MISSION REPORT

ON

THE INTEGRATED NUCLEAR INFRASTRUCTURE REVIEW (INIR) - PHASE 2

Counterpart: Ministry of Climate and Environment

of the Republic of Poland

15 – 25 April 2024

Warsaw, Poland

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EXECUTIVE SUMMARY

Poland is country in Baltic region of Europe with a population of about 38 million. Poland has been a Member State of the European Union (EU) since 2004 and of the International Atomic Energy Agency (IAEA) since 1957.

Poland has an installed electrical capacity of 52 834 MW (UNdata 2021), (by source: 69% coal and lignite, and 16% renewable). More than 60% of the power plants generating electricity are over 30 years old and will need to be replaced in the coming years. At the same time, electricity consumption is expected to grow by 36% by 2030 compared to the 2015 level.

The country has a long history of activities related to nuclear power dating back to the 1970s, when a project to construct a nuclear power plant (NPP) was initiated, and then stopped in 1990. In 2009, the Government of Poland established a committee to re-examine the potential introduction of nuclear power to meet the country's growing energy demands and reduce its reliance on fossil fuels. Subsequently, the country has revised its national energy policy to include nuclear power and developed the Polish Nuclear Power Programme (PNPP) that was approved by the Council of Ministers (CoM) in 2014. The PNPP was further revised and updated in October 2020, setting the objective of building two NPPs, with a total installed nuclear capacity of 6 to 9 GW(e). Its goals include starting commercial operation of the first unit in 2033 and having 27% of the total electricity production from nuclear power by 2045. The main pillars of the PNPP are energy security, protection of the environment and climate, and economic benefits. Polskie Elektrownie Jądrowe sp. z o.o. (PEJ) was established in 2021 by the Polish Government as the owner, and potentially, operator of the NPP.

At present, the Nuclear Energy Programme Implementing Organization (NEPIO) function is being carried out by the Ministry of Climate and Environment (MoCE). Its Nuclear Energy Department (NED) serves as the technical arm of the NEPIO. All draft policies and reports developed by NED are submitted to the Ministry's management and then approved by the Minister.

In November 2022, the CoM approved the decision that the first nuclear power plant in Poland will comprise three Westinghouse Electrical Company (WEC) AP1000 reactors. The Minister of Climate and Environment issued the decision-in-principle to construct the nuclear power plant in July 2023. In September 2023, PEJ signed an Engineering Services Contract (ESC) with a consortium composed of WEC and Bechtel, to finalize the design of the units for the Lubiatowo-Kopalino site, and to prepare the Engineering, Procurement and Construction (EPC) contract. According to the current schedule, the construction of the first unit will begin in 2026 with commercial operation expected to begin in 2033.

On 16 December 2022, Poland requested the IAEA to carry out a Phase 2 Integrated Nuclear Infrastructure Review (INIR) mission in Poland. The initial self-evaluation report (SER) was submitted to the IAEA on 19 October 2023. A combined SER Support and pre-INIR mission was conducted from 14 to 16 November 2023. Poland submitted its final SER, including supporting documents, on 14 February 2024 to the IAEA. The INIR mission was conducted from 15 to 25 April 2024, in Warsaw, Poland.

The INIR mission and associated activities were funded through the IAEA Technical Cooperation (TC) project POL2021 '*Strengthening National Infrastructure for Nuclear Safety, Radiation Protection, and Nuclear Power*' and extra budgetary contributions.

Mr Miłosz Motyka, Undersecretary of State at the Ministry of Climate and Environment and Ms Aline Des Cloizeaux, Director of the IAEA Division of Nuclear Power in the Department of Nuclear Energy, together with Mr Andrzej Głowacki, President of the National Atomic Energy Agency (PAA), and Mr Piotr Piela, Vice President of the Management Board of Polskie Elektrownie Jądrowe sp. z o.o., provided opening remarks for the mission. On the Polish side, the mission was coordinated by Mr Paweł Pytlarczyk, Director of the Nuclear Energy Department. The INIR team was led by Mr Mehmet Ceyhan of the IAEA Nuclear Infrastructure Development Section (NIDS) and consisted of staff from the IAEA Departments of Nuclear Energy, Nuclear Safety and Security, and Safeguards, and its Office of Legal Affairs, as well as international experts recruited by the IAEA.

The INIR mission was conducted in a cooperative, open, and sincere atmosphere. The INIR team concluded that Poland has carried out extensive work to implement the PNPP and develop the required infrastructure. Poland has established a legal and regulatory framework and is working on contractual arrangements for the construction of the first NPP. Poland has implemented an extensive programme on stakeholder involvement that underpins strong public support at the national and local levels.

In order to assist Poland in making further progress in its infrastructure development, the INIR team made 5 Recommendations and 7 Suggestions. The INIR team also identified 7 Good Practices that may benefit other countries considering the introduction of nuclear power.

Based on the Recommendations and Suggestions, the key areas for further action are summarized below:

- **Poland needs to further review its legal and regulatory framework to support the introduction of safe, secure, peaceful, and sustainable nuclear power**

Poland has developed and updated the PNPP, has enacted a comprehensive nuclear law, is party to most of the relevant international legal instruments, effectively participates in the peer-review processes of relevant conventions, and is planning to adhere to the one remaining instrument. Poland reviews and amends, if necessary, its nuclear law and other legislation that may affect the PNPP; however, a systematic and comprehensive review process for the whole legal framework is needed.

Poland has established a regulatory body and developed a sound regulatory framework to cover safety, nuclear security, and radiation protection, plans to revise some of its regulations, and is developing a new regulation on the content of the preliminary site evaluation report. Poland needs to complete the update of its regulations in a timely manner to support the EPC contract preparation and the construction license process for the first NPP.

- **Poland needs to finalize the preparatory work required for the contracting and construction stages**

Poland has established PEJ as the owner/operator for the PNPP. PEJ has developed a management system, established an organizational structure, and is developing its human resources to perform its responsibilities during the contracting and construction stages. PEJ is also working on developing structural units and human resources for the operational stage, although its mandate does not yet clearly cover that stage.

PEJ is working with its partners on the details of the EPC contract for the construction of the NPP. PEJ, under the supervision of the Government Plenipotentiary for Strategic Energy Infrastructure (referred to as the 'Plenipotentiary'), is also working towards the financial close for the first NPP project of the PNPP, which requires further development of its business plan and financial model.

PEJ has completed the approval of the Environmental Impact Assessment (EIA) for the siting stage of the first NPP and is developing the monitoring programme to establish the environmental baseline before the application for construction licence. PEJ is also developing programmes and plans for the first NPP in different areas, for example radioactive waste management which needs further cooperation with the radioactive waste management plant, Zakład Unieszkodliwiania Odpadów Promieniotwórczych (ZUOP).

Poland has arrangements for nuclear and radiation emergencies, and safeguards, covering current and planned activities and facilities. However, a coordinated strategy and associated action plan to strengthen those arrangements for nuclear power needs to be developed.

1. INTRODUCTION

Poland is country in Baltic region of Europe with a population of about 38 million. Poland has been a Member State of the EU since 2004 and of the IAEA since 1957.

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2. OBJECTIVES OF THE MISSION

The main objectives of the INIR mission were to:

— Evaluate the development status of the national infrastructure to support the nuclear power programme according to the IAEA publication entitled *Milestones in the Development of a National Infrastructure for Nuclear Power, IAEA Nuclear Energy Series No.* NG-G-3.1 (Rev. 1), and the evaluation conditions described in the IAEA publication *Evaluation of the Status of National Infrastructure Development, IAEA Nuclear Energy Series No.* (NG-T-3.2 (Rev. 2);
— Identify the areas needing further actions to reach Milestone 2: Ready to invite bids/negotiate a contract for the first nuclear power plant;

— Provide recommendations and suggestions which can be used by Poland and national institutions to prepare an action plan.

3. SCOPE OF THE MISSION

The INIR mission evaluated the status of the infrastructure in Poland covering all of the 19 Infrastructure Issues relative to the conditions identified in the above publications for Phase 2.

4. WORK DONE

Prior to the mission, the INIR team has reviewed the self-evaluation report and supporting documentation that included relevant national laws, regulations, studies, and reports. The INIR team sought input from IAEA staff members with relevant expertise working with Poland. INIR team meetings were conducted prior to the mission in Vienna from 11 to 12 April 2024 and in Warsaw on 14 April 2024.

The INIR mission was conducted from 15 to 25 April 2024. The meetings were held at the MoCE in Warsaw. The main interviews were conducted over six days. Poland was very well prepared for the mission and managed its participation in the review effectively. During the interviews, the Polish counterparts provided an update on the current status of the Infrastructure Issues where progress had been made since the SER was finalized, and provided additional supporting documentation requested by the INIR team.

The preliminary draft report was prepared by the INIR team and discussed with the counterparts. The main mission results were presented to representatives of the Government in an exit meeting on 25 April 2024 and the preliminary draft report was delivered to the counterparts during this exit meeting.

The results of the mission are summarized in Section 5 and presented in tabular form in Section 6 for each of the 19 Infrastructure Issues in Phase 2. Appendix 1 provides the evaluation results for each issue.

5. MAIN CONCLUSIONS

The INIR mission was conducted in a cooperative, open, and sincere atmosphere. The INIR team concluded that Poland has carried out extensive work to implement the PNPP and develop the required infrastructure. Poland has established a legal and regulatory framework and is working on contractual arrangements for the construction of the first NPP. Poland has implemented an extensive programme on stakeholder involvement that underpins strong public support at the national and local levels.

In order to assist Poland in making further progress in its infrastructure development, the INIR team made 5 Recommendations and 7 Suggestions. The INIR team also identified 7 Good Practices that may benefit other countries considering the introduction of nuclear power.

Based on the Recommendations and Suggestions, the key areas for further action are summarized below:

- **Poland needs to further review its legal and regulatory framework to support the introduction of safe, secure, peaceful, and sustainable nuclear power**

Poland has developed and updated the PNPP, has enacted a comprehensive nuclear law, is party to most of the relevant international legal instruments, effectively participates in the peer-review processes of relevant conventions, and is planning to adhere to the one remaining instrument. Poland reviews and amends, if necessary, its nuclear law and other legislation that may affect the PNPP; however, a systematic and comprehensive review process for the whole legal framework is needed.

Poland has established a regulatory body and developed a sound regulatory framework to cover safety, nuclear security, and radiation protection, plans to revise some of its regulations, and is developing a new regulation on the content of the preliminary site evaluation report. Poland needs to complete the update of its regulations in a timely manner to support the EPC contract preparation and the construction license process for the first NPP.

- **Poland needs to finalize the preparatory work required for the contracting and construction stages**

Poland has established PEJ as the owner/operator for the PNPP. PEJ has developed a management system, established an organizational structure, and is developing its human resources to perform its responsibilities during the contracting and construction stages. PEJ is also working on developing structural units and human resources for the operational stage, although its mandate does not yet clearly cover that stage.

PEJ is working on the details of the EPC contract for the construction of the NPP with its partners. PEJ, under the supervision of the Plenipotentiary, is also working towards the financial close for the first NPP project of the PNPP, which requires further development of its business plan and financial model.

PEJ has completed the approval of the EIA for the siting stage of the first NPP and is developing the monitoring programme to establish the environmental baseline before the application for construction licence. PEJ is also developing programmes and plans for the first NPP in different areas, for example radioactive waste management which needs further cooperation with the radioactive waste management plant, ZUOP.

Poland has arrangements for nuclear and radiation emergencies, and safeguards, covering current and planned activities and facilities. However, a coordinated strategy and associated action plan to strengthen those arrangements for nuclear power needs to be developed.

Recommendations

R-4.2.1 PEJ should further develop its non-technical project definition (business plan and financial model) to facilitate market engagement to secure its means of financing;

R-6.1.1 Poland should perform an assessment, and subsequently develop and implement a plan to strengthen its state system of accounting for and control of nuclear material (SSAC) and related safeguards infrastructure to support the introduction of nuclear power;

R-6.2.1 PEJ should further develop its understanding of safeguards requirements including the necessary staffing, training, and technical resources;

R-6.3.1 Poland should initiate discussions with the IAEA regarding design information for its planned nuclear power reactors as soon as possible;

R-14.1.1 Poland should develop and implement a coordinated action plan, to ensure that the required emergency preparedness and response (EPR) arrangements and capabilities for the NPP are in place before fuel is brought to the site.

Suggestions

S-5.1.1 Poland is encouraged to complete the process of adhering to the Convention on Supplementary Compensation for Nuclear Damage;

S-5.2.1 Poland is encouraged to reassess, and amend, as necessary, the Atomic Law Act (ALA) to improve the effective independence of regulatory decision making and to adequately address all aspects of a comprehensive nuclear law;

S-5.3.1 Poland is encouraged to introduce a mechanism to conduct a comprehensive review of all other legislation affecting the nuclear power programme and ensure that all necessary amendments are enacted in a timely manner;

S-12.1.1 PEJ is encouraged to consider submitting the Preliminary Site Evaluation Report to PAA to get an advanced opinion and facilitate the process of reviewing the construction licence application;

S-13.1.1 PEJ is encouraged to complete the monitoring plan to define the environmental baseline;

S-13.3.1 PAA and the General Directorate for Environmental Protection (GDOŚ) are encouraged to formalize their working level interfaces and arrangements, to strengthen coordination of all matters relevant to environmental protection for the PNPP;

S-17.1.1 PEJ is encouraged to enhance coordination with ZUOP for the development of the radioactive waste management plan for the NPP, including the definition of the requirements for the relevant facilities.

Good Practices

GP-3.1.1 PEJ has adopted an incremental approach, by successive contracts from preliminary viability studies, through the ESC, providing for a strong understanding of the NPP project requirements before finalizing the EPC contract;

GP-4.1.1 The Polish Government's long-term and comprehensive program-level funding commitments (via NED, public authorities, and state-backed project parties) facilitate strong alignment and effective planning across the project parties, including PEJ;

GP-7.1.1 Under its authorization system for TSOs, PAA has already authorized 11 TSOs capable of providing external support to PAA, where needed, to effectively discharge its regulatory responsibilities for the NPP;

GP-9.1.1 PEJ arranged for PSE and the Consortium to hold direct bilateral discussions on the details of the interfaces between the NPP and the grid, which is proving to be effective in identifying and resolving any issues;

GP-11.1.1 NED's annual surveys, national media campaign, and provision of training and teaching materials for schools, underpin a high level of support for nuclear power;

GP-11.1.2 PEJ's proactive engagement with the local community though regular surveys, face to face interviews, local information centres and support for local education centres, shows an integrated approach, resulting in a high level of local support for the NPP;

GP-18.1.1 NED's development of the Polish Industry for the Nuclear Energy Catalogue, and its continuing support for local industry together with PEJ, is an effective way to maximize the opportunity for local suppliers to participate in the NPP project.

6. EVALUATION RESULTS FOR PHASE 2

For the purposes of the INIR mission results, the following definitions are used:

Significant* actions needed:

The review observations indicate that important work still needs to be initiated or completed to meet the condition.

Minor* actions needed:

The review observations indicate that some additional work or steps are needed to meet the condition or that plans for the next phase need to be enhanced.

No actions needed:

The available evidence indicates that all the work to meet the condition has been completed.

(*) The judgment whether the actions are significant, or minor is based on the importance of the work to the overall programme and/or the resources needed to complete it. The classification is done through a consensus of the INIR team and is not based solely upon the judgment of any individual team member.

Recommendations:

Recommendations are proposed when the expectations of the condition have not been met. A recommendation should:

- Emphasize ‘what’ needs to be done, not ‘how’;
- Be based on the IAEA Milestones Approach / Evaluation Methodology;
- Be succinct, self-explanatory, and achievable;
- Be supported by the Review Observation text — a ‘gap’ must be identified; already planned work can still be a recommendation if it is required to reach the Milestone.

Suggestions:

Suggestions propose the consideration of new or different approaches to develop infrastructure and enhance performance, or to point out better alternatives to current work. A suggestion:

- Should be clear and self-explanatory;
- Should be supported by the Review Observation text;
- May relate to work already under consideration for the next phase.

Good practices:

A good practice is identified in recognition of an outstanding practice or arrangement, superior to those generally observed elsewhere. It is more than fulfilment of the conditions or expectation, and worthy of the attention of other countries involved in the development of nuclear infrastructure as a model in the drive for excellence.

It should be noted that the results summarized in the following tables neither validate the country actions and programmes, nor certify the quality and completeness of the work done by a country.

