

Legal Aspects and Practical Solutions to Environmental Problems in the Construction of New Nuclear Power Plants in the Republic of Bulgaria

Olga Borisova
Faculty of Law,
Varna Free University "Chernorizets Hrabar"
Varna, Bulgaria
olga.borisova@vfu.bg

Abstract — Nuclear technologies are emerging as one of the best ways to produce clean energy and ensure sufficient power for base load. At the global and national level, nuclear power plants are becoming a key resource that can guarantee national energy security, independence and affordable electricity prices. The issues related to project financing, lengthy and expensive licensing procedures, still unresolved issues with nuclear waste management and public opinion in assessing the impact of the project on the environment are being discussed. In view of the historical and regulatory analysis of the experience gained in the Republic of Bulgaria in building new nuclear power plants, conclusions have been formulated and trends for practical solutions to environmental and technological problems in nuclear energy have been outlined.

Keywords— *environment, licensing, nuclear legislation, nuclear power plant.*

I. INTRODUCTION

The Republic of Bulgaria has many years of experience in using nuclear technologies for the production of electricity. The beginning was made in the 1960s at the site in the town of Kozloduy, where four nuclear reactors of the VVER-440/B-230 type and two nuclear reactors of the VVER-1000/B-320 type were gradually built and put into operation.

The VVER-440/B230 reactors were designed in the late 1960s and their design was found to be inconsistent with modern safety requirements. Therefore, a number of improvements were implemented in the 1980s and 1990s

to implement an acceptable level of safety. Nevertheless, due to the country's accession to the European Union, the operation of the four nuclear reactors was terminated before the expiration of their design life. Units 1 and 2 were finally shut down for decommissioning at the end of 2002, and units 3 and 4 at the end of 2006.

The design of the VVER-1000/B-320 reactors (units 5 and 6 of the Kozloduy NPP) generally complies with internationally accepted safety requirements. They have a hermetic containment, triple redundancy of safety systems. They were put into operation in 1987 and 1991, respectively. The basic principle of nuclear power plant safety has been applied to them - defense in depth, using several physical barriers. Based on the analysis of operating experience, comparison with similar reactors and increased international safety requirements, a modernization program has been developed and implemented to improve the safety of the units.

Over the past two decades, the topic of "nuclear energy" has once again been on the agenda, both in the Republic of Bulgaria and worldwide, attracting the attention of scientists and politicians regarding the benefits of nuclear energy. Its role in combating climate change and carbon dioxide pollution is emphasized [1];[2]. It is gradually becoming an effective and economical alternative to electricity produced from fossil fuels. The expectations are that the European Union Commission will propose that nuclear energy be included as a "green" or "transitional" technology within the European Union's taxonomy for sustainable finance.

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On 2 February 2022, the European Commission approved in principle a Supplementary Delegated Act on Climate under the Taxonomy Regulation, relating to climate change mitigation and adaptation and covering certain activities related to natural gas and nuclear energy.

Two years later, on 6 February 2024, the European Parliament and the Council reached a political agreement on the proposal for the Net Zero Emissions Industrial Act. The European Union finally adopted the Net Zero Emissions Industrial Act on 28.05.2024.

This legislation is expected to attract investment and create better conditions and market access for clean technologies in the European Union. The aim is to increase the Union's overall strategic capacity for the production of net-zero emission technologies to at least 40% of annual deployment needs by 2030. This will accelerate progress towards the Union's 2030 climate and energy targets and the transition to climate neutrality by 2050. It also simplifies the regulatory framework for the production of clean technologies. This will help to increase the competitiveness of the net-zero emission technology industry in Europe, as well as to improve the capacity to store CO₂ emissions.

The legislative act identifies technologies that will make a significant contribution to decarbonization. The production of nuclear reactors and components for the operation of nuclear power plants is given priority support and incentives, including faster permitting procedures. Nuclear technologies are emerging as one of the best ways to produce clean energy and ensure sufficient baseload power. Nuclear power plants are emerging as a key resource that can guarantee national energy security, independence and affordable electricity. Currently, the Member States of the Union are working on plans to build about 21 new nuclear reactors - both conventional and small modular reactors.

II. MATERIALS AND METHODS

The article analyzes international and national legislation, including strategic and guiding documents of state bodies.

In Bulgaria, scientific publications on the topic are scarce, and changes in state policy and regulations are frequent and inconsistent. A combination of different scientific research methods was used to obtain a more complete and objective picture of the problem under study, among which the following stand out: historical-chronological, comparative and systematic analysis.

