [www.mzg-rsr.org](http://www.mzg-rsr.org);
- National Demographic Strategy of the Republic of Bulgaria 2006-2020.[www.mlsp.government.bg](http://www.mlsp.government.bg);
- Operational Program "Human Resources Development" (2007-2013).  
[www.mrrb.government.bg](http://www.mrrb.government.bg);
- National Development Plan of the Republic of Bulgaria for the period 2007-2013. Agency for Economic Analysis and Forecasting. December 2005,  
[www.eufunds.bg](http://www.eufunds.bg);

- Strategic framework of the National Program for the Development of Bulgaria: Bulgaria 2020, I working version (draft), 16.03.2012. Council of ministers. Portal for public consultations. [www.strategy.bg](http://www.strategy.bg);
- Energy Strategy of the Republic of Bulgaria until 2020. For reliable, efficient and cleaner energetics, June, 2011, [www.mi.government.bg](http://www.mi.government.bg);
- Census of Population and Housing in Bulgaria in 2011. [www.nsi.bg](http://www.nsi.bg);
- Regional Development Plan of the Northwest Planning Region for 2007-2013, MRDPW, December 2005, [www.mrrb.government.bg](http://www.mrrb.government.bg);
- Vratsa District Regional Development Strategy 2005-2015, Vratsa, 2005, [www.europe.bg](http://www.europe.bg);
- Management program for Kozloduy Municipality for the period 2011-2015, [www.Kozloduy.bg](http://www.Kozloduy.bg);
- Municipal Development Plan for Kozloduy Municipality 2007 - 2013, rp. Kozloduy, June 2005, [www.Kozloduy.bg](http://www.Kozloduy.bg).

#### **5.2.20 Other documents**

- ToR for determining the Scope and Content of EIA for Investment Proposal “Decommissioning of KNPP Units 1-4”, Rev. 4a, SE RAW, 2012
- Technical Design for Decommissioning of Unit 1&2 KNPP, PHARE contract BG809-02-03, 2001, PHARE BG 9609-02-03, 2001;
- Updated Decommissioning Strategy for Units 1-4 KNPP, KPMU/DCS/001, Revision 0, 2006;
- Updated Technical design for decommissioning of Unit 1&2 KNPP - Detailed cost estimation, 2005;
- Decommissioning Plan for Units 1&2 Kozloduy NPP, 2008;
- Decommissioning Plan for Units 3&4 Kozloduy NPP, 2011;
- Safety Analysis Report (SAR) during Decommissioning of KNPP Units 1 and 2, KPMU, SE RAW, 2012;
- Intermediate Safety Analysis Report for Project 19 Design and construction of sites for the management of radioactive materials from the decommissioning activities for KNPP Units 1-4, 2012;
- Analysis of the dose burden for the population in the KNPP 30 km monitored area from the gas aerosol and liquid radioactive releases in the environment from KNPP Units 5-6, from the decommissioning of Units 1-4 and the emissions from the Plasma melting facility (PMF) operation.