1. National position	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
1.1. Government support role defined and effective			**X**
1.2. Overall strategic approach established for contracting for the NPP			**X**
1.3. Commitments and obligations of owner, operator and regulatory body established			**X**
2. Nuclear safety	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
2.1. Safety responsibilities of key organizations recognized			**X**
2.2. Expectations for relationship with suppliers established			**X**
3. Management	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
3.1. Contract specifications and evaluation criteria determined			**X**
3.2. Owner/operator competence for procuring and managing the NPP contract evident and plans to develop operator competence available			**X**
3.3. Management systems established			**X**
4. Funding and financing	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
4.1. Funding plan available			**X**
4.2. Means of financing established and strategy for management of financial risks available	**X**		

5. Legal framework	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
5.1. Adherence to all international legal instruments governing nuclear activities		**X**	
5.2. A comprehensive nuclear law enacted		**X**	
5.3. All other legislation affecting the nuclear power programme reviewed		**X**	
6. Safeguards	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
6.1. Strengthening of the SSAC underway	**X**		
6.2. SSAC requirements for the NPP recognized and addressed	**X**		
6.3. Design information requirements for safeguards recognized	**X**		
7. Regulatory framework	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
7.1. Competent, effectively independent nuclear regulatory body established			**X**
7.2. Regulatory framework developed			**X**
8. Radiation protection	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
8.1. Development of radiation protection programmes and expansion of appropriate infrastructures planned			**X**

9. Electrical grid	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
9.1. Detailed studies undertaken to determine grid enhancements			**X**
9.2. Plans, funding, and schedule for grid enhancement available			**X**
10. Human resource development	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
10.1. Knowledge and skills needed in organizations for Phase 3 and operational phase identified			**X**
10.2. A plan available to develop and maintain human resources			**X**
10.3. An integrated national strategy developed			**X**
11. Stakeholder involvement	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
11.1. Stakeholder involvement plans being implemented			**X**
11.2. Stakeholder involvement plans coordinated			**X**
12. Site and supporting facilities	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
12.1. Detailed site characterization completed		**X**	
12.2. Plans in place to prepare site for construction			**X**
13. Environmental protection	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
13.1. Environmental impact assessment performed		**X**	

13.2. Environmental characteristics provided			**X**
13.3. Clear and effective regulation of environmental issues established		**X**	
14. Emergency planning	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
14.1. Responsibilities of each organization clearly defined and approach for emergency planning being developed	**X**		
15. Nuclear security	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
15.1. Required physical protection measures developed			**X**
15.2. Programmes in place for the management of sensitive information			**X**
15.3. Programmes in place for the trustworthiness of personnel			**X**
15.4. Programmes in place for promotion of nuclear security culture			**X**
16. Nuclear fuel cycle	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
16.1. Front end fuel cycle strategy defined			**X**
16.2. Back end fuel cycle strategy defined			**X**
17. Radioactive waste management	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
17.1. Handling the burdens of radioactive waste considered		**X**	
17.2. Preliminary decommissioning plan requested			**X**

18. Industrial involvement	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
18.1. National capabilities assessed and plans to enhance capability defined			**X**
19. Procurement	**Phase 2**		
Condition	**Actions Needed**		
	SIGNIFICANT	**MINOR**	**NO**
19.1. Procurement capability available			**X**

APPENDIX 1: REVIEW OBSERVATIONS, RECOMMENDATIONS AND SUGGESTIONS FOR PHASE 2

1. National Position **Condition 1.1: Government support role defined and effective**	**Phase 2**
Summary of the condition to be demonstrated	The Government has approved a specific nuclear power programme, with a clear commitment to safety, security, and non-proliferation. The NEPIO continues to ensure that the work to develop the nuclear infrastructure is coordinated and a government ministry has been assigned the responsibility to support the development of the programme to ensure that: (a) All the Government actions needed to support the programme are monitored and coordinated with the project schedule; (b) A policy for nuclear fuel cycle, radioactive waste management and decommissioning is established; (c) Safety, security, and safeguards responsibilities are formulated and understood by all relevant organizations; (d) Appropriate support and encouragement of knowledge transfer from States that have experience with a nuclear power programme are available through bilateral agreements; (e) The State fully participates in all the activities associated with the global nuclear safety and security and non-proliferation regime.
Examples of how the condition may be demonstrated	(1) Evidence that an ongoing government role for nuclear power programme implementation has been clearly defined and established within a government agency (e.g. energy or industry); (2) Evidence that the required government actions are monitored and coordinated with the project schedule; *(3)* Appropriate bilateral agreements in place with vendor countries (e.g. an intergovernmental agreement). *Note: These may not be complete at the end of Phase 2 or subject to review given that the detailed contract may still need to be agreed.* (4) A defined responsibility for formulating a strategy for fuel cycle and radioactive waste management; (5) Examples of how the State participates in the global nuclear safety and security regime.

Observations

Poland has a long history of considering nuclear power in the energy mix. The current programme was initiated with a decision of the Polish Government to adopt a framework and timeline for nuclear power in 2009. The Council of Ministers (CoM) adopted the PNPP in 2014. The PNPP was further revised and updated in October 2020, determining the objective of the building of two nuclear power plants, with a total installed nuclear capacity of approx. 6–9 GW(e), with a goal to start commercial operation of the first NPP unit in 2033 and to have 27% of total electricity generated from nuclear power by 2045.

The Atomic Law Act (ALA) establishes the nuclear regulatory system and authorizes the President of the National Atomic Energy Agency (PAA) as the regulatory authority for nuclear safety, nuclear security, and safeguards. The ALA provides the principles for using nuclear power in safe and secure manner. The Polish government adopted the Strategy and Policy for the Development of Nuclear Safety and Radiation Protection of the Republic of Poland in 2022 in order to achieve the fundamental safety objective and to apply the fundamental safety principles as specified by the IAEA.

At present, the NEPIO function is carried out by the NED of MoCE for coordinating and implementing the PNPP. Working and communication methods and the scope of tasks of NED are consistent with the internal regulations of the MoCE, including the internal organizational regulations of NED.

The Minister of Climate and Environment is the main authority for the work of the NEPIO. All draft policies or law developed by NED are submitted to the Ministry's management and then approved by the Minister. Decisions made by the Minister are then communicated to the relevant organizations through official channels.

Poland has also adopted the National Spent Nuclear Fuel and Radioactive Waste Management Plan, the Programme of Support to Domestic Industry, the PNPP Communication Strategy, and the National Human Resources Development Plan (NHRDP), in order to support the implementation of the PNPP. The INIR team was informed that NED coordinates and consults at the working level with other relevant organizations during the development of those policies, strategies and plans prior to submission to the Ministry’s management. After the management approval, the Ministry conducts more formal consultation with the relevant organizations, as necessary. After the completion of the consultations, the draft is submitted to the CoM for approval, if needed. For the development or enhancement of associated infrastructure for the NPP such as the electrical grid, roads, marine ports and railway lines, the Plenipotentiary coordinates the work and ensures the commitment of other relevant ministries, governmental and local agencies, and authorities.

Poland is party to most of the international legal instruments in the nuclear field and is a member of several international initiatives and organizations working in nuclear energy. Poland has established cooperation agreements with France, the Republic of Korea (RoK), the United States of America (USA), and Japan.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS	
None	
SUGGESTIONS	
None	
GOOD PRACTICES	
None	
1. National Position **Condition 1.2: Overall strategic approach established for contracting for the NPP**	**Phase 2**
Summary of the condition to be demonstrated	The State has a clear justification for its nuclear power programme and has established a strategy for developing contract arrangements for the NPP (e.g. build–own–operate, build–own–operate–transfer, strategic partnerships, and turnkey and multiple contracts) and has a rationale supporting the decision. The strategy may include requesting bids for more than one option.
Examples of how the condition may be demonstrated	(1) A document reviewing contracting strategies and justifying the chosen approach with evidence that the chosen strategy is consistent with national legislation and has been agreed to by all relevant stakeholders; (2) Implications recognized, and a plan to fulfil necessary requirements in place; a document setting out responsibilities of key national organizations and intended contracting strategy.

Observations

The rationale for developing nuclear power in Poland is based on 3 pillars: energy security, protection of the environment and climate, and economic benefits. The inclusion of nuclear energy is expected to reduce carbon emissions in Poland and increase energy security. Moreover, the anticipated rapid development of renewable energy sources is expected to result in the need for a stable energy source supporting the baseload of the electrical system.

There are many positive outcomes expected from the PNPP, including: diversifying electricity sources, stabilizing energy prices, avoiding charges for CO2 emissions required by the EU, reducing the emission of pollutants by the Polish power sector, creating new attractive jobs, and improving the competitiveness of the Polish economy and industry.

Poland initially adopted a business model for the PNPP with the following elements:

— Selecting one common reactor technology for all NPPs;

— Selecting one strategic co-investor linked to the technology provider;
— Acquisition by the State Treasury of a 100% share in the Special Purpose Vehicle (SPV) implementing nuclear power projects in Poland;
— Retaining at least a 51% stake in the SPV after one strategic co-investor is selected.

In order to implement the above approach, PEJ was established in 2021 as the owner/operator for the PNPP, and the Governments of Poland and the USA signed an Inter-Governmental Agreement (IGA) in October 2020, which entered into force in February 2021. The WEC AP1000 design (with Vogtle Unit 4 as reference plant) was selected as the technology for the first NPP. PEJ and WEC have already concluded a number of arrangements, including a bridge contract to develop the conditions for an ESC. PEJ then signed the ESC with a consortium of WEC and Bechtel for support to:

— Develop the site specific design concept of the first NPP;
— Define the requirements and the criteria for detailed design and the EPC contract;
— Develop licensing documentation for the construction license; and
— Support the involvement of Polish suppliers in the PNPP projects.

The deliverables of the ESC will form the basis of further contracts and, eventually, the EPC contract.

In addition to the PNPP, some private companies are interested in developing NPP projects including large NPPs and small modular reactors (SMRs). The INIR mission scope was limited to the PNPP. However, the INIR team noted that the parallel implementation of the other projects may pose additional challenges to the implementation of the PNPP. The INIR team encourages Poland to consider the potential implications in a timely manner. The INIR team was informed that those considerations will be added to the PNPP in the next update the draft of which is planned to be developed before the end of 2024.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

1. National Position **Condition 1.3: Commitments and obligations of owner, operator and regulatory body established**	**Phase 2**
Summary of the condition to be demonstrated	The owner, operator and regulatory body have been established and the responsibilities of each organization have been clearly defined and understood, including their safety, security, and safeguards responsibilities. The role of any national supporting organization (e.g. a technical support organization) has been clearly defined, as has any significant role for non-national organizations (e.g. vendor or other regulator). The latter is clearly defined in the contracting strategy.
Examples of how the condition may be demonstrated	(1) Roles and responsibilities clearly defined with respect to nuclear safety, security and safeguards in the operating, regulatory and technical support organizations; (2) Definition of the organization that will be the licensee of the NPP and evidence of adequate resources to comply with licence requirements. Definition of the roles and responsibilities of the owner if different from the operator; (3) Definition of any intended regulatory collaboration.

Observations

As stated in Condition 1.1, the ALA establishes the nuclear regulatory system and designates the President of PAA as the nuclear regulatory authority in Poland. PAA is a government administrative organization with a separate state budget and resources.

According to the ALA, the responsibilities of PAA with regard to nuclear power include developing draft regulations, licensing, and supervision of NPPs in terms of safety and physical protection, authorizing key NPP operating personnel, and imposing enforcement in the case of non-compliance.

The Atomic Law Act describes the process for the President of PAA to utilize services from external organizations. When assessing an application for a construction license for a nuclear power plant, the President of PAA can request the assistance of authorized expert laboratories and organizations.

The INIR team was informed that PAA will develop in-house capabilities for the regulatory oversight of the construction of the NPP. PAA has already sent a number of inspectors to the Vogtle site for on-the-job training in the area of construction oversight. It will establish a resident inspectorate at, or near, the NPP site. PAA headquarters staff will also provide support if needed.

The Council of Ministers' resolution of 2009 to consider nuclear power identified Polska Grupa Energetyczna S.A. (PGE), as the lead entity in the implementation of the PNPP. Through several restructurings, PEJ was established in 2021 to fulfil the role of owner and operator of the NPP.

PEJ's responsibilities are defined in the Act of 9 March 2023 amending the Act on preparing and delivering investments in nuclear power facilities and associated investments and other selected acts.

Some of the important tasks of PEJ are:

- Preparing the investment process and acting as an investor in the PNPP;
- Supporting the government administration in implementation of the PNPP;
- Supporting the government administration in implementation of the US-Polish IGA.

The INIR team was informed that the responsibilities of PEJ in the project development and construction stages are clearly indicated in its mandate; however the responsibilities for the operational stage are not clearly defined. The INIR team was further informed that PEJ is proceeding with the development of internal departments for the operation of the NPP and are considering partnerships with experienced operating organizations from other countries.

PEJ has developed a general plan for using services from technical support organizations (TSOs) in the course of preparatory works regarding the application for a construction licence for the NPP, as described in Condition 1.2. The scope of expertise needed is under discussion. Regarding the EIA report and the site evaluation report, PEJ decided to prepare those reports internally with the support of different technical advisors, for example Jacobs.

PEJ is in the process of finalizing a procurement process for hiring a TSO for the independent verification of the safety documentation provided by WEC, before submission to PAA. PEJ plans to develop quality assurance (QA) and quality control (QC) system and in-house capabilities for the oversight of the construction with options to outsource QC activities, while retaining core competence in the area.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

2. Nuclear Safety **Condition 2.1: Safety responsibilities of key organizations recognized**	**Phase 2**
Summary of the condition to be demonstrated	The Government has expanded its nuclear safety policy and strategy to include nuclear power. The owner/operator and the regulatory body have a detailed understanding of safety standards and have begun the task of understanding the safety basis of an NPP. Senior positions in the owner/operator and the regulatory body have been filled for some time and the leadership of both the owner/operator and the regulatory body have initiated programmes and practices to build a safety culture in their respective organizations. They have also agreed on a protocol for communication between the owner/operator, the regulatory body and the vendor that covers correspondence, meetings, and actions, among other things. The regulatory body has specified requirements on how the competence of owner/operator staff in positions related to safety is ensured. The owner/operator, the regulatory body and technical support organizations, as appropriate, have the expertise to prepare for the review of safety assessments supplied by the vendor.
Examples of how the condition may be demonstrated	(1) Nuclear safety principles and requirements developed by the regulatory body and the owner/operator; (2) Appropriate training for regulators, owner/operators and technical specialists carried out; (3) Knowledge of international experience that is relevant to NPP designs being considered; (4) For key leadership positions, a summary of NPP safety related experience and development; (5) Programmes to promote safety culture through leadership; (6) Protocol agreed for interactions between owner/operator, regulator, vendor, and technical support organizations; (7) Process and responsibilities defined for review and understanding of information supplied by the vendor during construction.

Observations

In 2022, the Council of Ministers approved a resolution on adopting the *Policy and Strategy on the Development of Nuclear Safety and Radiation Protection of the Republic of Poland*. This policy and strategy expresses a long-term commitment for safety to ensure the protection of people and the natural environment from the harmful effects of ionizing radiation, and to raise the level of nuclear safety and radiation protection in Poland. It is comprehensive and clearly covers the safety of the nuclear power programme. According to the ALA, the policy and strategy shall be reviewed at least every ten years.

Poland is active at the international level and utilizes international norms and standards, such as the IAEA safety standards, to establish its legal and regulatory framework. Poland has representatives in

all IAEA safety standards committees. It is also a contracting party to a number of conventions, such as the Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

In addition to INIR missions, Poland has hosted several IAEA peer review missions, including the Integrated Regulatory Review Service (IRRS) and the Integrated Safety Assessment for Research Reactors (INSARR), to strengthen its safety and security infrastructure.

Both PAA and PEJ have plans to increase their human resources and improve competences through trainings and participation in workshops and technical meetings. The INIR team was informed that PEJ is setting up technical teams to be able to verify the safety cases and other documents prepared by WEC for the construction license application.

Both PEJ and PAA have established internal safety policies, which include the strengthening of their safety culture. Safety culture improvement has been a continuous process in PEJ since 2020 based on the *Harmonized Safety Culture Model*. In 2024, PEJ plans to conduct a self-assessment of its safety culture, expected to be repeated regularly every 2-3 years, and the INIR team was informed that additional mid-term screening and monitoring of chosen safety culture traits and attributes will be conducted. The establishment and implementation of a safety culture policy by operating organizations is a legal obligation. Therefore, it will be subject to regulatory oversight by PAA.

PEJ maintains a Regulatory Engagement Plan (REP) which aims to facilitate its interaction with PAA for the different phases of the PNPP. Beyond the official interactions between PAA and PEJ during the pre-licensing and licensing process, PAA and PEJ meet regularly, including strategic meetings between the President of PAA and the Chief Nuclear Officer (CNO) of PEJ. PEJ expects the number of meetings at different levels to increase significantly in the upcoming months, including technical discussions to anticipate future challenges which may arise during the licensing process.

The regulations provide requirements related to the number of workers and their adequate qualification to conduct activities of significant importance for ensuring nuclear safety and radiation protection. Moreover, four functions at the NPP, namely: (1) NPP management, (2) management of commissioning and operations, (3) operating supervision, and (4) operation, are subject to authorization by the President of PAA.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

2. Nuclear Safety **Condition 2.2: Expectations for relationship with suppliers established**			**Phase 2**
Summary of the condition to be demonstrated	Future role of the vendor, or other bodies, in supporting safe operation has been defined by the owner/operator (e.g. any design authority role or support role in managing emergency situations). Training requirements from the vendor or other bodies have also been defined.		
Examples of how the condition may be demonstrated	Statements defining the required levels of support from the vendor and other bodies and mechanisms for information exchange, training, and technical support, among other things.		

Observations

PEJ has established the Preliminary Strategy and Initial Licensing Plan for the construction, commissioning, and operation of the AP1000 reactor in Poland, supported by the Scope of Work of the ESC. The INIR team was informed that, in this framework, WEC will provide all support requested by PEJ. This includes:

- Delivery of initial and refresher training for all job positions related to safety;
- Preparation of a strategic plan for the full scope simulators to be built in Poland;
- Preparation of safety cases and other documents supporting the application for the construction license.