III. RESULTS AND DISCUSSION

A. *National nuclear characteristics of the Republic of Bulgaria*

Nuclear energy is of great importance for the Republic of Bulgaria. In the national energy mix, it accounts for 33% of the total amount of energy produced. The Council of Ministers manages the country's energy sector in accordance with the strategy adopted by the National

Assembly and the current Integrated Plan for Energy and Climate of the Republic of Bulgaria. With the changes in the geostrategic and political plan and the escalation of the conflict in Ukraine, the public discussion of the Draft Energy Strategy until 2030 with a horizon of 2050 scheduled for September 2020 has been postponed. Thus, as of 2020, the country has not had an effective, approved strategy for energy development that has been adopted by the National Assembly.

In January 2023, the Council of Ministers adopted a Strategic Vision for the Development of the Electricity Sector of the Republic of Bulgaria 2023 – 2053. Despite being adopted by a collective body of the executive power within its competence, the strategic vision does not have the features of an individual, general or normative act. It can be defined as a political framework, a document of a programmatic nature, formulating the policy, priorities, strategies.

According to the Strategic Vision for the Development of the Electricity Sector of the Republic of Bulgaria 2023 - 2053, the necessary investments for the nuclear energy, renewable energy and hydroelectric power sub-sectors for the period amount to 46,350 million euros.

It is planned that 1 billion euros or 23% of the total amount will be state participation. Investments in nuclear energy for 2023 - 2053 are planned for two projects with an estimated value of 22,000 million euros. International financial institutions and strategic investors are indicated as sources of financing.

In order to preserve the energy independence of the Republic of Bulgaria and its role as a net exporter of electricity and a balancer for the region, Part VIII of the document presents the prospects for electricity development for the period 2023-2053, including a set of options for achieving full decarbonization in 2050, while at the same time complying with the European "Fit for 55" package in 2030.

The reform of the EU's emissions trading system, as part of the "Fit for 55" energy package, is projected to lead to higher emissions prices. This in turn will lead to a 58% reduction in coal-fired power generation by 2030. In the model, most of the emissions reduction occurs by 2035, when lignite production declines significantly and is replaced by new nuclear generation.

The country's energy policy is carried out by the Minister of Energy. The Council of Ministers approves the Integrated Energy and Climate Plan of the Republic of Bulgaria and updates to the plan upon proposal of the Minister of Energy and the Minister of Environment and Water.

The National Integrated Energy and Climate Plan of the Republic of Bulgaria 2021-2030 was prepared in implementation of Regulation (EU) 2018/1999. It was submitted to the European Commission in March 2020 and approved in October of the same year. The plan is currently being updated. Given the current situation and trends in the

development of electricity price levels on energy markets, it appears that the envisaged reform regarding the decarbonization of the Bulgarian energy sector by 2026 in the Recovery and Sustainability Plan is unrealistic and difficult to achieve.

Including energy production from new nuclear capacity in the national energy mix after 2030 is part of the main assumptions in the draft updated plan.

B. Brief description of the nuclear projects for new nuclear capacities under construction in the Republic of Bulgaria

Nuclear power plants, as well as the approved sites for their construction, are sites of national importance.

According to the Act on the Safe Use of Nuclear Energy, a nuclear power plant is built by a decision of the Council of Ministers. The proposal for the construction of a nuclear power plant is submitted by the relevant minister. He organizes a discussion of the proposal for the construction of a nuclear power plant, in which state bodies and local government bodies, representatives of public organizations and interested individuals and legal entities participate. The assessment of the results of the discussion, including the environmental impact, is applied to the proposal. The use of a power unit of a nuclear power plant in accordance with its main purpose begins after the entry into force of an operating license issued in accordance with the law and in the presence of an effective license for the production of electricity and/or heat, issued in accordance with the Energy Act.

In 2005, by decisions of the Council of Ministers, the Belene site intended for a new nuclear power plant was designated as a site of national importance. The proposal of the relevant minister was approved and a consent in principle was given for the construction of the nuclear power plant after obtaining licenses and permits.

Seven years later, the Council of Ministers revoked its decisions, and the National Assembly, for its part, supported its actions and on 29.03.2012, adopted a decision terminating the construction of a nuclear power plant at the Belene site. The same decision assigned the relevant minister to carry out the necessary work to build a new nuclear power plant at the Kozloduy NPP site, using the equipment paid for by the Republic of Bulgaria. In addition, on 11.04.2012, the Council of Ministers adopted a decision giving its consent in principle to the construction of a new nuclear power plant at the Kozloduy NPP site. The decision assigned the relevant Minister to submit to the Council of Ministers a report with a view to making a decision on the substance and a report on the legal and organizational form for the implementation of the project.

The experience of the Republic of Bulgaria with the development of new nuclear projects and the licensing process for the construction of new nuclear power plants is long-standing, and at certain stages it is contradictory and inconsistent. In addition to the various factors that contribute to hesitant progress, there is also a lack of a clear

vision for monitoring procedures and processes aimed at ensuring a safer and more secure environment for citizens [3]. Furthermore, there is a pressing need to update the availability of both collective and individual anti-chemical and anti-radiation protection measures for the population [4].

In order to obtain information about the characteristics of the projects for new nuclear power plants in the country in terms of the application of eco-innovative technologies and the solution of environmental problems, the implementation of investment intentions in this direction was monitored over the last ten to fifteen years. The study of the established organization for licensing and commissioning the implementation of the project established the following:

The main objective of the state-owned company "Kozloduy NPP - New Builds" PLC is to organize and implement a feasibility study, design, construction and commissioning of power units of a nuclear power plant.

The site selection studies aim to assess the proposed four potential sites for new nuclear capacity. The sites are adjacent to the existing nuclear power plant – "Kozloduy NPP", which is in accordance with the requirements of national and international regulatory documents, including the recommendations of the International Atomic Energy Agency. These studies were contracted out to an external contractor and were carried out in the period 2012-2014.

In accordance with the requirements of the Environmental Protection Act, in May 2012, a procedure for assessing the environmental impact of an investment proposal was initiated. The assessment was also commissioned to an external contractor to conduct an independent analysis of the possible causes, sources, and degrees of impact during the project's implementation on environmental components and to determine the potential risks to the environment and human health during construction, normal operation, and possible design and beyond-design accidents at the plant.

An Environmental Impact Assessment Report was prepared, which was submitted to the Ministry of Environment and Water, as the competent authority for assessing the quality of the report, in August 2013, regarding the degree of impact of the investment proposal on protected areas, in accordance with the provisions of Article 34, paragraph 1 of the Ordinance on the terms and procedure for conducting an assessment of the compatibility of plans, programs, projects, and investment proposals with the subject and objectives of protecting protected areas.

The Ministry of Environment and Water gave a positive assessment of the report. In general, the results of the analysis reflected in the Environmental Impact Assessment Report are summarized in the following conclusions:

- No non-radiation impact on environmental components and factors is expected;

- No radiation impacts on water, land and soil, geological environment, subsoil, land use, mineral diversity, biological diversity, ecology, and cultural resources are expected; areas inhabited by protected, important, and sensitive species of flora and fauna; scenic areas; sites and objects of historical and cultural significance, objects protected by international or national law, as well as on human health;

- No negative impact from radioactive waste is expected, provided that the nuclear facility's decommissioning plans and all applicable Bulgarian and international legal requirements and practices are followed;

- The contribution of the new facility to the radiation background in the vicinity of Kozloduy from external radiation exposure is negligible, even in accumulation with the existing nuclear facilities at the Kozloduy NPP site. The cumulative impact in radiation terms on the environment is assessed as insignificant, and no cumulative impact in non-radiation terms is expected;

- No transboundary impact is expected on the territories of neighboring countries.

In August 2013, the Nuclear Regulatory Agency issued a permit for determining the location (site selection) of the nuclear facility. On the recommendation of the agency, the Bulgarian Academy of Sciences was assigned to carry out an independent verification of the results obtained during the studies carried out at the stage of the feasibility study. The subject of independent verification are the developments related to site selection in the areas of: Seismics, Meteorology, Engineering Geology. The independent verification confirms the studies carried out - the proposed site is suitable for the deployment of both the equipment ordered for the Belene NPP and the equipment under the project for a completely new technology III or III+.

In early 2014, negotiations began for the structuring of the project and its financing with Toshiba Corporation, Japan, as a strategic investor and Westinghouse Electric Company, USA, as the owner of the technology "Pressurized Water Reactor (PWR) - AP1000 of Generation III+". A few months later, in June 2014, Westinghouse Electric Company LLC replaced Toshiba Corporation as a strategic investor in the negotiations for the construction of a new nuclear capacity at Kozloduy NPP. During the negotiations, a proposal was made to change the strategic investor, which necessitated the Council of Ministers' decision to authorize the conclusion of an annex to the Strategic Investor Agreement.