Moreover, PEJ has contracted several TSOs to get additional support for:

- Licensing activities and the development of necessary documentation;
- Negotiations for the EPC, including the preparation of the necessary requirements and terms of cooperation with the vendor;
- Training of PEJ specialists.

Currently, PEJ is finalizing a contract with an external organization to conduct an independent verification of the construction license application and associated documents, prior to submission to PAA.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES
None

3. Management **Condition 3.1: Contract specifications and evaluation criteria determined**	**Phase 2**
Summary of the condition to be demonstrated	If competitive bidding for an NPP is being undertaken, a detailed bid invitation specification (BIS) has been completed, together with the criteria that will be used to evaluate the bids. If the vendor has already been selected (e.g. by an intergovernmental agreement), the owner/operator has included its requirements in the specifications for negotiating with a sole supplier. Negotiating strategy and criteria have also been developed.
Examples of how the condition may be demonstrated	(1) Documented BIS available and evaluation criteria clearly defined (2) Description of the negotiating strategy defined by the NPP owner/operator

Observations

Poland signed an IGA with the USA in 2020, setting out a government-level strategic partnership and the terms of cooperation for the development of the PNPP, comprising up to 6 units. In 2022, the CoM approved (Resolution No 2015/2022) the choice of the AP1000 design from WEC for the NPP1.

The INIR team was informed that technology selection was determined across a broad suite of technical and non-technical specifications, and that relevant stakeholders (including the EC) have been involved on an ongoing basis.

A Concept and Execution Report was prepared under the terms of the IGA, with preliminary feasibility studies based on the front-end engineering and design work performed by Westinghouse and Bechtel under the grant agreement with the U.S. Trade and Development Agency.

The INIR team was informed that a consortium delivery model (EPC/Turnkey) was a requirement from the Polish side, both from legal and execution perspective. Therefore, engagement of a construction company with recent experience in completing an AP1000 project was essential for Poland, as a newcomer in large-reactor deployment. Westinghouse's partner of choice for the Poland project was Bechtel due to their experience with AP1000, but also completion of other recent nuclear project in the United States, namely, Watts Bar unit 2. Therefore, a consortium was formed between WEC and Bechtel (referred to as the 'Consortium'). The Consortium leadership is envisaged to transfer from WEC, in the design and engineering phase, to Bechtel in the construction phase.

PEJ has taken an incremental approach in its contractual agreements, according to the project phases in the Integrated Master Schedule.

Presently, the following main contracts have been signed with WEC:

- Front-End Engineering and Design Contract;
- Cooperation Agreement;
- Bridge Contract;
- ESC, as the Consortium.

The Bridge Contract had a limited scope (c.a. 150 000 workhours, largely completed), to continue the feasibility and site studies, while the larger ESC was being negotiated. The ESC has a broad scope with flexible terms suitable for project development work, foreseeing 2 million workhours over an 18-month timeframe. The ESC is expected to identify all design modifications necessary for adapting the reference design to the Polish requirements and regulations, in preparation for the EPC contract. For example, all design modifications for adapting the plant from the 60 Hz in the USA to the 50 Hz European grid frequency, are to be defined in this work. Bechtel has also started the tender process for the supply of the turbine island. The INIR team was informed that PEJ has triggered the optional scope in the ESC for technical supervision by Bechtel of geotechnical surveys at the site. PEJ has joined the European Utility Requirements (EUR) as an associate member and plans to use its requirements in developing their own technical specifications during the performance of the ESC.		
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
GP-3.1.1 PEJ has adopted an incremental approach, by successive contracts from preliminary viability studies, through the ESC, providing for a strong understanding of the NPP project requirements before finalizing the EPC contract.		
3. Management **Condition 3.2: Owner/operator competence for procuring and managing the NPP contract evident and plans to develop operator competence available**		**Phase 2**
Summary of the condition to be demonstrated	The owner/operator is competent to manage the procurement requirements and to ensure the contract requirements are fully met. This will include verification of project progress and quality requirements. This may include the appointment of the owner's engineer to support the owner organization. If this involves a split package or multipackage procurement approach, a significantly greater level of competence will be required. The owner/operator	

	needs to have plans to develop the capability for safe and secure operation, including: (a) Recruiting and training staff; (b) Procedures to ensure that knowledge critical to safe and secure operation will be preserved; (c) Procedures to create the required awareness with regard to the risk of proliferation of nuclear weapons through export or import.
Examples of how the condition may be demonstrated	(1) Description of the organization, including roles and responsibilities of departments and individuals with respect to bid assessment, supervision of construction, development of knowledge base, and understanding of operating and maintenance requirements; (2) Evidence of a suitably qualified and experienced team with competence in all required areas, including: (a) Bid requesting and bid evaluation; (b) Awarding, and issuing purchase orders; (c) Financing, letters of credit and taxes; (d) Quality programmes, including inspection of items under manufacturing, testing and receipt of goods and non-conformance procedures; (e) Transport, insurance, and customs clearing; (f) Types of proven design of NPP and potential suppliers; (g) Main technical characteristics of potential plants; (h) Codes and standards; (i) Contracting methodologies; (j) Project management, manufacturing schedule and delivery time. (3) Plans to develop: (a) Project reporting mechanisms; (b) Acceptance procedures and criteria; (c) Commissioning skills; (d) The organization that will be required for commissioning and operating the NPP; (e) Commissioning, operating and maintenance procedures. (4) Interfaces with other organizations defined and agreed; (5) Evidence that appropriate staff have gained experience from operating plants similar to those being considered; (6) Plans to participate in appropriate owner's groups.
Observations PEJ established a dedicated *Program to Build Polish Nuclear Power Plants* which includes provisions for the project management structure. A process map was prepared, and procedures and instructions	

are under elaboration for program organization, scope management, scheduling, risk management etc. The program structure is independent of the corporate structure.

For the main contracts, PEJ establishes dedicated *negotiating teams* with clearly defined roles, scope and deadlines. These teams are multidisciplinary; external experts may be engaged - if needed. PEJ is seeking contractual simplification where possible to reduce the management burden of the EPC contract. Consistent with the incremental approach to EPC contract development, PEJ also seeks project execution flexibility (see also Issue 12: Site and Supporting Facilities for an example).

PEJ is working on the execution of activities in the current phase of the PNPP, which are grouped in five distinct delivery workstreams:

1. Concept – ESC delivery, Quality Strategy;
2. Post concept – Localisation, EPC Negotiation, Fuel Strategy, etc.;
3. Site and Owner Scope – Site studies, site infrastructure, external infrastructure;
4. Technical – Licensing, Site Characterization, etc.;
5. PEJ capability building – Staffing, project management capabilities, operational readiness, etc.

The status of each workstream is reported on a regular basis to PEJ leadership and ultimately to the Board, supported by a dashboard with key performance indicators.

It is currently unclear if PEJ will be taken forward as the future operator of the plant or whether a separate operator entity will be established. In whichever case, PEJ is preparing to assume the operational responsibility. If a decision for splitting operations into a separate entity is taken, all relevant systems, procedures, and resources will be transferred to this new entity. PEJ intends to have a full design authority as the project moves into operational phase.

PEJ prepared, with the help of Jacobs, an initial plan to develop the necessary workforce for the operational phase. The INIR team was informed that PEJ has concluded agreements with Southern Energy (owner/operator of the reference plant Vogtle 4) and TVO-Fortum, both of which have recent experience in completing new NPP projects.

These agreements foresee: sharing lessons learned in managing large EPC contracts with WEC; supporting the development of design, configuration management, and licensing; supporting the training of engineers for the project phase and for the review of design; and preparing for operation of the plant, including developing the Operation Readiness Plan.

PEJ plans to join the World Association of Nuclear Operators (WANO) soon and follow its Operational Readiness Roadmap. The INIR team was informed that following early discussions with Southern Nuclear, PEJ is fully involved in and supportive of Westinghouse's initiative to create an *AP1000 Users Group*.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS	
None	
GOOD PRACTICES	
None	
3. Management **Condition 3.3: Management systems established**	**Phase 2**
Summary of the condition to be demonstrated	Management systems have been defined for each of the three key organizations and include roles, responsibilities, organizational structure and processes (for Phase 2), including record keeping. The processes for Phase 3 are in place or planned to be produced before they are required. The management systems cover safety, nuclear security, and safeguards, and are consistent with the IAEA Safety Standards Series publication entitled Leadership and Management for Safety, General Safety Requirements No. GSR Part 2, The systems promote a strong safety and security culture, include plans for self and independent evaluation, and include procedures to ensure that knowledge critical to the safe, secure, and peaceful use of nuclear energy will always be preserved. For the NEPIO and the regulatory body, they also include mechanisms to monitor the programme for infrastructure development and to ensure it is consistent with the project schedule.
Examples of how the condition may be demonstrated	(1) For each organization, availability of the integrated management system manual, definition of key processes and responsibilities, and plans to produce required detailed documentation; (2) Mechanism for NEPIO to manage the infrastructure development programme.

Observations

PGE EJ 1 sp. z o.o., replaced by PEJ, developed a QA plan for the environmental and location studies related to site selection and characterisation. PEJ has developed a process based management system in line with the IAEA Safety Standards publication on Leadership and Management for Safety, General Safety Requirements No. GSR Part 2. This system is being revised. The top-level documents have been approved, whereas the lower level documents are being revised or created, according to corporate priorities and resources.

PEJ has been working in close cooperation with the IAEA, and several expert missions have been conducted to assess and support the development of the management systems. Specific missions and workshops on safety culture were also conducted.

Under its management system, PEJ maintains the Integrated Master Schedule of the PNPP, which takes into account not only the construction of the NPP1, but also all other associated investments.

The INIR team was informed that PAA has developed an IMS that is compliant with the IAEA General Safety Requirements No. GSR Part 2. Processes for most early Phase 3 activities are developed or under revision. PAA develops its own procedures, and feedback for future revisions is gathered. For the future, PAA plans to develop procedures for inspecting manufacturers and detailed assessment criteria for commissioning and operation.

The Nuclear Energy Department, as part of the MoCE, follows its ordinances and requirements. These ordinances establish the organizational structure, assigning roles and responsibilities. Organizational units define at least two priorities for each year, and a reporting mechanism is in place.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

4. Funding and Financing Condition 4.1: Funding plan available	Phase 2
Summary of the condition to be demonstrated	The means by which costs that are not the fiscal responsibility of the owner/operator have been identified. Depending on the contracting model, these may include costs associated with legislation, setting up the owner/operator, education, training, research, government roles (e.g., environmental assessment process, stakeholder involvement), the regulatory body, emergency planning, spent fuel and radioactive waste management and decommissioning.
Examples of how the condition may be demonstrated	(1) Mechanisms established for funding the regulatory body, including technical support organizations; (2) Proposed means identified for funding spent fuel and radioactive waste management and decommissioning; (3) Phase 3 funding plan matched to NPP project plan including all national commitments for participation in construction, owner/operator costs, regulator costs, other stakeholders, and emergency planning.

Observations

The main state-backed entities charged with supporting PEJ in delivering the PNPP are funded by the multiannual PNPP budget, which took effect in 2020. The budget is a 12-year authorisation for PNPP-related expenditures for NED and PAA. Each entity involved in the PNPP is separately responsible for generating its own budgets and forecasts. Funds are drawn directly from the state budget under a CoM resolution.

A programme dedicated to infrastructure projects related to strategic energy infrastructure in the Pomeranian Voivodeship, including the NPP, was established in June 2023. Funds from this program support the construction of roads, railroad infrastructure and the marine offloading facility. The Minister of Infrastructure supervises the implementing entities (the Maritime Office in Gdynia, the General Directorate for National Roads and Motorways and the Polish State Railways), while the Plenipotentiary coordinates the program. Another programme was established in December 2023 to support local government investments related to strategic energy infrastructure in the Pomeranian Voivodeship, including the NPP.

PEJ was capitalised directly by the Polish State Treasury through a bond issuance in 2022, intended to provide sufficient funding for development activities until 2025 A further equity injection by the government is envisaged in 2025, after the support mechanism is notified to the EC.

The Plenipotentiary holds accountability and authority for decisions by the government as the sole shareholder of PEJ, and annually reviews and approves PEJ's financial statements for the previous fiscal year.

The Office of the Government Plenipotentiary for Strategic Energy Infrastructure (referred to as the 'Plenipotentiary Office') is in ongoing discussions with the EU to ensure that the proposed support

mechanism complies with state aid rules that apply during the development period (prior to financial close), as well as after financial close (during the construction period and the operation period). Polskie Sieci Elektronenergetyczne S.A. (PSE), the grid operator, envisages obtaining funding for the substantial grid reinforcement works, that will be necessary to connect the NPP, through its traditional cost-recovery-based corporate finance mechanisms.		
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
GP-4.1.1 The Polish Government's long-term and comprehensive program-level funding commitments (via NED, public authorities, and state-backed project parties) facilitate strong alignment and effective planning across the project parties, including PEJ.		
4. Funding and Financing **Condition 4.2: Means of financing established and strategy for management of financial risks available**		**Phase 2**
Summary of the condition to be demonstrated	A credible feasibility study has been finalized and realistic financing options for the NPP have been identified. An owner/operator financial team has been established and is competent to identify potential lenders and additional investors, evaluate and/or negotiate financing offers, analyse the extent of, and risks associated with, any State backed power purchase agreement and/or sovereign guarantees, and identify and analyse additional financial risks. A clear sense of what is acceptable to senior decision makers is available. The financial risks have been clearly identified and a strategy for negotiation and/or evaluation of key finance related proposals has been developed.	
Examples of how the condition may be demonstrated	(1) A document identifying how the project will be financed and demonstrating financial viability of the project, including implications for electricity tariffs; (2) Risk management proposals identifying all the key financial risks, and how they can be addressed through contracts and/or guarantees. These need to cover operational difficulties, public	

	liabilities, delays in construction, regulatory delays, government/public intervention and electricity price fluctuations; (3) A negotiating mandate and/or more detailed guidance based, for example, on the high level terms in an intergovernmental agreement. *Note: There are likely to be constraints on how much of this specific information will be available, but information needs to be available on the process that has been used to develop and underwrite the plan*.

Observations

The PNPP financing strategy and finance plan are under development. The INIR team was informed that the maturation of technical inputs (project costs, schedule, unit performance, etc.) is being undertaken in PEJ's workplan. The INIR team was informed by PEJ that the current integrated schedule, featuring financial close with external finance in early 2026, is challenging.

The indicative financing requirements of the NPP for construction and for the achievement of commercial operations are understood by PEJ to be significantly greater than the Government's willingness or ability to finance as the shareholder. Accordingly, PEJ will seek to combine Government direct finance (equity) and debt guarantees to attract market finance (debt, and potentially equity). Together with a two-way contract for difference (CfD), the business plan is expected to feature government support at levels acceptable both to the market and the EU, with respect to State Aid. The INIR team was informed that these discussions are led by the Plenipotentiary Office, with involvement from PEJ. The INIR team was further informed that PEJ also has a professional advisor dedicated to the state aid notification process.

PEJ has developed an initial financial model, which will form the basis for future progress of financial discussions. PEJ is in the process of selecting a financial advisor, who will be tasked with developing and/or refining the necessary tools to engage with the market (business plan, financial model, risk register, diligence, etc.). The financial advisor is expected to be appointed later this year. The INIR team noted the importance of alignment between the different advisors with regard to state aid.

PEJ's financial team has been established, and currently comprises 17 professionals. The Chief Financial Officer (CFO) is member of the Board. The team is expected to grow as the project/organisation matures. More recently, PEJ has been interacting with the US EXIM Bank, the US Export Credit Agency (ECA), to secure loans through an Engineering Multiplier Program for financing a portion of the ESC. This activity is seen as an opportunity for the financial team to acquire experience in dealing with ECAs.

To date, PEJ's financial team has engaged with providers of tied finance (mostly ECAs), but the project definition, both technical and non-technical (business plan and financial model), needs to be further developed to enable more robust engagement. Although the pre-conditions for external financing are not known, the INIR team was informed that PEJ understands they will include issuance of the nuclear construction licence, for which the current target of 2026 may not be achievable.

The INIR team was also informed that PEJ understands that State Aid rules represent a potentially significant constraint to achieving bankability.

Areas for further action	**Significant**	Inputs to financial plan
	Minor	No
RECOMMENDATIONS		
R-4.2.1 PEJ should further develop its non-technical (business plan and financial model) project definition to facilitate market engagement to secure its means of financing.		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

5. Legal Framework **Condition 5.1: Adherence to all international legal instruments governing nuclear activities**	**Phase 2**
Summary of the condition to be demonstrated	The Member State has adhered to the following international legal instruments and is following an action plan for their implementation: (a) Convention on Early Notification of a Nuclear Accident (INFCIRC/335); (b) Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (INFCIRC/336); (c) Convention on Nuclear Safety (INFCIRC/449); (d) Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (the 'Joint Convention') (INFCIRC/546); (e) Convention on the Physical Protection of Nuclear Material (INFCIRC/274/Rev. 1) and Amendment thereto (INFCIRC/274/Rev.1/Mod.1); (f) Vienna Convention on Civil Liability for Nuclear Damage (INFCIRC/500); (g) Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (INFCIRC/566); (h) Convention on Supplementary Compensation for Nuclear Damage (INFCIRC/567); (i) Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (INFCIRC/402); (j) Comprehensive safeguards agreement — based on The Structure and Content of Agreements Between the Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (INFCIRC/153 (Corrected)); (k) Additional Protocol — following the provisions of Model Protocol Additional to the Agreement(s) Between States(s) and the International Atomic Energy Agency for the Application of Safeguards (INFCIRC/540 (Corrected)); (l) Revised Supplementary Agreement Concerning the Provision of Technical Assistance by the IAEA.
Examples of how the condition may be demonstrated	Evidence that the State has adhered to the relevant international legal instruments and is implementing the obligations arising from them.
Observations Poland is Party to the following international legal instruments adopted under the auspices of the IAEA: — Convention on Early Notification of a Nuclear Accident;	

— Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency;
— Convention on Nuclear Safety;
— Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management;
— Convention on the Physical Protection of Nuclear Material and Amendment thereto;
— Vienna Convention on Civil Liability for Nuclear Damage; and
— Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage;
— Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention.

Moreover, Poland has concluded:

— Agreement between Belgium, Denmark, the Federal Republic of Germany, Ireland, Italy, Luxembourg, the Netherlands, the European Atomic Energy Community (Euratom), and the IAEA in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons;
— Protocol Additional to Agreement between the Republic of Austria, the Kingdom of Belgium, the Kingdom of Denmark, the Republic of Finland, the Federal Republic of Germany, the Hellenic Republic, Ireland, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the Portuguese Republic, the Kingdom of Spain, the Kingdom of Sweden, Euratom and the IAEA in Implementation of Article III, (1) and (4) of the Treaty on the Non-Proliferation of Nuclear Weapons;
— Revised Supplementary Agreement Concerning the Provision of Technical Assistance by the IAEA to the Government of Poland.

The INIR team was informed that, in connection with the ongoing project to establish the first NPP, Poland is analysing the implications of joining the Convention on Supplementary Compensation for Nuclear Damage (CSC), to which the USA, the vendor country, is a Party. The NED has conducted comprehensive analyses and compiled reports outlining various options and the potential implications of Poland becoming a Party to the CSC. Furthermore, the INIR team was informed that informal consultations with all PNPP stakeholders are presently underway. As part of this consultative process, the NED anticipates receiving input from the Ministry of Finance regarding the potential financial implications of joining the CSC. Depending on the receipt of the requisite information, the NED may initiate the formal adherence procedure. Following the commencement of the formal adherence process, the NED will solicit the opinion of the Council of the EU regarding the necessity of its approval for joining the CSC. Should it be required, the NED will proceed to formally request it.

Regarding the CSC, the INIR team noted that as a CSC Party, Poland would gain treaty relations with a number of States outside Europe that could be potential suppliers, investors, and lenders for Poland's nuclear projects. Also, CSC participation would ensure additional nuclear damage compensation from a supplementary international fund beyond the current operator liability limit, which otherwise would not be available.

Areas for further action	**Significant**	No
	Minor	Adhering to International Legal Instruments

RECOMMENDATIONS	
None	
SUGGESTIONS	
S-5.1.1 Poland is encouraged to complete the process of adhering to the Convention on Supplementary Compensation for Nuclear Damage.	
GOOD PRACTICES	
None	
5. Legal Framework **Condition 5.2: A comprehensive nuclear law enacted**	**Phase 2**
Summary of the condition to be demonstrated	The Member State has enacted the national nuclear legislation that: (a) Establishes an independent nuclear regulatory body with adequate human and financial resources, and a clear and comprehensive set of functions; (b) Identifies responsibilities for safety, security, and safeguards; (c) Formulates safety principles and rules (radiation protection, nuclear installations, radioactive waste and spent fuel management, decommissioning, mining and milling, EPR and the transport of radioactive material); (d) Formulates nuclear security principles; (e) Gives appropriate legal authority for, and definition of, the responsibilities of the regulatory body and all competent authorities establishing a regulatory control system (authorization, inspection and enforcement, review and assessment, and development of regulations and guides); (f) Implements IAEA safeguards, including an SSAC; (g) Implements import and export control measures for nuclear and radioactive material and items; (h) Establishes compensation mechanisms for nuclear damage.
Examples of how the condition may be demonstrated	Evidence that a comprehensive nuclear law is enacted and promulgated.
Observations The primary legislation governing nuclear facilities and activities in Poland is the Atomic Law Act (ALA) of 29 November 2000, as amended, which covers elements of a comprehensive national nuclear law and includes provisions on radiation protection, nuclear safety, nuclear security, safeguards, and civil liability for nuclear damage, among others.	

The Atomic Law Act covers, inter alia, establishment and functions of PAA as the regulatory body (Chapter 13); licensing (Chapter 2) of nuclear facilities (Chapter 4); inspection and enforcement (Chapter 9); public communication related to nuclear facilities (Chapter 4a); radioactive waste and spent fuel management and decommissioning (Chapter 7); transport of radioactive material (Chapter 8) and their transport, export, import and transit (Chapter 8a); assessment of radiation situation (Chapter 10); emergency preparedness and response (Chapter 11); safeguards and nuclear security (Chapter 5); import and export controls (Chapters 8, 8a, and 11); civil liability for nuclear damage (Chapter 12); administrative fines and penal provisions (Chapter 15); and other activities, such as the development of different plans, strategies, including PNPP, pertinent to the development of nuclear power (Chapter 12a).

The Atomic Law Act is supported by implementing regulations, such as those concerning radiation protection, nuclear safety and security, proposed and prepared by PAA, agreed to by the Minister of Climate and Environment, and issued by the CoM.

The President of PAA is the main authority responsible for safety and radiation protection, security, and safeguards. The roles and responsibilities of PAA are provided in the ALA which mandates PAA to oversee activities and to issue authorizations, promulgate technical recommendations, perform assessments and inspections, and take enforcement actions in the case of non-compliance related to nuclear safety, radiation protection, nuclear security, and safeguards.

Pursuant to the current legal framework, the Minister of Climate and Environment is solely responsible for administrative supervision of the President of PAA. The INIR team was informed that, in the current governmental administration, the Minister is also responsible for climate, environment, and energy (including the peaceful use of nuclear energy). The INIR team was further informed that there is a distinction between the Minister's responsibilities for climate, environment, and energy issues respectively. The supervision of PAA falls under the responsibility for climate. The INIR team was also informed that a draft law submitted to the Parliament and expected to be enacted within the coming months, would result in the transfer of significant parts of the units responsible for energy, including NED, to the newly established Ministry of Industry.

In addition to PAA, the ALA establishes the responsibilities and functions of other relevant authorities, resulting in regulatory functions being shared by PAA with various authorities. Further, the ALA provides for the establishment of the so-called 'coordination system' for the inspection of nuclear facilities by PAA and other authorities. The INIR team was informed that the coordination of the different authorities is concluded in bilateral agreements and there is an ongoing effort to conclude further agreements in the future.

The INIR team was informed that a drafting process for amending the ALA has been initiated to address the recommendations and suggestions from the IRRS mission hosted by Poland in September 2023, and to enhance all aspects that are not adequately covered, such as introduction of new responsibilities for import and export control and strengthening the coordination mechanism between the relevant authorities. In this context, the INIR team noted that, while addressing these aspects, it would be useful to perform a comprehensive assessment of the ALA with the aim of avoiding any other gaps and overlaps.

Areas for further action	**Significant**	No
	Minor	Amending the nuclear law
RECOMMENDATIONS		
None		
SUGGESTIONS		
S-5.2.1 Poland is encouraged to reassess, and amend, as necessary, the ALA to improve the effective independence of regulatory decision making and to adequately address all aspects of a comprehensive nuclear law.		
GOOD PRACTICES		
None		
5. Legal Framework **Condition 5.3: All other legislation affecting the nuclear power programme reviewed**		**Phase 2**
Summary of the condition to be demonstrated	Legislation has been reviewed and amended as necessary to cover: (a) Environmental protection; (b) EPR; (c) Occupational health and safety of workers; (d) Protection of intellectual property; (e) Local land use controls; (f) Foreign investment; (g) Taxation, fees, electricity tariffs and incentives; (h) Funding of long term liabilities related to spent fuel, radioactive waste, and decommissioning; (i) Roles of national and local governments; (j) Stakeholders and public involvement; (k) International trade and customs; (l) Financial guarantees and any other required financial legislation; (m) Research and Development.	
Examples of how the condition may be demonstrated	Presentation of a review identifying relevant laws and evidence that the necessary laws have been enacted, or there is a clear plan to enact them at the appropriate time.	
Observations The INIR team was informed that, during the initial phase of the government's action aimed at introducing nuclear power in Poland, analysis of all legislation relevant for preparing the process of investment was undertaken. In 2011, the Nuclear Investments Special Act on preparation and carrying		

out investments in nuclear power facilities and accompanying investments was enacted. This Act introduced, for the activities and facilities listed therein, additional provisions for the application of the Construction Law, the Energy Law, the Real Estate Management Law, and the Environmental Impact Assessment Act.

Pursuant to the Energy Policy of Poland until 2040, a review was conducted with the aim of further streamlining relevant permitting procedures and facilitating various stages of the investment process. As a result of this review, legislation was enacted in 2023 to amend the Nuclear Investments Special Act, and other relevant acts thereto, as follows:

- Atomic Law Act (ALA);
- Environmental Impact Assessment (EIA) Act;
- Act on Agricultural System.

The INIR team noted that this review and subsequent amendments targeted these four laws and did not cover all other legislation that may have an impact on the implementation of the PNPP.

The INIR team was informed that, as part of the implementation framework for the PNPP, the NED is presently engaged in the periodic review of enacted legislation, a process scheduled to be conducted every four years. This review would serve as an input to the subsequent update of the PNPP, which is planned to be completed this year. The INIR team was informed that the competent authorities/organizations of the different areas conduct the review of the laws within their purview, but the proposals for any changes are always subject to consultations with relevant institutions.

Areas for further action	**Significant**	No
	Minor	Comprehensive review of all other legislation affecting the nuclear power programme

RECOMMENDATIONS

None

SUGGESTIONS

S-5.3.1. Poland is encouraged to introduce a mechanism to conduct a comprehensive review of all other legislation affecting the nuclear power programme and ensure that all necessary amendments are enacted in a timely manner.

GOOD PRACTICES

None

6. Safeguards **Condition 6.1: Strengthening of the SSAC underway**	**Phase 2**
Summary of the condition to be demonstrated	The State authority responsible for safeguards implementation is established and has defined roles and responsibilities within the SSAC. Measures are implemented to enhance the SSAC's capability to regulate and control all nuclear activities in the State to ensure that the nuclear material is used only for peaceful purposes, including: (a) To collect, process and report, on time, correct and complete safeguards relevant information to the IAEA; (b) To facilitate IAEA activities and to provide access for IAEA in-field verification; (c) To confirm or verify the information provided; (d) To resolve questions and inconsistencies through institutional arrangements.
Examples of how the condition may be demonstrated	(1) Description of the SSAC roles and responsibilities; (2) Evidence that all organizations involved in the establishment or adjustment of the SSAC are prepared for the increase of activity, the increase of resources and the enhancement of capabilities needed to embark successfully on a nuclear power programme; (3) A plan to develop operation relevant safeguards procedures; (4) A programme in place to build up the required technical and administrative competence on timescales consistent with the development of the nuclear power programme; (5) Evidence through information exchange with the IAEA that the SSAC has a good understanding of the principles of safeguarding an NPP, including the type of equipment the IAEA may install in the facility.

Observations

Poland has both a Comprehensive Safeguards Agreement and an Additional Protocol in force as part of an agreement (INFCIRC/193/Add.8) concluded with Euratom and the IAEA.

Pursuant to the ALA, the President of PAA is responsible for nuclear material accountancy and control and the general fulfilment of Poland's obligations regarding nuclear material safeguards. The ALA also mandates PAA to perform inspections to verify that Poland's safeguards obligations are adequately met.

In addition, the ALA specifies that the heads of organizational entities at facilities and Locations Outside Facilities (LOFs) are responsible for providing access to PAA, Euratom, and IAEA inspectors for safeguards inspections and other verification activities, as well as for providing safeguards-relevant information to these authorities.

The European Commission Regulation No. 302/2005 of 8 February 2005 on the Application of Euratom Safeguards specifies the information that users of nuclear material must report to Euratom, which Euratom then reports to the IAEA pursuant to INFCIRC/193/Add.8.

In practice, the Nuclear Safety Department within PAA performs State System of Accounting for and Control of Nuclear Material (SSAC) tasks, including the preparation and storage of information on nuclear materials and the preparation and submission of declarations required under the AP. The INIR team was informed that there are currently two safeguards staff members at PAA, and that the required competencies and training programme for safeguards inspectors are covered in a regulation on nuclear inspectors.

The INIR team was informed that PAA has many years of practice in implementing safeguards for the MARIA research reactor, radioactive waste management facility, and LOFs, and has not experienced any major challenges in safeguards implementation to date. However, there has been no comprehensive review of the country's existing safeguards infrastructure to assess whether it will meet future needs related to the development of the PNPP, or other possible future nuclear power projects. There are no current plans in place or efforts underway to strengthen the SSAC, other than a plan for PAA to hire one additional safeguards staff member prior to commissioning the NPP.

While the ALA and the EC Regulation No. 302/2005 contain provisions on safeguards obligations, the INIR team was informed that there are no plans to revise the existing legal and regulatory framework or to develop any regulations, procedures, or other guidance in this area. The INIR team noted that some safeguards obligations, such as the obligation to provide early design information to the IAEA, may not be adequately covered under the existing national legal and regulatory framework.

The INIR team was further informed that there are no procedures or institutional arrangements in place or under development, for example, regarding the resolution of questions or inconsistencies that the IAEA may raise, or regarding the collection of information from various entities that may be conducting nuclear fuel-cycle related research and development activities not involving nuclear material.

In addition, the INIR team was informed that there is no general safeguards information management system or related quality control or quality assurance system in place. Facilities and certain LOFs are responsible for ensuring the correctness and completeness of the information they provide to Euratom, and PAA does not verify this information before its submission to the IAEA.

Areas for further action	**Significant**	Strengthen the SSAC
	Minor	No

RECOMMENDATIONS

R-6.1.1 Poland should perform an assessment, and subsequently develop and implement a plan to strengthen its SSAC and related safeguards infrastructure to support the introduction of nuclear power.

SUGGESTIONS

None

GOOD PRACTICES		
None		
6. Safeguards **Condition 6.2: SSAC requirements for the NPP recognized and addressed**		**Phase 2**
Summary of the condition to be demonstrated	The owner/operator is aware of the requirements of nuclear materials accounting and control, including the necessary staffing, training, and technical resources.	
Examples of how the condition may be demonstrated	(1) Human technical and financial resource requirements are included in the owner/operator organization plans; (2) Plans to develop the required system and related procedures for collecting, processing, and reporting safeguards relevant information.	

Observations

The INIR team was informed that, while PEJ is aware that it will have certain obligations for safeguards implementation, these are not clearly understood at this stage. The INIR team was further informed that PEJ has a stream of work with the Consortium to develop an understanding of safeguards requirements and related staffing needs. PEJ held a 3-day workshop with WEC in February 2024 to discuss safeguards requirements and is currently planning to invite PAA to participate in a second workshop in the coming months. Requirements for safeguards will be included in the EPC contract, and PEJ is aware that some design changes may be needed to facilitate safeguards implementation at the NPP.

The INIR team also was informed that PEJ recently hired two staff who are responsible for nuclear material accounting and are currently undergoing training. PEJ has also recruited a nuclear material accounting expert with safeguards experience from another country who is expected to mentor other staff.

The INIR team was informed that PEJ does not currently have a plan in place to develop nuclear material accounting and control procedures for the future NPP but is aware that they will be needed and have started to discuss this with WEC.

Areas for further action	**Significant**	Develop owner/operator understanding of safeguards requirements
	Minor	No

RECOMMENDATIONS

R-6.2.1 PEJ should further develop its understanding of safeguards requirements including the necessary staffing, training, and technical resources.

SUGGESTIONS	
None	
GOOD PRACTICES	
None	
6. Safeguards **Condition 6.3: Design information requirements for safeguards recognized**	**Phase 2**
Summary of the condition to be demonstrated	The State has notified the IAEA of its plans for NPP construction, understands the need for early planning of safeguards relevant features in the design and construction phases (including such requirements in the BIS), and plans to submit early design information to the IAEA as soon as the technology has been decided. Any plans for fuel cycle facilities have been communicated to the IAEA.
Examples of how the condition may be demonstrated	(1) Additional Protocol declaration (under Article 2.a.x) on ten year plans for the NPP submitted and regularly updated; (2) Evidence through information exchange with the IAEA that the owner/operator has a good understanding of the principles of safeguarding an NPP, including the type of equipment the IAEA may install in the facility; (3) Information on technology and list of designs being included in the BIS, provided to the IAEA; if a design has already been chosen, design information has been submitted to the IAEA with any specific national variations; (4) Future safeguards requirements for the NPP identified and included in the BIS; (5) Any proposals for fuel cycle facilities discussed with the IAEA.

Observations

Poland has submitted general information on its plans to develop nuclear power reactors to the IAEA via its AP declarations.

The Engineering, Procurement and Construction (EPC) contract is expected to include provisions to incorporate IAEA safeguards equipment into the design of the AP1000 reactors.