In January 2015, the Environmental Impact Assessment procedure was completed with Decision No. 1-1/2015 of the Minister of Environment and Water, by which the competent authority approved the implementation of the investment proposal for the construction of a new nuclear power unit at the Kozloduy NPP site.

The administrative act was appealed before the Supreme Administrative Court, and the administrative case continued during the period 2016-2019.

With Decision No. 4904 of April 2, 2019, under administrative case No. 12369/2018, a five-member panel – Second Chamber of the Supreme Administrative Court overturned Decision No. 6524 of May 17, 2018, of the Supreme Administrative Court, rendered under administrative case No. 3947/2015, which had overturned Environmental Impact Assessment Decision No. 1-1/2015.

Along with overturning the decision of the lower court, the cassation instance also ruled to dismiss all appeals against the Environmental Impact Assessment Decision. Decision No. 4904 of April 2, 2019, is final (Article 223 of the Administrative Procedure Code), as with its issuance, the regular means of judicial review of the issued administrative act are exhausted. In accordance with Art. 90, para. 1 of the Administrative Procedure Code, the resolution of the dispute by the relevant judicial authority leads to the removal of the regulatory prohibition on the execution of the administrative act, in view of which, it should be considered that the contested Environmental Impact Assessment Decision has entered into force. In accordance with the requirements of the Nuclear Regulatory Agency and the applicable regulatory framework, with the entry into force of the Environmental Impact Assessment Decision, all necessary prerequisites for the issuance of an Order by the Chairman of the Nuclear Regulatory Agency for the approval of the selected site for the construction of a nuclear facility have been met.

• The National Assembly made a decision in June 2018 to resume activities to explore opportunities for the construction of Belene Nuclear Power Plant. With its decision, the National Assembly recommended to the Council of Ministers to take action to repeal its decision No. 250 of 29.03.2012, in order to conduct negotiations with potential investors and equipment manufacturers. This repeal became a fact with the adoption of the Council of Ministers decision No. 447 of 29.06.2018. The adopted decision of the Council of Ministers and the possible restart of the construction of the Belene NPP (by repealing decision No. 250/29.03.2012) does not imply the termination of the activities of Kozloduy NPP - New Builds PLC. The specified acts of the legislative and executive authorities relate only to the Belene NPP project, and have no legal effect with regard to the project for the construction of a new nuclear capacity at the Kozloduy NPP site. The establishment of the Company is the result of a valid decision of the sole owner of the capital - "Kozloduy NPP EAD", which has received prior consent from Bulgarian Energy Holding EAD, in accordance with the articles of association of both companies. The specified actions were taken in implementation of a decision of the Council of Ministers under item 1 of Protocol No. 14 of April 11, 2012, which gives consent in principle for the construction of a new nuclear capacity of the latest generation at Kozloduy NPP and which is not affected by the repeal of the decision of the Council of Ministers No. 250/29 March 2012. Along with this, the decision of the

National Assembly from 2012, which has also not been repealed, should also be taken into account, and by which the Minister of Economy, Energy and Tourism is assigned activities for the construction of a new nuclear power plant at the Kozloduy NPP site.

Working meetings were held with representatives of the Ministry of Environment and Water and in May 2019, specific actions were determined in accordance with the effective Decision No. 1-1/2015 of the Minister of Environment and Water, which approved the investment proposal for the construction of a new nuclear power plant of the latest generation at the Kozloduy NPP, concerning:

- Development of a Plan for measures to prevent, reduce or eliminate significant harmful impacts on the environment (Monitoring Program) in accordance with the requirements of the Decision;

- Assessment of the need to prepare an environmental assessment of the developed Plan/Program;

- The transboundary nature of the investment proposal - the need to notify the affected parties in the Environmental Impact Assessment procedure of the effective Decision;

- Development of the above-described Monitoring Plan/Program and preparation of the necessary documentation for its submission to the Ministry of Environment and Water and the Regional Inspectorate for Environment and Water - City of Vratsa.

In order to fulfill the imperative obligations, conditions and measures set out in the Decision on Environmental Impact Assessment, it is necessary to carry out constant monitoring and periodic control of the parameters of the processes and phenomena of natural and technogenic origin, concerning the site area, by building monitoring systems in a radiation and non-radiation aspect. A working group has been formed, with experts from Kozloduy NPP and "Kozloduy NPP – New Builds" PLC, which has developed a Program for constant monitoring of site No. 2, approved for the deployment of a new nuclear facility – a nuclear power plant, containing activities, methods and requirements necessary to ensure the construction and implementation of a monitoring network in volume and content, in accordance with national and international requirements.