The INIR team was informed that there has been no previous interaction with the IAEA regarding plans to incorporate safeguards features in the design and construction phases, and that no early design information has been submitted to the IAEA. The INIR team was further informed that there are no specific plans to do so at this stage, but there are no obstacles that would prevent PEJ from providing such information to the IAEA.

Areas for further action	**Significant**	Initiate discussions on design information with the IAEA
	Minor	No
RECOMMENDATIONS		
R-6.3.1 Poland should initiate discussions with the IAEA regarding design information for its planned nuclear power reactors as soon as possible.		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

7. Regulatory Framework **Condition 7.1: Competent, effectively independent nuclear regulatory body established**	**Phase 2**
Summary of the condition to be demonstrated	The regulatory body has the legal authority, technical competence, resources, and procedures to fulfil the statutory obligations, and is ready to assess an application for a licence, issue a licence with licence conditions and inspect the construction of the NPP against a clearly defined set of regulatory requirements. Its regulatory decisions are free from undue political and economic influence.
Examples of how the condition may be demonstrated	(1) Demonstration of effective independence, including separation from the promotional aspects of nuclear power; (2) Evidence of adequate human and financial resources, including technical and leadership competence; (3) Processes for communications with the public and liaison with the international community; (4) A documented, formal management system, including roles, responsibilities, organizational structure and processes and record keeping (see infrastructure issue No. 3, management) (5) Technical support organizations and advisory experts available to support the regulatory function; (6) Arrangements for interfaces with operating organizations, other regulatory bodies, transport organizations and international forums; (7) Defined process for the assessment of applications for licence, licence issuance, inspections and enforcement actions. *Note: A report evaluating the regulatory framework against the actions described in SSG-16 [2] would address these conditions with respect to safety. If an IAEA Integrated Regulatory Review Service mission (tailored for embarking countries) has been conducted, the results of this mission could be used as evidence. However, subsequent work on any identified recommendations would be noted but not reviewed in detail, as that would occur during an Integrated Regulatory Review Service follow-up mission.*
Observations The President of PAA is the central authority of the government administration in charge of safety, nuclear security, and safeguards (Article 109 of the ALA) and is designated under Article 64 of the ALA as the supreme nuclear regulatory authority. The ALA addresses the independence of PAA. In accordance with the ALA, the President of PAA is under administrative supervision of the minister competent for climate matters. Currently, the Minister of Climate and Environment is responsible not	

only for climate and environment matters but is also the leading authority for the promotion of the nuclear power programme. This topic is addressed under *Issue 5: Legal Framework.*

PAA is developing its capability to regulate safety, nuclear security, and safeguards to be ready for the next phases of the nuclear power project. This includes the recruitment and training of new staff. PAA is actively engaged at the international level, including receiving support from other regulatory bodies and the IAEA.

The President of PAA governs a separate part of the State budget that does not belong to any ministry. As such, PAA proposes the appropriate resources necessary to perform its tasks to be approved by the Government and, subsequently, by the Parliament. For the PNPP, a ten-year budget plan has been secured and provides visibility to PAA regarding its financial resources. For new projects, PAA will request additional resources.

PAA does not have a dedicated TSO, but the ALA authorizes it to procure technical or other expert professional advice or services as necessary in support of its regulatory functions. The cost of such services is recovered from the applicant per Articles 37 and 39e of the ALA. To facilitate the procurement of external support, PAA has established an authorization system for TSOs to ensure their competence is adequate. Presently, 11 TSOs have been authorized.

PAA keeps the authorized TSOs informed and has initiated meetings with them to explain the regulatory licensing process, the TSO's role, and PAA's expectations. PAA establishes an annual procurement plan that will include needs for external technical support with a possibility of concluding long-term open contracts with TSO to secure availability of their services.

PAA has been assessing its capabilities for review and assessment to identify areas where external support might be needed, including to assess the licence application.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

GP-7.1.1 Under its authorization system for TSOs, PAA has already authorized 11 TSOs capable of providing external support to PAA, where needed, to effectively discharge its regulatory responsibilities for the NPP.

7. Regulatory Framework Condition 7.2: Regulatory framework developed		Phase 2
Summary of the condition to be demonstrated	The regulatory framework addresses all the relevant aspects for safety, security and safeguards related to siting, design, and construction of the proposed NPP (including arrangements for spent fuel, waste management and the transport of radioactive material). The framework will ultimately need to cover all the phases of the programme, but at this stage some aspects (e.g. commissioning, operation, decommissioning) may be covered by future work plans.	
Examples of how the condition may be demonstrated	(1) A comprehensive list of regulations identifying those issued, those in draft and those yet to be developed; (2) Evidence showing how the regulations have been developed and how they are consistent with IAEA safety standards, security guidance and safeguards requirements.	

Observations

The President of PAA is responsible for drafting and managing the process of finalizing regulations which are then issued by the CoM.

The regulations provide detailed requirements related to nuclear safety and security, and radiation protection. PAA considers that the ALA adequately addresses the area of safeguards and that there is no need for specific regulations. However, the INIR team was informed that the Euratom Regulation on Safeguards (directly applicable in Euratom Member States) is under revision, which may require modification of the legal or regulatory framework in Poland, depending on the final outcome.

PAA has planned to revise several of the existing regulations, including to align them with the recently published IAEA safety standards. According to the revision plan, all revised regulations should be in force by the end of 2026. The INIR team was informed that only one new regulation, on the detailed scope of conducting a preliminary assessment of the area intended for the site of nuclear power facilities and situations excluding the possibility of considering an area as suitable for the site of these facilities, has to be developed to have a comprehensive set of regulations and is expected to be issued by the end of 2024.

The revision or development of regulations require formal consultations with a number of stakeholders, including PEJ. The INIR team was informed that prior to those consultations, PAA discusses the expected changes to be introduced with PEJ, to anticipate their potential effects on the implementation of the PNPP.

For the design of the nuclear power plant, PEJ refers to the USA's technical codes and standards for the nuclear island. PAA stated that PEJ should demonstrate that these are in compliance with Polish legal and regulatory requirements.

The licensing process for nuclear facilities, including nuclear power plants, is defined in the ALA. Moreover, several other authorizations are requested from different authorities, such as:

— Decisions on environmental conditions from the General Directorate for Environmental Protection (GDOŚ);
— Building permit from the Provincial Governor;
— Permits related to the conventional safety of equipment necessary for the operation of a nuclear facility from the Office of Technical Inspection (UDT).

PAA has signed agreements with all relevant regulatory authorities and developed internal procedures to facilitate effective interaction with them.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS
None
SUGGESTIONS
None
GOOD PRACTICES
None

8. Radiation Protection **Condition 8.1: Development of radiation protection programmes and expansion of appropriate infrastructures planned**	**Phase 2**
Summary of the condition to be demonstrated	Plans have been developed for programmes to control and monitor the exposure of individuals on-site before any radioactive material arrives on the site, including staff training, procurement of equipment and services, and design requirements. The plans take into account increased requirements during construction and commissioning.
Examples of how the condition may be demonstrated	(1) Plans in place to implement radiation monitoring and protection programmes for exposure of workers and the public on-site before any radioactive material arrives on the site; (2) The appropriate equipment and systems for radiation monitoring are included in the BIS; (3) A review of the national infrastructure for monitoring and recording radiation doses with plans for the required expansion (4) Evidence of visits to other NPPs to understand the issues of dose and contamination control; (5) Availability of competent staff to review vendor proposals for dose and contamination control.

Observations

The Atomic Law Act (ALA) establishes general requirements for radiation protection of the public, workers, and the environment, for both normal operations and emergency conditions for an NPP. It is supplemented by several regulations, including:

- Regulation by the CoM of 20 February 2007 on the requirements for controlled and supervised areas;
- Regulation by the CoM of 31 August 2012 on the scope and method for the performance of safety analyses prior to the submission of an application requesting the issue of a license for the construction of a nuclear facility and the scope of the preliminary safety report for a nuclear facility (planned to be revised in 2024 and in force in 2025);
- Regulation by the CoM of 31 August 2012 on nuclear safety and radiological protection requirements which must be fulfilled by a nuclear facility design (planned to be revised in 2024 and in force in 2025);
- Regulation by the CoM of 11 February 2013 on requirements for the commissioning and operation of nuclear facilities (planned to be revised in 2025 and in force in 2026);
- Regulation by the CoM of 30 November 2020 on the protection against ionising radiation of outside workers exposed during their activities in controlled or supervised areas.

Potential impacts of the revision of existing regulations on the implementation of the PNPP are addressed under Issue 7: Regulatory Framework.

The Consortium conducted a compliance assessment of the plant design with Polish regulations and identified the modifications needed to meet the requirements. Moreover, PEJ has identified which radiation monitoring equipment must be installed to meet legal and regulatory requirements. Procurement of the radiation protection equipment and services will be an element of the EPC contract negotiation. The radiation protection programme of the NPP will be the subject of Chapter 12 in the Preliminary Safety Analysis Report (PSAR).

PEJ's TSO, Jacobs, performed an evaluation of the anticipated human resource needs for the operating organization over the period 2023-2035. This evaluation is formalized by the Level 3 Workforce Management Organisational Head Count, which includes the human resource needs for radiation protection. In addition, PEJ has prepared the requirements for educational background, qualifications, and experience for radiation protection staff, and for initial training and education plans.

According to the ALA, individual dose measurements and measurements for the assessment of doses resulting from internal contamination shall be performed by entities accredited by the Polish Centre for Accreditation. Four laboratories are currently accredited in Poland to provide these services. The INIR team was informed that the accredited laboratories have sufficient capability to meet the needs of the PNPP for dose measurements and assessment. However, the INIR team was informed that there is no documentation that captures this information.

PAA maintains a Central Dose Registry (CDR) for the management of occupational exposure dose. The INIR team was informed that the CDR database is sufficient to record the future staff individual doses at the NPPs.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

9. Electrical Grid **Condition 9.1: Detailed studies undertaken to determine grid enhancements**		**Phase 2**
Summary of the condition to be demonstrated	An analysis of the grid system has been completed to identify any enhancements needed to: (a) Cope with the enhanced generating capacity; (b) Achieve grid stability and reliability requirements to allow safe and efficient operation of the NPP (ability to reliably take the power generated and provide supplies to safety equipment). The requirements of the planned NPP have been agreed with the transmission system operator and they are compatible with the capability of NPP designs being considered.	
Examples of how the condition may be demonstrated	Plans to address the grid requirements associated with the inclusion of the NPP. The plans need to include: (1) Enhancement and/or expansion compatible with the increased generating capacity; (2) Achieving the overall grid stability and reliability requirements for safe operation of the NPP; (3) Justification of the reliability and capacity of the off-site power for the NPP; multiple grid connections to the NPP site, including provisions for their robustness, diversity, physical security, and cybersecurity; (4) Grid related plant characteristics and reliability requirements included in the BIS.	
Observations Poland is integrated into the Continental Europe Synchronous Area and is connected to its neighbouring countries by several interconnecting circuits, at 400 kV and 220 kV. A single state company, PSE, owns, operates, and develops the national grid, including load forecasting and generation dispatching. The system load ranges from 12 to 25 GW(e), and several large coal power units (ca. 1 GW(e)) have recently been integrated into the grid. In the coming years (before the launch of the NPP), it is planned to build offshore wind farms with a capacity of 11 GW(e) in the vicinity of the NPP site. In 2022 PSE issued the Transmission Network Development Plan (TNDP) for the years 2023 to 2032, which includes a chapter dedicated to the connection of the NPP to the grid. The plan lists 7 projects linked to the NPP in 3 stages: — Stage 1: Construction Site Power Supply; — Stage 2: Connections of up to two units; — Stage 3: Full output of the NPP (3 units).		

In the framework of the preparation of the 2023–2032 Plan, PSE has conducted load flow studies, considering the power evacuation of the NPP. This was an overall grid assessment, not a NPP specific study.

The Transmission Network Development Plan (TNDP) must be updated every 2 years, by law; the new update is currently under public consultation and is expected to be approved by the President of the Energy Regulatory Office by the end of 2024. It will introduce some changes in the layout of the lines for evacuating the power of the NPP.

The document containing the conditions for the connection of the NPP units to the 400 kV grid has been issued to PEJ in December 2023. This document details interfaces, ownership limits, responsibilities of PEJ, and general technical requirements for the plant. The connection conditions for the 110 kV offsite power supply, that will also act as site power supply during construction, were also issued in 2023. The INIR team was informed that some initial issues were raised by PEJ and the Consortium regarding the content of conditions for connection. As a result, PEJ arranged for PSE and the Consortium to hold direct trilateral discussions on the details of the interfaces between the NPP and the grid. The INIR team was informed that this is very effective in resolving any issues. The revised conditions for connection will be an integral part of the connection agreement and may be updated in the future, if necessary.

NED organised a workshop on the connection of NPPs to electricity grids in December 2021 and further events are planned as part of the support from the IAEA.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

GP-9.1.1 PEJ arranged for PSE and the Consortium to hold direct bilateral discussions on the details of the interfaces between the NPP and the grid, which is proving to be effective in identifying and resolving any issues.

9. Electrical Grid **Condition 9.2: Plans, funding and schedule for grid enhancement available**		**Phase 2**
Summary of the condition to be demonstrated	The plans for, and funding of, the identified enhancements are available, and the enhancement programme is consistent with the NPP construction programme.	
Examples of how the condition may be demonstrated	(1) Evidence that funding and schedules for grid enhancements, compatible with the foreseen construction, testing and commissioning have been approved and that delivery times of towers, lines and components, substations and switch yards are consistent with the construction schedule; (2) If the grid system will be interconnected to other countries, plans for appropriate legal and commercial agreements and operating procedures are in place for proper control of system frequency after an NPP trip and for grid emergency situations; (3) If the required performance of the future grid is a significant improvement over the current performance, firm and realistic plans exist to ensure this performance will be achieved in time for the commissioning of the NPP.	

Observations

The necessary grid enhancements, including the schedule for their implementation, are fully identified, and listed in the TNDP 2023–2032 issued by PSE in 2022. This plan was approved by the President of the Energy Regulatory Office (i.e. the energy market regulator in Poland), which is a necessary condition for PSE to incur capital expenditures. The investment projects were recently revised and include both the offsite/construction power supply and the main substations and lines for power evacuation from the NPP.

The connection point of the 400 kV line will be a new substation in the vicinity of the plant, and the overhead interconnection from the NPP will be financed by PEJ. The conditions for connection document clearly define the demarcation of ownership.

The grid enhancements will be financed by the transmission tariff collected by PSE. While the investments in new transmission corridors and substations are substantial, the INIR team was informed by PSE that, based on its experience in conducting grid expansion projects, it sees no significant risks in the availability of financial resources for these projects.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS
None
GOOD PRACTICES
None

10. Human Resources Development **Condition 10.1: Knowledge and skills needed in organizations for Phase 3 and operational phase identified**	**Phase 2**
Summary of the condition to be demonstrated	All relevant organizations have identified an appropriate organizational structure and the staff requirements for Phase 3, and the operational phase and key staff are already in place. The plans need to take into account the staffing requirements for any future units and the strategy for transferring staff between units.
Examples of how the condition may be demonstrated	For each organization (including support organizations), an analysis of what resources and competences are needed at what time during Phase 3 and the initial operational phase and which positions need to be formally licensed. The competence areas need to include: (1) Technical (including those that are nuclear specific); (2) Business (e.g. legal, finance); (3) Licensing; (4) Stakeholder involvement; (5) Fuel cycle management and procurement; (6) Construction management and commissioning; (7) Operation and maintenance; (8) Spent fuel, and radioactive waste management and decommissioning; (9) Training and development (including a systematic approach to training).

Observations

NED has conducted an assessment of its human resource needs, and these are summarised in the NHRDP, including its needs for 2023–2032. It recognises that its organisational structure will need to change as its numbers grow. This may also be affected by the draft legislation before the Parliament, including the provision to move NED to the new Ministry of Industry in the coming months. Staffing is planned to be increased to 30 people by the end of 2024. The updated PNPP, currently being drafted, will require an increase in NED staffing to support its implementation.

PAA has developed a Professional Development Programme (PDP) to ensure staff have the appropriate competences and has identified its staffing needs through 2033, which are also included in the NHRDP. PAA plans to increase its staff dealing with regulating the NPP to 110 persons by 2033.

In the case of unplanned work or new tasks, such as work related to SMRs, PAA has applied for, and received, additional resources.

PAA plans to redeploy some of its current staff to support the oversight of the commissioning and operation of the NPP while retaining some to oversee construction and commissioning of the additional units.

In May 2023, PEJ prepared its Human Resources Development Plan. It contains an initial estimate of the number and quality of staff that is expected to be needed in each functional area for both the

Programme Development Organization and the Operating Organisation up until when the third unit is planned to be commissioned, and arrangements for the transition.

The INIR team was informed that PEJ has prepared a revision of their organization development strategy, which includes knowledge management, training approach, and overall capability development. The INIR team was further informed that PEJ is using its advisors, Southern Company and TVO/Fortum, and the ESC contract to further its estimates for staffing numbers and training requirements, which will serve as inputs to the EPC. PEJ is currently focused on the project phase of the NPP, and is developing a construction readiness plan, with the intention to draft a commissioning and operational readiness plan by the end of this year.

PEJ has recruited a number of key staff with extensive nuclear project management and operating experience including a CNO, Head of Controls, Head of Technical, Head of Operations and Maintenance (planned), Nuclear Safety Manager, and 2 Engineering Managers.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

10. Human Resources Development **Condition 10.2: A plan available to develop and maintain human resources**	**Phase 2**

Summary of the condition to be demonstrated	A gap analysis has been completed (based on the requirements of 10.1, above) and recruitment and training plans developed (for each organization). The plans cover education, training and experience requirements and also include consideration of bilateral and international training activities.
Examples of how the condition may be demonstrated	(1) Training plans for senior executives. (2) Recruitment, training and development programmes to provide the competences defined in 10.1, including: (a) The nature of, and time required for, development of each competence; (b) Proposed courses and location of training;

	(c) The need for training abroad at a similar operating plant to those being considered, with any necessary language training planned; (d) Programmes in place for the involvement of future operation and maintenance personnel with the construction and commissioning groups; (e) The licensing of identified management and operating staff. (3) Proposals for training infrastructure requirements and development of training expertise. (4) The BIS addresses what is required from suppliers, including competence development of national personnel (training and on the job experience), the provision of a simulator and other training infrastructure requirements, and the development of national trainers.

Observations

PAA plans to have 110 personnel dedicated to the nuclear power programme by 2033. 61% of the staff is already in place compared to the original target of 75% in 2023. PAA faces some challenges, both in recruitment, due to reasons such as scarcity of human resources available on the market together with a strict civil service recruitment process, and in retaining staff, mainly due to the higher salaries being offered by external organisations.

As part of the PDP, an annual training plan is developed based on the needs of the individuals. For example, a number of specialists have already taken part in on-job trainings (OJT) in the US Nuclear Regulatory Commission (NRC), the Canadian Nuclear Safety Commission (CNSC), as well as on the Vogtle NPP construction site, accompanied by inspectors from the UDT.

PAA staff have also participated in multiple IAEA events and activities. PAA has its own 2-year training programme for new inspectors. Certain other trainings, such as safety culture, are provided in-house, but they are largely dependent on the US NRC for more technical training.

PEJ, in cooperation with a technical advisor (Jacobs), has conducted a preliminary gap/needs analysis for each organizational unit. Based on this analysis, long-term recruitment and short term training plans were developed. These were taken into account in the development of the PEJ Human Resources Development Plan. The company updates this gap/needs analysis and related training plans on a regular basis.

PEJ is reviewing the scope of training support, including training plans specific to the job functions for the operational phase of the NPP, which will be used as inputs to the EPC contract. The training and qualification requirements will be defined and developed, taking into account the NPP design, management system, and experience and practices from the reference plant. The Operation and Maintenance (O&M) consultants will provide significant support for the creation and implementation of the O&M training plan for the design, construction, and commissioning stages of the NPP, with a priority on project development capacity.

PAA has identified four functional areas (NPP management, management of commissioning and operations, operating supervision, and operation) for which staff will require licensing. The INIR team

was informed that PEJ has been benchmarking international practices in terms of qualification requirements for other positions that are important for safety and may propose working level meetings with PAA on this topic.		
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

10. Human Resources Development **Condition 10.3: An integrated national strategy developed**	**Phase 2**
Summary of the condition to be demonstrated	The plans of the different organizations (including educational institutions, research organizations and technical support organizations) have been considered in an integrated manner so as to optimize the development programme.
Examples of how the condition may be demonstrated	(1) Integration of the plans of the individual organizations (including support organizations) to enable development of a national strategy including: (a) An appropriate balance of resources and competence between the operating organization, regulator, and specialist organizations with adequate training provision in each; (b) A long term strategy to ensure sustainable, competent resources for each organization; (c) A remuneration structure that will ensure that all organizations are adequately staffed, and that staff are retained; (d) Integrating and optimizing opportunities for training abroad; (e) Confirming the adequacy of national education infrastructure (at the secondary and tertiary levels) or identifying any necessary improvements. (2) Evidence that key stakeholder organizations have participated in the development and review of the above plan.

Observations

As part of coordinating the development of organisational level Human Resource Development (HRD) plans, NED held a number of consultative meetings with key stakeholders during 2023, including PAA, PEJ, UDT, the Institute of Nuclear Chemistry and Technology, the Central Laboratory for Radiological Protection, the Ministry of Education, and others. In addition, a workshop was held in October 2023 (under the IAEA TC Programme) on the use of the Nuclear Power Human Resources (NPHR) Model for modelling human resources for the PNPP, attended by representatives of all involved institutions. These meetings culminated in the development of the NHRDP, which was adopted by the Minister of Climate and Environment in December 2023.

The NHRDP identifies the resource needs of the entities involved in the nuclear project and the plans to meet them. It also specifies nuclear education and training programmes necessary to be implemented in the national education system. The NHRDP includes a number of 'directional actions' aimed at strengthening both the secondary vocational and tertiary education sectors.

The INIR team was informed that the focus of the enhancement of secondary/vocational education, to be supported by PEJ, was in the locality of the future NPPs. The INIR team was further informed that, as part of the development of bilateral cooperation with the USA under the IGA, the Clean Energy Training Centre (CETC) was created in Poland to facilitate the training of PEJ, Polish academia, PAA, UDT, and Polish industry, directly by the US organizations. The Training Centre may be used, in the future, to support the deployment of other nuclear technologies.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

11. Stakeholder Involvement **Condition 11.1: Stakeholder involvement plans being implemented**	**Phase 2**
Summary of the condition to be demonstrated	Each of the key organizations (government, regulator, and owner/operator) has a proactive stakeholder involvement plan that is in use and regularly updated.
Examples of how the condition may be demonstrated	(1) Documented stakeholder involvement strategy and plan for each of the key organizations (government, regulator, and owner/operator) addressing the full range of issues, including technology choice, safety, security, waste management, severe accidents, health and environmental impact; (2) Evidence of a competent communications team in each organization, with experience and evidence of engagement with senior staff; (3) Examples of communications in a range of formats with the public, local government, industry, media, non-governmental organizations, opposition groups, educational institutions, and neighbouring countries; (4) Evidence of training and experience of spokespersons; (5) Evidence of ongoing government communications with regard to energy policy and energy needs, the role of nuclear power in the energy mix, the benefits and risks of nuclear power, the non-zero potential for severe accidents and response to issues raised; (6) Regular reviews of public understanding and acceptance through means such as opinion polls or meetings; (7) Effective public information centres in place or planned, including required budgets and facility design; (8) Evidence that the owner/operator engages, on a regular basis, with local stakeholders on, for example, construction plans, opportunities for local jobs and benefits to the community; (9) Regulator strategy regarding the availability of information to the public, regulatory communication, and consultation with stakeholders; (10) Evidence that the role of the regulator is understood by stakeholders and that it is perceived as competent and independent.

Observations

The three main organisations (NED, PAA, PEJ) have approved communications or stakeholder involvement strategies supported by annual activity plans.

Within NED, the Social Information and HRD Unit is conducting informational, educational, and awareness activities in the fields of energy, nuclear energy, and radioactive waste management. NED

has provided communication training for its staff, which has also been attended by other key stakeholders including PAA and PEJ.

In 2022, NED launched an ongoing nationwide TV, radio, and internet campaign (‘*The Atomicki Family. Day to day with nuclear power’*) focused on providing information on the benefits of nuclear energy, as well as nuclear security and radioactive waste management. Other activities include study visits for stakeholders, teaching materials for schools, trainings for teachers, lessons organized in primary and secondary schools, and cooperation with universities.

NED has been conducting annual public opinion polls since 2012 to analyse social support for the construction of a nuclear power plant in Poland. The results of these polls inform the content of the annual communication plans, including the regions on which to focus. Current support in Poland is at its highest ever, around 90%.

PAA is currently preparing a new communications plan, recognising that the interest/issues will change as PEJ is getting closer to applying for a construction licence. As part of this preparation, it will meet with the local authorities of the NPP site in June 2024. It also conducts its own training for managers and technical experts. The main information platform for the public is the PAA website, and PAA has a presence on social media (Twitter/X and YouTube). It conducted a public opinion poll in 2022 and plans to conduct another one in 2024.

PEJ has a dedicated Communication and Stakeholder Relations Department. It organises training courses for its employees in areas such as public speaking/presentations, handling crisis situations and stakeholder management. PEJ also provides training for its contractors and their subcontractors on communicating with the local communes. Since 2011, PEJ has been conducting regular opinion polls in the location and neighbouring communes of the NPP site, expanding each year the number of areas and respondents. Polls are conducted via interviews with the local population in their own homes. Local support for construction of the NPP remains high with an average of more than 70% of the residents in favour in recent years.

PEJ is focused on cooperation with the site communes and communicating project milestones on a nationwide scale. From 2012 to 2023, PEJ organized and financed 8 study visits to European nuclear-related facilities. PEJ also actively maintains official social media channels (Twitter/X and LinkedIn), where information on the status of the NPP project is posted on an ongoing basis.

In 2013, PEJ established three Local Information Points (LPIs) in Pomerania, staffed by residents of the region. During the summer season, Vacation Information Points are also established for tourists visiting the site communes. In addition, PEJ participates in events organized in cooperation with the local community and in other national nuclear sector events such as conferences or workshops.

In 2015, PEJ launched the Corporate Social Responsibility Programme (Community Initiatives Support Programme) which continues to support initiatives important for the residents and the development of the region by financing and subsidizing initiatives carried out in the site communes.

In January 2023, PEJ introduced a new internal regulation on sponsorship, which includes sponsorship of educational events and industry conferences, where it presents its activities, builds its image and relations with stakeholders.

PEJ is also actively cooperating with universities, academia, and local high schools with the aim of supporting capacity building in the nuclear sector. All three main organizations monitor traditional media (press, radio, and TV) regularly, while PEJ also tracks social media on a constant basis.		
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
GP-11.1.1 NED's annual surveys, national media campaign, and provision of training and teaching materials for schools, underpin a high level of support for nuclear power. **GP-11.1.2** PEJ's proactive engagement with the local community though regular surveys, face to face interviews, local information centres and support for local education centres, shows an integrated approach, resulting in a high level of local support for the NPP.		
11. Stakeholder Involvement **Condition 11.2: Stakeholder involvement plans coordinated**		**Phase 2**
Summary of the condition to be demonstrated	The NEPIO provides a continuing forum for communication and cooperation among the key organizations, ensuring that the roles and responsibilities of each organization in stakeholder involvement are clear and that all stakeholders are being involved (including the public, local government, industry, media, non-government organizations, opposition groups and neighbouring States).	
Examples of how the condition may be demonstrated	(1) Integrated national strategy agreed among the key organizations, with a commitment to share plans and to ensure consistency of messages; (2) Evidence of regular review by the key organizations of the effectiveness of the strategy.	
Observations The Nuclear Energy Department (NED) holds regular (usually monthly) on-line meetings with PEJ's communication team, during which activities are discussed and coordinated. Consultations, phone calls, and e-mails are exchanged on an ongoing basis.		

Meetings between NED and PAA's Policy and International Cooperation Bureau also take place, but less frequently, as the roles are different. They have specific meetings to organise joint stakeholder workshops. Due to the current situation in Ukraine, NED and PAA cooperation activities have become more frequent, in response to growing public interest and concern. In order to provide the public with reliable information, the President of PAA and the management of the MoCE held joint press conferences.

NED coordinates and cooperates with academia to promote the PNPP, providing educational material, involving academics in NED projects, and cooperating on the new CETC.

All three main organisations use their opinion polls and media monitoring to evaluate the effectiveness of their strategies.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

12. Site and supporting facilities **Condition 12.1: Detailed site characterization completed**	**Phase 2**
Summary of the condition to be demonstrated	The basis for the site selection has been justified against clearly defined siting criteria. These cover safety, engineering, security, environmental, emergency response, social and economic aspects. Site characterization and an evaluation by the regulatory body have been completed (the detailed approach will depend on the specific authorization stages defined in the State). Site related design basis information is available and included in the NPP requirements. A plan for addressing the siting of fuel cycle and waste facilities is available.
Examples of how the condition may be demonstrated	(1) A report demonstrating the ranking of possible sites and basis of the chosen site or sites; (2) Evidence that the site meets all siting requirements and the necessary characterization studies have been completed (see publications listed below for list of topics to be addressed); (3) Evidence that local legal, political, and public acceptance issues have been identified and resolved or their resolution is planned; (4) Analysis of sites required for fuel interim storage, and for waste conditioning, storage and, where appropriate, disposal; plans for selecting sites available; (5) Evidence that, where appropriate, transport between the NPP and any waste storage/disposal sites has been considered.

Observations

Siting studies were initiated many years ago and have considered a large number of prospective sites. The INIR team was informed that the site selection process was performed in accordance with the ALA, EU obligations, and international guidelines (IAEA, STUK, and NRC), with the support of international consultants. Two locations were then selected for further consideration, that were assessed in the EIA Report submitted to GDOŚ in March 2022. After the review of the EIA report, GDOŚ issued its environmental decision on 19 of September 2023. In 26 of October 2023, the Location Decision issued by the Province Governor ultimately approved the Lubiatowo-Kopalino site.

From 2017 to 2019, this site was surveyed to support the EIA, and PEJ used the survey results to develop a Preliminary Site Evaluation Report. The site survey programme comprised 22 areas including hydrology, hydrogeology (boreholes), seismicity, geomorphology, and geophysics. Data monitoring for hydrology, meteorology and seismicity are ongoing for the purposes of the construction license application and associated EIA updates. Technical data on the site related design basis for the selected site is included in the EIA, which has been shared with the Consortium.

The INIR team was informed that the site selection and characterization studies were carried out in accordance with PEJ's Quality Assurance and Management Systems, and further studies are expected to start in May 2024 under the technical supervision of Bechtel.

In accordance with Polish law, PEJ may apply to the President of PAA for an advance opinion on the planned nuclear facility site, and attach a siting report to its application. The INIR team was further informed that the Preliminary Site Evaluation Report is completed, but is not required to be submitted to PAA. However, based on Polish licencing requirements, the final Site Evaluation Report must be submitted to PAA as part of the construction licence application. The INIR team noted that it would be beneficial for PAA to require and review the Preliminary Site Evaluation Report to facilitate preparation for reviewing the construction licence application.

Areas for further action	**Significant**	No
	Minor	Review of the Preliminary Site Evaluation Report

RECOMMENDATIONS

None

SUGGESTIONS

S-12.1.1 PEJ is encouraged to consider submitting the Preliminary Site Evaluation Report to PAA to get an advanced opinion and facilitate the process of reviewing the construction licence application.

GOOD PRACTICES

None

12. Site and supporting facilities **Condition 12.2: Plans in place to prepare site for construction**	**Phase 2**
Summary of the condition to be demonstrated	Infrastructure either exists, or is planned, to support construction, for example access, workforce housing, water, and construction materials. Any outstanding work is planned in accordance with the construction requirements or is included in the BIS.
Examples of how the condition may be demonstrated	(1) A review of the current infrastructure and plans to implement any enhancements required; (2) Existing and planned site facilities are clearly described in the BIS.

Observations

PEJ's TSO, Jacobs, conducted a Transport Study to assess the existing infrastructure in the region and identify the necessary upgrades for the PNPP, and associated investments.

These infrastructure upgrade projects include new roads, railways, grid enhancements, and the construction of a Marine Offloading Facility. Although these projects are the responsibility of other organizations, PEJ has the role of coordinator, and reports to the Plenipotentiary Office, which intervenes, as necessary, to ensure their execution according to the Integrated Master Schedule. Technical requirements for these associated infrastructure elements will be provided by the Consortium, under the ESC.

Other infrastructure needs that are the direct responsibility of PEJ are clearly defined, including water and sewage infrastructure, site power supply, and a training centre with simulators.

The Location Decision, granted by the Province Governor, only allows for limited works on site, such as erecting a fence, vegetation suppression, and limited-depth ground levelling. PEJ, in cooperation with the Plenipotentiary Office, is working on a new legal mechanism regarding early works. The Early Works permit would be obtained from the Province Governor. PEJ would expect to start the early works on two groups of activities:

— Construction of facilities such as: concrete batching plant, modules assembly buildings, warehouses, workshops, layover areas, heavy haul roads, deep excavations;
— Works for the preparation of the first nuclear concrete pouring, such as: backfilling, concrete mud mat, waterproofing, retaining walls, rebar bending and assembly (including embedded items) of foundation base mat.

GDOŚ will have to evaluate the re-assessed Environmental Impact Report for Early Works as well as for other stages of construction submitted during the permitting process.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

13. Environmental Protection Condition 13.1: Environmental impact assessment performed		Phase 2
Summary of the condition to be demonstrated	A complete assessment of the environmental impact of the proposed NPP has been carried out in accordance with national requirements and an environmental impact assessment report has been submitted to the appropriate authority. Plans for monitoring to provide a baseline for the site and its surroundings have been developed.	
Examples of how the condition may be demonstrated	(1) Availability of the environmental impact assessment report and the status of approval by all relevant regulators and agencies (2) Mitigation measures evaluated; (3) Plans to develop systems and facilities for necessary environmental monitoring (including radiation monitoring), with clearly assigned roles for the operating organization and the environmental regulator.	