In accordance with the requirements described in the terms of the Decision on Environmental Impact Assessment, the Program has been sent for coordination with the Executive Agency for Environment, the Ministry of Health and the Nuclear Regulatory Agency.

The Executive Agency for the Environment has no comments on it. The Ministry of Health has noted the need to add clarifying information, which will not significantly change the content of the Program.

The main objectives of the monitoring are resource provision, use of sensors and interfaces suitable for the

implementation of the objectives and application of the principles of autonomy, redundancy and diversity.

- At its meeting on October 14, 2020, in the context of achieving the European Union's goals for climate neutrality by 2050 and diversification of energy resources, the Council of Ministers decided to take preparatory actions and study the possibilities for building a new nuclear power plant at Site No. 2 at Kozloduy NPP, approved by order of the Chairman of the Nuclear Regulatory Agency.

The relevant Minister has been assigned to take the necessary actions and authorize Bulgarian Energy Holding EAD to enter into negotiations with companies from the United States of America developing new nuclear technologies for peaceful purposes, including small modular reactors, in order to study the possibilities for building a new nuclear power plant at the approved site at Kozloduy NPP.

- The Bulgarian Minister of Energy and the US Assistant Secretary of State for International Security signed a Memorandum of Understanding on future nuclear cooperation in October 2020. In the context of the Memorandum of Understanding, on December 4, 2020, the U.S. Ambassador and her team visited the Kozloduy NPP to explore the possibility of a partnership in developing a solution for the future energy needs of the Republic of Bulgaria.

- Based on a meeting between the Prime Minister of the Republic of Bulgaria and the Executive Director of Kozloduy NPP on January 20, 2021, a report by the Minister of Energy on the actions and results of the study of opportunities for the construction of a new nuclear power plant at the approved site in Kozloduy NPP was adopted at a meeting of the Council of Ministers. At the meeting, the Minister of Energy specified that talks had been held and correspondence had been exchanged, including with Westinghouse, as three technologies were approved under the Environmental Impact Assessment. One technology is the American AP1000 reactor technology, the other two are Russian technologies, which are the reactors for Belene NPP. The experts' report notes that the implementation of Unit 7 of Kozloduy NPP with the available equipment from the Belene NPP project is supported. The executive director of Kozloduy NPP EAD expressed the opinion that with good organization, a new unit could be launched within ten years.

- "Kozloduy NPP - New Builds" PLC concluded a contract with Westinghouse Energy Systems LLC - Bulgaria Branch in March 2023 for the provision of initial engineering and design services. Within the framework of the contract, the advantages of the site at "Kozloduy NPP" for the deployment of two nuclear units of type AP1000, related to the available infrastructure, should be assessed, as well as the opportunities of the Bulgarian industry for participation in the project should be analyzed. After completion of the activities under the contract, it is expected to provide engineering services related to the design, project management and engineering development of the site for the deployment of two new nuclear units of

III + generation type AP 1000. In June 2023. The implementation of the concluded contract began, and a year and a half later, on October 23, 2024, an additional agreement was signed between the parties to extend the term and scope of the contract for preliminary engineering activities.

- Kozloduy NPP - New Builds PLC published an announcement in January 2024 on its official website for the expression of interest in the construction of a new nuclear unit. The purpose of the procedure is to determine the so-called "shortlist" of potential construction companies for engineering, construction, delivery and commissioning of a nuclear power plant at the approved site in Kozloduy, with AP1000 technology. This is the initial stage of the selection of a contractor. It is expected that Westinghouse will be the supplier of equipment, but not the project implementer.

Companies that have expressed interest in the construction of a new nuclear unit must provide financial data on the state of the companies they represent for the last five years, and financial statements must have a net profit and turnover exceeding an average of 6 billion US dollars for this period. An important element is proof of experience in the nuclear field, and such experience acquired in the last 15 years, as a lead designer under contract/s for the construction and commissioning of at least two nuclear units.

The announced procedure is limited to pre-qualification of candidates and selection, during which the requested information submitted by interested candidates is checked for compliance with the eligibility criteria and pre-qualification on a "pass/fail" basis. Approved candidates who meet the pre-qualification criteria have the opportunity to submit their offers in a separate new procedure. A separate new procedure will be launched for the purposes of detailed negotiations with those selected in the shortlist.