Observations

The Environmental Impact Assessment (EIA) process is governed by the Act of 3 October 2008 on the provision of information on the environment and its protection, public participation in environmental protection and environmental impact assessments (EIA Act). The competent authority, the GDOŚ, issues the decision on environmental conditions (Scoping Decision) and the EIA overall. The Scoping Decision is based on their consultations with other national authorities and the States participating in the procedure for the transboundary consultation in line with the Espoo Convention. It provides the scope of the investigations to be performed and the content of the EIA Report to be submitted to GDOŚ for the Environmental Permit.

In 2015, PEJ developed an EIA for the construction and operation of the NPP. The scope covered two potential sites, using typical PWR designs with power up to 3750 Mw(e). GDOŚ issued its Scoping Decision in 2016, enabling PEJ to commence the detailed investigations that would inform GDOŚ EIA conditions in the next stage. During the process, GDOŚ consulted extensively with 14 neighbouring countries in the frame of the Espoo Convention. The INIR team was informed that PAA actively participated in this process of providing written comments and having an expert role in the transboundary consultations.

The INIR team was informed that the subsequent site investigation and environmental survey programme were developed in line with the requirements of the EIA Act and the Scoping Decision. The INIR team was further informed that, since this is the first EIA process in Poland for NPPs, PEJ and GDOŚ have adopted a conservative approach. PEJ submitted the EIA Report in 2022. As part of its statutory review, GDOŚ furthered its consultations to include the Polish public.

The President of the PAA is consulted on the scope of the environmental impact assessment report before the decision on environmental conditions is issued, based on the provisions of the EIA Act of 3 October 2008, on the provision of information on the environment and its protection, public participation in environmental protection, and environmental impact assessments. GDOŚ completed its review and issued the Environmental Permit with associated conditions in 2023. This document is

publicly available. This allows PEJ to advance engineering studies in order to meet the conditions. It involves, for the purpose of the next environmental approval hold point (construction license), defining an environmental baseline and a set of mitigation measures. PEJ is conducting further studies with the support of the Consortium. The INIR team was informed that part of these studies will be used to develop a monitoring plan to define the environmental baseline.		
Areas for further action	**Significant**	No
	Minor	Monitoring plan for environmental baseline
RECOMMENDATIONS		
None		
SUGGESTIONS		
S-13.1.1 PEJ is encouraged to complete the monitoring plan to define the environmental baseline.		
GOOD PRACTICES		
None		

13. Environmental Protection **Condition 13.2: Environmental characteristics provided**	**Phase 2**
Summary of the condition to be demonstrated	Comprehensive specification of environmental site conditions, factors, characteristics, and data have been included in the BIS in as much detail as possible.
Examples of how the condition may be demonstrated	(1) BIS identifying local environmental factors. Areas to consider include: (a) Pathways for effluent transport and concentration in the surrounding environment; (b) Local population demographics and trends; (c) Predominant plant and animal life and relevant radioecological sensitivities; (d) Predominant land use; (e) Data relevant to justifying heat removal capability; (f) Sites and means for disposal of hazardous waste; (g) Local environment issues affecting construction. (2) Bidders have free access to all detailed site studies including environmental impact assessment documents and collected site data, with the environmental limitations, commitments, and conditions. (3) Established procedure for resolution of vendor questions with regard to the interpretation of the site data.

Observations The Environmental Impact Assessment (EIA) Report and the Environmental Permit provide the necessary information related to environmental characterization, and these documents have been made available to the Consortium, as well as to the public. The INIR team was informed that PEJ and the Consortium are reviewing the relevant information to inform the EPC contract negotiations and ensure compliance with the environmental conditions. In that regard, the ESC facilitates communication between GDOŚ, PEJ and the Consortium.		
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		
13. Environmental Protection **Condition 13.3: Clear and effective regulation of environmental issues established**		**Phase 2**
Summary of the condition to be demonstrated	The environmental regulator for the nuclear power programme has the skills and resources required to fulfil the roles and responsibilities assigned. The interface between this organization and the nuclear regulator has been defined.	
Examples of how the condition may be demonstrated	(1) Roles and responsibilities of the environmental regulator for the NPP defined; (2) Memoranda of understanding between the environmental and nuclear regulatory bodies; (3) Evidence of adequate skills and resources to evaluate the environmental impact assessment, and plans to develop adequate skills to assess the acceptability of design information, inspect/audit activities during construction and evaluate monitoring results.	
Observations The General Directorate for Environmental Protection (GDOŚ) is the environmental regulator in Poland and is responsible for environmental protection and control of any activities requiring EIA,		

including NPPs. GDOŚ performs its activities through its Department of Environmental Impact Assessment with the support of 16 Regional Directors of Environmental Protection. This department currently has 50 staff with backgrounds in environmental protection. A cross-functional team has received nuclear training and visited existing NPPs in preparation for the issuance of the decision on the environmental conditions (EIA Decision) for the NPP1 in Poland.

In conducting its environmental regulatory functions, GDOŚ consults with several national organizations, including PAA. The 2023 Amendment to the EIA Act provides for the participation of PAA in environmental procedures. The INIR team was informed that GDOŚ and PAA have been closely collaborating since the start of the EIA process for the NPP.

At the time, GDOŚ issued the Scoping Decision, the regulations in force did not require input from the President of PAA. Nevertheless, before issuing this decision, GDOŚ provided a project information sheet to the President of PAA with a request for comments. GDOŚ took PAA comments into account when issuing its Scoping Decision.

For the EIA Decision, GDOŚ requested an opinion on nuclear safety and radiological protection from the President of PAA. GDOŚ took this opinion into account when issuing its EIA Decision.

The INIR team noted that, although a number of interface points between GDOŚ and PAA are identified in the approval process, it is not clear these are comprehensive, and there is no detail on their nature.

Areas for further action	**Significant**	No
	Minor	Interface between environmental and nuclear regulators

RECOMMENDATIONS

None

SUGGESTIONS

S-13.3.1 PAA and GDOŚ are encouraged to formalize their working level interfaces and arrangements, to strengthen coordination of all matters relevant to environmental protection for the PNPP.

GOOD PRACTICES

None

14. Emergency Planning **Condition 14.1: Responsibilities of each organization clearly defined and approach for emergency planning being developed**	**Phase 2**
Summary of the condition to be demonstrated	An overall action plan is being implemented to provide the required EPR arrangements and capabilities to be demonstrated before fuel is brought to the site. The organizations involved have identified the resources that will be required to execute the action plan and have made a commitment to provide those resources.
Examples of how the condition may be demonstrated	(1) Action plan that addresses the gaps and leads to a demonstration of adequate EPR arrangements and capabilities prior to fuel being brought to site, including: (a) Actions to be completed, schedule and milestones; (b) Organizations responsible for each action; (c) Resources required for the implementation of the action plan; (d) Action plan implementation progress report. (2) Regulations related to EPR developed; (3) EPR roles and responsibilities at all levels are documented; (4) The types of accident have been identified and potential consequences have been assessed including the likely size of emergency planning zones and distances for an NPP; (5) A generic protection strategy has been defined based on assessed hazards and consequences.

Observations

The National Crisis Management Plan (NCMP) defines the roles and responsibilities of all organizations involved in the management of any emergency situation in Poland. Specifically for nuclear and radiological emergencies, PEJ, the Regional Governor, and the Minister of Interior are assigned responsibilities for Emergency Preparedness and Response (EPR) at the on-site level, regional level, and national level, respectively. These responsibilities will be elaborated in the On-Site Emergency Plan for the NPP1, the Regional Emergency Plan, and the National Emergency Plan, respectively.

Various acts, regulations, and internal procedures govern the roles and responsibilities that are described within the NCMP. Chapter 11 of the ALA covers provisions for EPR. It requires a Unified Command and Control System to ensure nuclear safety and radiological protection of workers and the public during nuclear or radiological emergencies. Additionally, the Regulation by the CoM of 25 May 2021 on Emergency Response Plans in Cases of Radiological Emergencies provides requirements for the development of emergency response plans. PAA is responsible for reviewing on-site and national level plans and has an advisory role in emergency management.

The INIR team was informed that PAA has prepared a proposal for the amendment of the ALA regarding EPR.

The INIR team was further informed that PAA is continuously strengthening its capabilities by:

- Designing and creating an emergency operation centre;
- Developing an emergency measurement team;
- Increasing human resources;
- Purchasing radiometric equipment;
- Purchasing personal protective equipment; and
- Designing and purchasing a mobile dosimetry laboratory.

In addition, several regulations and plans will be updated to enhance the capabilities of the critical organizations relevant to the PNPP.

In terms of individual organizational efforts to strengthen EPR capabilities, the INIR team was informed that the Ministry of Interior plans to strengthen the capabilities of the Fire Service for the PNPP on a continuous basis through the expected start of the NPP operation. However, no information was provided on the efforts to enhance the capabilities of other emergency services for the PNPP.

For the purpose of the EIA Report, PEJ received data on possible releases in case of both a severe accident with core melt and an accident without core melt. PEJ has made a preliminary estimate of the extent of restricted-use areas, emergency planning zones, and distances around the NPP site, for which intervention measures are to be planned and prepared for response to a nuclear or radiological emergency.

Despite the above actions of individual organizations, the INIR team noted that a coordinated strategy and associated action plan to strengthen all necessary EPR capabilities for the NPP have not yet been developed.

Areas for further action	**Significant**	Develop and implement coordinated plan for EPR
	Minor	No

RECOMMENDATIONS

R-14.1.1 Poland should develop and implement a coordinated action plan, to ensure that the required EPR arrangements and capabilities for the NPP are in place before fuel is brought to the site.

SUGGESTIONS

None

GOOD PRACTICES

None

15. Nuclear Security **Condition 15.1: Required physical protection measures developed**	**Phase 2**
Summary of the condition to be demonstrated	The national threat assessment and design basis threat for the NPP have been completed. Requirements for the design of physical protection for the NPP have been defined in the BIS or in other appropriate documents. Specific physical protection requirements during the construction and transport of nuclear material have also been developed. Roles and responsibilities for preparing for detecting and responding to nuclear security events have been defined.
Examples of how the condition may be demonstrated	(1) A documented national threat assessment that covers the full range of threats affecting nuclear material and nuclear facilities; (2) A competent authority defined with assigned responsibility for developing the design basis threat in coordination with other relevant authorities; (3) Clear definition of roles and responsibilities for each organization involved in the response to nuclear security events; (4) A design basis threat has been developed, the BIS includes physical protection requirements for the NPP; (5) Nuclear security requirements during the construction and transport of nuclear material have been defined.

Observations

In 2022, the President of PAA, in coordination with other relevant authorities, established the National Threat Assessment and Design Basis Threat (DBT) covering all threats that might affect nuclear material and nuclear facilities in accordance with Article 41o. of the ALA. The INIR team was informed that threats that fall beyond the DBT are under the purview of national security.

Some parts of the DBT have been shared with PEJ for the design of the physical protection system of the NPP, in accordance with the provisions of the Act of 5 August 2010 on the Protection of Classified Information.

The Regulation of the CoM of 4 November 2008 on the Physical Protection of Nuclear Materials and Facilities defines the types of organizational and technical measures for the physical protection of nuclear materials and nuclear facilities. The INIR team was informed that work is ongoing to amend this Regulation on the basis of INFCIRC/ 225/Revision 5.

Article 41m of the ALA stipulates that nuclear facilities shall be physically protected under the supervision of the President of PAA and the Head of the Internal Security Agency. The Protection of Persons and Property Act recognizes nuclear power plants as critical infrastructure facilities, which are subject to special protection. Additionally, the Nuclear Investment Special Act has some provisions to ensure the physical protection of nuclear facilities.

Article 58 of the ALA requires that nuclear materials be prepared for transport and transported in a way that prevents the occurrence of a self-sustaining nuclear fission chain reaction and in accordance with the regulations on the physical protection of nuclear materials.

Additionally, the INIR team was informed that the proposed amendment of the Regulation of the CoM of 4 November 2008 on the Physical Protection of Nuclear Materials and Facilities includes requirements on transport security for nuclear material, and provides the content of the Physical Protection Systems (PPS).

The Protection of Persons and Property Act and the legislation establishing the roles of the various law enforcement agencies (e.g. Law on the Police) assign roles and responsibilities for the organizations involved in the response to nuclear security events, which are described in the physical protection systems and protection plans.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

15. Nuclear Security **Condition 15.2: Programmes in place for the management of sensitive information**	**Phase 2**
Summary of the condition to be demonstrated	For each of the key organizations, a process for categorization and management of sensitive information has been developed. This includes control of any sensitive information made available to contractors.
Examples of how the condition may be demonstrated	Processes for the protection of sensitive nuclear security information and protection of computer systems, networks and other digital systems that store sensitive information.

Observations

The National Atomic Energy Agency (PAA) classifies information and protects classified information in accordance with the provisions of the Act of 5 August 2010 on the Protection of Classified Information. In compliance with the provisions of this Act, all PAA employees who have access to classified information must first undergo mandatory training in the protection of classified information

before processing such information. PAA has appointed a Protected Information Coordinator, who is responsible for implementing the tasks specified in the Ordinance of the Director General no. 10 of 22 May 2012 on Establishing the Principles of Managing Information. Additionally, PAA manages classified information in accordance with the requirements of the ISO 27001 standard: 'Information Security Management System'.

PEJ also classifies information and protects classified information in accordance with the provisions of the Act of 5 August 2010 on the Protection of Classified Information. Additionally, PEJ's process for defining access to and classification of information is described in PEJ's internal security regulations i.e. *Manual: Classification and Processing Information*. The INIR team was informed that PEJ has shared with WEC information on the national physical protection requirements that have to be taken into account for the design of the physical protection system of the NPP.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

15. Nuclear Security **Condition 15.3: Programmes in place for the trustworthiness of personnel**	**Phase 2**
Summary of the condition to be demonstrated	For each of the key organizations, a screening/vetting process for recruitment and selection of personnel with access to facilities, nuclear material and sensitive information has been developed.
Examples of how the condition may be demonstrated	Processes for the screening/vetting of personnel, including a graded approach depending on the level of access required.

Observations

The Nuclear Energy Department (NED) and PAA have established a screening/vetting process for personnel and job applicants who might have access to facilities, nuclear materials, and sensitive information in accordance with the Act on Protection of Classified Information. Depending on the level of access to classified information required, the job candidate or employee must be vetted and obtain a security clearance from the Internal Security Agency, and must also be trained in the protection of classified information. Moreover, the vetting process is repeated after 3 years, 5 years, or 7 years based

on the position and level of access to classified information, respectively. Further provisions are provided in the Regulation of the CoM of 4 November 2008 on the Physical Protection of Nuclear Materials and Facilities for authorization of personnel to access different areas in the nuclear facility.

PEJ has established a screening/vetting process for personnel with access to classified information in accordance with the provisions of the Act on the Protection of Classified Information, and such personnel are subject to vetting and clearance from the Internal Security Agency. Additionally, the INIR team was informed that, according to internal procedures, all personnel need to have a clearance to at least the "Confidential" level, and that only a select group of key personnel are cleared to the 'secret' level.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

None

15. Nuclear Security **Condition 15.4: Programmes in place for promotion of nuclear security culture**	**Phase 2**

Summary of the condition to be demonstrated	All relevant organizations understand the importance of a nuclear security culture and have plans to develop a nuclear security culture at all levels of the organization.
Examples of how the condition may be demonstrated	Evidence of the promotion of a security culture by leaders and managers within all key organizations involved in the nuclear power programme, including recognition of the importance of integrated management systems and leadership for security, security of information and trustworthiness.

Observations

The Nuclear Energy Department (NED) understands the importance of a nuclear security culture and has been organizing various trainings on security for the relevant organizations, with the latest training on cybersecurity conducted in early 2023.

PAA adopted a safety and security policy that encompasses both safety and nuclear security culture on 26 June 2023. The INIR team was informed that this document is a high-level policy statement, and

PAA has not yet faced any challenges in the implementation of the policy. A challenge could potentially arise in the general understanding of the terminology because there is only one word in Polish for safety and security, and personnel are in general more familiar with safety than nuclear security. The INIR team was informed that, under a biennial plan for strengthening the safety/security culture, training will be implemented to raise awareness among staff about the interface between safety and security. PEJ is currently working on a Security Strategy for the NPP, which will include elements on building and fostering a strong nuclear security culture, and is expected to be ready at the end of 2024. The INIR team was informed that this strategy will be based on the IAEA publication entitled Implementing Guide on Nuclear Security Culture, IAEA Nuclear Security Series No. 7. PEJ has a channel for staff to report non-compliance with its security policy, and this channel is already being used.		
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

16. Nuclear Fuel Cycle **Condition 16.1: Front end fuel cycle strategy defined**	**Phase 2**
Summary of the condition to be demonstrated	Based on the national policy, a clear front end fuel cycle strategy has been defined identifying how new fuel will be available in the short and long term or which options are being pursued.
Examples of how the condition may be demonstrated	(1) A document defining a realistic front end nuclear fuel cycle strategy at a level of detail appropriate for Milestone 2; (2) Evidence that basic decisions needed for Milestone 2 have been made. This includes a decision on the number of reloads to be requested with the first core, and a short and long term purchasing strategy for the fuel services (natural uranium, conversion, enrichment, and fuel manufacturing); (3) An integrated plan for bidding and construction of any intended front end fuel cycle facilities consistent with the national long term fuel cycle strategy, the power plant construction programme, and the national non-proliferation commitment.