Meanwhile, on February 12, 2024, the U.S. Assistant Secretary of Energy for International Affairs and the Bulgarian Minister of Energy signed an Intergovernmental Agreement for Cooperation on the Development of the Civil Nuclear Energy Program of the Republic of Bulgaria and Potential Other Forms of Clean Energy Cooperation as the United States and Bulgaria may determine. The agreement will establish a working group to support the Bulgarian government's plans to design, build, and commission a new reactor with an installed capacity of at least 1,000 megawatts at the Kozloduy NPP.

The procedure announced by the project company "Kozloduy NPP - New Builds" for expressing interest from a potential general contractor of the project to enter a consortium with the American "Westinghouse", whose AP1000 technology will be used to build the reactors, ended on February 2. Five companies submitted expressions of interest. Fluor B.V., Bechtel Nuclear Power Company Limited, Hyundai Engineering & Construction Co., Ltd., a consortium led by China National Nuclear Corporation Overseas Ltd. and partner China Energy Engineering Group Tianjin Electric Power Construction

Co., Ltd., as well as China Energy Engineering Corporation Limited. Of the five candidates, only Hyundai (Hyundai Engineering & Construction Co.,Ltd.) meets the requirements. The Korean company must submit its binding offer for the construction of the two reactors, have it accepted by the Bulgarian company, and the construction company itself must be approved by Westinghouse, with which they must create a consortium for the construction of the new nuclear power plants.

When presenting their vision for the 7th and 8th units of the Kozloduy NPP, the Korean investors from the Hyundai company, elected by the parliament, in a television interview for NOVA on 25.06.2024, claimed that their construction would be completed by 2032, that is, in 8 years, with an average duration of 10 years for such projects. Also, 70% of the construction costs will not come from the state, but from loans, some of which from the Korean Development Bank. Their intention is for the 7th and 8th reactors in our country to be ready by 2032, with the planned capacity of just one reactor being over 1,000 megawatts. The company claims that the construction will require 10,000 people to work directly at the Kozloduy NPP site. Before that, Hyundai and Westinghouse will create a consortium in which they will invite Bulgarian companies with their experts to participate. In January 2024, they conducted a study of the Bulgarian market and met with about 40 companies. Their calculations indicate that within the framework of this process they will include over 150 Bulgarian companies that will participate in the implementation of the project. However, before this happens, the acting Minister of Energy explains, a detailed project plan must be developed.

- Pursuant to Art. 95, para. 1 of the Environmental Protection Act and Art. 4, para. 1 of the Ordinance on the terms and procedure for conducting an environmental impact assessment, in February 2024 "Kozloduy NPP - New Builds" announced an investment proposal for the construction of Unit 8 at Kozloduy NPP. A notification of the investment proposal for the construction of Unit 8 of Kozloduy NPP has been sent to the Minister of Environment and Water.

- It should be clarified that at the present moment, the national public procurement procedures and the selection of contractors under them are carried out by Kozloduy NPP in accordance with the Public Procurement Act and the Regulations for the Implementation of the Act. The company is a sector contracting entity under the law with its main activity in electricity. The project company "Kozloduy NPP - New Builds" PLC, which is engaged in the construction of a new nuclear power plant (units 7 and 8) at the "Kozloduy NPP" site, is not a contracting authority within the meaning of the Public Procurement Act. It conducts the procedures for selecting a contractor in accordance with the Procurement Rules (an internal company document adopted and registered in accordance with the established procedure in the company). Invitations to interested parties who wish to participate in the procedures are announced on the company's website. All

necessary documents for applying for the procedure are attached there as a link.

- The Ministry of Energy officially announced in November 2024 that Kozloduy NPP – “New Builds” PLC and the Westinghouse HD&C consortium have signed a contract for the engineering of Units 7 and 8 at Kozloduy NPP. As a result of signing the contract, within the next 12 months the ministry will have a clear commitment to the schedule and financing of the new power plants. According to the announcement, the signing of the contract is a key stage in the work on the implementation of the project for the construction of a new nuclear power plant in the Republic of Bulgaria. The joint work of the two global companies - "Westinghouse" and "Hyundai" - to provide an integrated service in Bulgaria will guarantee the implementation of the project within the previously set deadlines and budget.

IV. CONCLUSIONS

The article presents the perspectives of nuclear energy in the national energy policy of the Republic of Bulgaria,

based on eco-innovative technologies, the experience gained in the development of new nuclear projects and the established organization for licensing and commissioning the implementation of these projects. An important emphasis is placed on environmental legislation, the licensing process, technical standards and international cooperation.

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