Observations

PEJ is aware of the basic requirements related to fuel procurement and management strategies. This is supported by PEJ's early (2013) work on defining nuclear fuel contracting requirements and the role of the Plant Vendor Program Definition (2022), which addresses fuel supply at a high level.

As an EU Member State, Poland has obligations to Euratom regarding nuclear fuel supply, and PEJ continues to engage with them regularly to ensure compliance. Furthermore, PEJ hosted an IAEA Expert Mission on Nuclear Fuel Supply Strategy in 2017 to test its compliance with IAEA safety standards and is evaluating the recommendations, which are aimed at furthering Poland's understanding in this area.

Currently PEJ has no plans to manufacture fuel in Poland and is considering adopting the Westinghouse fuel supply management overview, as described in the *Overview of Westinghouse AP1000 Fuel Supply Management and Technology Rev. 0*. This option would in effect select WEC as the fuel supplier for the long term.

In the near term, the issues of interest will be arrival of fuel on-site and initial fuel loading operations. The INIR team was informed that PEJ will develop a risk plan that addresses how to ensure that fresh fuel does not arrive on-site before the NPP is ready to receive it. Additionally, PEJ consults with NED, which monitors the fuel supply, and plans to include a chapter about this topic in the forthcoming update of the PNPP.

Currently, negotiations are underway to contract the fuel supply, and PEJ is developing detailed requirements and criteria for procuring the fuel for both the short and long term through the ESC contract. Should any changes to the fuel characteristics and/or suppliers be considered, PEJ would redefine its requirements, and develop a new safety case.

Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		
16. Nuclear Fuel Cycle **Condition 16.2: Back end fuel cycle strategy defined**		**Phase 2**
Summary of the condition to be demonstrated	Based on the national policy, a back end fuel cycle strategy has been defined, including plans/options for storage (on-site and off-site), possible reprocessing or arrangements for fuel take back. Actions and timescales are consistent with the planned NPP construction programme.	
Examples of how the condition may be demonstrated	(1) A document on spent fuel management strategy, including identification of facilities needed, actions, resources and timescales; (2) Evidence that basic decisions needed for Milestone 2 have been made. This includes a decision on fuel take back if considered, a decision on spent fuel storage capacity on-site and off-site and a strategy for purchasing and building these capacities; (3) Initial requirements clearly defined in the BIS.	

Observations

The National Plan for Radioactive Waste and Spent Nuclear Fuel Management describes the strategy for the back end of the nuclear fuel cycle.

Spent fuel will be managed in spent fuel pools and then transferred to a storage facility at the site, which has a footprint large enough to accommodate such facility. Within the ESC, a study of different interim storage solutions was completed. Based on this study, additional analysis provided by PEJ's TSO, and through consultation with the Consortium, PEJ will finalize the design of the spent fuel management and storage facilities, which will be included in the PSAR.

The radioactive waste management plant (ZUOP) is responsible for the final disposal of high level waste in a geological disposal facility. Radioactive waste management is discussed further in Section 17. Requirements for facilities for the storage and disposal of radioactive waste and spent nuclear fuel are set forth in the ALA and the 2021 Decree of the CoM on Radioactive Waste and Spent Nuclear Fuel.		
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

17. Radioactive Waste Management **Condition 17.1: Handling the burdens of radioactive waste considered**	**Phase 2**
Summary of the condition to be demonstrated	Based on the national policy, a clear strategy for the processing, storage, and disposal of radioactive waste (including spent fuel if considered as waste) has been developed. If the reprocessing of spent fuel is considered, the waste management strategy includes consideration of the transport, storage, and disposal of high level waste. Requirements for processing and storage facilities to be provided by the vendor have been included in the BIS. Plans for any national facilities for radioactive waste management and waste management organizations have been defined and are consistent with the construction programme.
Examples of how the condition may be demonstrated	(1) Policy and strategy documents for the management of radioactive waste (this may include the creation of a specific national waste management organization): (a) Disposal of all waste types; (b) Consideration of regulatory and implementation infrastructures; (c) Allocation of responsibilities; (d) Technical approaches; (e) Funding schemes. (2) Consideration of the suitability of geological conditions in the country for disposal of all types of radioactive waste and/or the potential for contracting for waste disposal with other States; (3) Requirements for facilities to be provided as part of the NPP and provisions for minimizing waste volumes and toxicity included in the BIS; (4) A plan for bidding and construction of any separate waste facilities available and consistent with the power plant construction programme; (5) A plan to initiate or enhance national waste disposal programmes.
Observations Pursuant to ALA (Article 57c), the Minister of Climate and Environment developed a national plan for radioactive waste and spent nuclear fuel management, namely the 2020 National Spent Nuclear Fuel and Radioactive Waste Management Plan. This plan provides goals for the national radioactive waste management strategy, along with a schedule, and includes a reporting mechanism to the CoM every two years. The plan is updated at least every 8 years, which allows for the review of the funding amounts necessary for its implementation.	

In addition, according to the ALA, ZUOP is responsible for the collection, transport, processing, treatment, storage, and disposal of radioactive waste, including spent nuclear fuel.

PEJ is developing a radioactive waste management plan specifically for the NPP1, which includes a radioactive waste processing area next to unit 1, and interim storage for low level waste (LLW) and intermediate level waste (ILW). The INIR team was informed that ZUOP has not yet been involved in this work. However, PEJ is working to establish a tripartite group approach with ZUOP and the Consortium to support the development of these facilities.

The INIR team was informed that MoCE, with the support of ZUOP, is currently in the siting stage for a near surface disposal facility for the disposal of LLW and ILW, from the PNPP. ZUOP is working with PEJ to develop waste acceptance criteria (WAC) for this disposal facility. Spent fuel and high-level radioactive wastes (HLW) are proposed to be disposed of in a geological disposal facility. The INIR team was informed that Poland has experience in this area, and several potential areas for a repository have been identified.

The ALA and the 2021 Decree of the CoM on Radioactive Waste and Spent Nuclear Fuel contain requirements for the management of radioactive waste. The INIR team was informed that the current regulations for radioactive waste management are not detailed. As a result, PAA has developed two technical recommendations providing guidance on radioactive waste management at the NPPs and waste acceptance criteria, which should be issued later in 2024.

The INIR team was informed that that the creation of a new category for very low-level waste (VLLW) category is under discussion, but no decision is expected in the near future.

Areas for further action	**Significant**	No
	Minor	Coordination with national radioactive waste management organization

RECOMMENDATIONS

None

SUGGESTIONS

S-17.1.1 PEJ is encouraged to enhance coordination with ZUOP for the development of the radioactive waste management plan for the NPP, including the definition of the requirements for the relevant facilities.

GOOD PRACTICES

None

17. Radioactive Waste Management Condition 17.2: Preliminary decommissioning plan requested			Phase 2
Summary of the condition to be demonstrated	A request for a preliminary decommissioning plan from the vendor has been included in the BIS. Specific national requirements have been included.		
Examples of how the condition may be demonstrated	(1) A document discussing national requirements for decommissioning; (2) Requirements for a decommissioning plan included in the BIS.		

Observations

The Atomic Law Act provides for requirements for submitting a preliminary decommissioning plan to PAA as part of the construction licence application, and the requirement to establish a decommissioning fund. Furthermore, the CoM regulation on decommissioning defines the requirements for the content of the decommissioning plan.

The decommissioning fund will be used to cover the costs of the management of radioactive waste and spent nuclear fuel from the NPP, and to cover the costs of decommissioning. The INIR team was informed that NED plans to update financial details in the next few years.

The INIR team was informed that NED and PAA are building experience with decommissioning through their current activities with the EWA research reactor. NED and PAA participate in international decommissioning working groups to benchmark against other countries and stay informed of good practices in this area.

The INIR team was informed that PEJ has a draft preliminary decommissioning plan for the AP1000. PEJ's business plan includes a decommissioning fund.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS
None
SUGGESTIONS
None
GOOD PRACTICES
None

18. Industrial Involvement **Condition 18.1: National capabilities assessed and plans to enhance capability defined**	**Phase 2**
Summary of the condition to be demonstrated	A review of national capability has been completed, identifying areas where national supply is available or can be developed. Based on this, volume targets, or specific areas, for national involvement have been developed. Plans for upgrading national capability have been defined and funded. The transfer of technology including intellectual property has been considered.
Examples of how the condition may be demonstrated	(1) A realistic assessment of the national and local supplier capabilities based on the national policy recommended by the NEPIO; (2) An assessment of the training and funding requirements to upgrade quality; (3) Extent of national industrial participation agreed, desired targets for local and national industrial involvement specified, and requirements for the transfer of technology, including intellectual property, included in the BIS; (4) Clear plans and programmes identifying: (a) Specific industrial involvement in future construction, maintenance, or operational support services; (b) Audits of the progress of industrial preparation and ability to meet the requirements for addition to the approved supplier list; (c) Short term and long term programmes (including future projects) to develop the ability to produce items initially being supplied by foreign suppliers; (d) Requirements for industries to be added to the potential vendor/service supplier lists; (e) Requirements for export and import consistent with the State's commitment and obligations with regard to non-proliferation of nuclear weapons and safeguards implementation.

Observations

Poland has set a target of 40% localisation, in terms of the total project value, for the first unit, rising to up to 70% in the long term. To support this, NED conducted a national survey of Polish industry in 2015, on which basis the Polish Industry for Nuclear Energy Catalogue (NEC) was developed and published. The NEC, which is currently in its 3rd edition published in 2021, is currently being updated. Based on this work and the gaps identified, particularly regarding the requirements for quality and safety culture for nuclear power, NED developed the *Programme of Support for Domestic Industry's Cooperation with the Nuclear Power Sector*, approved in December 2021. NED has an ongoing

programme of workshops, familiarisation events, seminars, etc., involving some 400 Polish companies to date (mostly small and medium sized enterprises).

PAA and PEJ were not involved in these early surveys and gap analyses. The INIR team was informed that the responsibility for the quality of materials and services for construction and operations falls on the licensee. PEJ is responsible for guaranteeing that every supplier of safety related equipment has adequate capability and meets quality requirements, under PAA's regulatory oversight.

PEJ and the Consortium are jointly conducting a more focused analysis, making use of the NEC. PEJ is currently focused on its own scope of work, and Bechtel's scope for the conventional island and Balance of Plant (BoP). The work related to the Nuclear Island is also a part of the ESC, but Parties understand the risks of involving non-incumbent suppliers in this area. The Consortium is providing more targeted workshops and seminars for interested suppliers. As part of the ESC, it has also conducted a Material Substitution Programme that will provide options for local procurement of materials and equipment.

The INIR team was informed that monitoring the progress towards achieving the localisation targets is difficult at this stage, but that there are already some results. For example, seven Polish companies, which had received prior training through NED's support programme, have been pre-qualified by WEC for providing equipment to the PNPP. Also, Bechtel already signed some execution agreements with, for example, design offices.

Moving forward, PEJ will also increase its activities on the localization strategy as the project matures. For instance, PEJ is currently conducting benchmarking exercises on best practices in localization as well as in preparing for further surveys of local companies in order to better understand the gaps or hurdles identified by Polish suppliers to enter the nuclear sector.

Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

GP-18.1.1 NED's development of the Polish Industry for the Nuclear Energy Catalogue, and its continuing support for local industry together with PEJ, is an effective way to maximize the opportunity for local suppliers to participate in the NPP project.

19. Procurement **Condition 19.1: Procurement capability available**	**Phase 2**
Summary of the condition to be demonstrated	A procurement capability has been established for specific services, such as siting work and consultancy services.
Examples of how the condition may be demonstrated	(1) Procedures or audits to ensure suppliers have appropriate expertise and experience; (2) Evidence of preparation of formal specifications for the services required; (3) Quality standards included in the service specifications; (4) Awareness of the non-proliferation regime with regard to nuclear or nuclear related trade.

Observations

All public and/or state backed PNPP organisations are subject to the Public Procurement Law (PPL). The PPL reflects Directive No. 2014/25/EU requirements which can be challenging when applied to complex projects such as NPPs (e.g. limited scoping flexibility with relatively low value thresholds).

NED has undertaken all its procurement under the PPL framework. The INIR team was informed that despite these constraints, it did not have any challenges requiring exemptions to this procurement framework. NED's financial team, in cooperation with the Office of the Director General, has conducted numerous successful procurements without major issues (for example, the nationwide information and education campaigns in 2022 and 2023, and the organization of training for Polish supply chain candidate companies in 2023, which is ongoing). The INIR team was informed by NED that the early commencement of the procurement process was an important lesson learned.

To date, PAA has undertaken all its procurement under the PPL framework. The Public Procurement and Administration Unit in the Director General Bureau, in cooperation with departments responsible for the given area, is responsible for implementing and overseeing procurement activities. PAA predicts that the TSO's service for supporting the review and assessment of the construction licence application will be a substantial procurement. In addition, the ALA requires that only authorised TSOs can support PAA in that regard and that such TSOs must pass, inter alia, a conflict of interest check. The INIR team was informed that PAA does not plan to seek any exemptions under the PPL. PAA also confirmed the benefits of early commencement of the procurement process. The INIR team was informed that PAA cannot commission TSO services for assistance in reviewing the licence application before it receives the formal application. The INIR team noted that this may cause delays in the review process.

As a governmental organization, PEJ is also subject to PPL requirements. The INIR team was informed that, as the Polish Government intends to retain a majority ownership in PEJ, these procurement arrangements will remain applicable. In order to implement procurement effectively, PEJ has developed internal regulations and guidelines that are adapted to the complexity of NPP1 as a project, using a graded approach that is designed to achieve desired outcomes at multiple levels. PEJ's Procurement Division has four specialised departments which implement and oversee this critical

function for the project. Tender Committees are established for every procurement item to ensure specifications are met.		
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

APPENDIX 2: LISTS OF THE INIR TEAM MEMBERS AND COUNTERPARTS

INIR MISSION REVIEW TEAM	
Mehmet Ceyhan	Team Leader, IAEA
Thibaud Reysset	Mission Coordinator, IAEA
Jean-René Jubin	IAEA
Judit Silye	IAEA
Jessica Rahim	IAEA
Rabi'U Bello	IAEA
Karina Lange	IAEA
Brian Molloy	International Expert
Marcelo Gomez Da Silva	International Expert
David Stearns	International Expert

PARTICIPANTS FROM POLAND			
	INFRASTRUCTURE ISSUE	**REPRESENTATIVE**	**RESPONSIBLE ORGANIZATION(S)**
1	**National position**	Mr Paweł Pytlarczyk	NED
		Mr Krzysztof Szymański	NED
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
		Mr Marcin Dąbrowski	PAA
		Ms Iga Pocztarek - Tofil	PAA
		Mr Karol Sieczak	PAA
		Mr Ernest Staroń	PAA
		Mr Dariusz Janusz	PAA
		Mr Philippe Bordarier	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
2	**Nuclear safety**	Mr Marcin Dąbrowski	PAA
		Mr Ernest Staroń	PAA
		Mr Michał Koc	PAA
		Ms Katarzyna Kaczmarczyk	PAA
		Mr Dariusz Janusz	PAA
		Mr Szymon Latuszek	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Tomáš Adámek	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
		Mr Krzysztof Szymański	NED
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED

3	**Management**	Mr Krzysztof Kumela	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Przemysław Kik	PEJ
		Mr Sebastian Żurek	PEJ
		Mr Michał Wierzchowski	PEJ
		Mr Michał Kopertowski	PEJ
		Mr Stanisław Sałyga	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
		Ms Katarzyna Krzywda	PAA
		Ms Katarzyna Kaczmarczyk	PAA
		Mr Dariusz Janusz	PAA
		Mr Paweł Pytlarczyk	NED
		Mr Krzysztof Szymański	NED
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
4	**Funding and financing**	Mr Philippe Bordarier	PEJ
		Ms Małgorzata Rzążewska	PEJ
		Ms Patrycja Jasińska	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
		Ms Iga Pocztarek - Tofil	PAA
		Mr Dariusz Janusz	PAA

5	**Legal framework**	Mr Krzysztof Szymański	NED
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
		Mr Karol Sieczak	PAA
		Mr Jacek Łatka	PAA
		Mr Dariusz Janusz	PAA
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
6	**Safeguards**	Mr Karol Dulny	PAA
		Mr Dariusz Janusz	PAA
		Mr Michał Rąpała	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
7	**Regulatory framework**	Mr Marcin Dąbrowski	PAA
		Mr Karol Sieczak	PAA
		Mr Jacek Łatka	PAA
		Mr Ernest Staroń	PAA
		Mr Dariusz Janusz	PAA
		Mr Krzysztof Szymański	NED
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
		Mr Tomasz Trzciński	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Michał Rąpała	PEJ

8	**Radiation protection**	Ms Monika Skotniczna	PAA
		Mr Paweł Domitr	PAA
		Mr Dariusz Janusz	PAA
		Mr Ernest Bugała	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
9	**Electrical grid**	Mr Roman Ruszczyński	PEJ
		Mr Paweł Domagalski	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
		Mr Jacek Wasilewski	PSE
		Mr Paweł Ziółek	PSE
		Mr Krystian Kowalewski	PSE
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
		Mr Dariusz Janusz	PAA
10	**Human resource development**	Mr Przemysław Kik	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Paweł Rybka	PEJ
		Mr Paweł Poniatowski	PEJ
		Mr Michał Rąpała	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Paweł Pytlarczyk	NED
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		Mr Bartosz Skierkowski	NED

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		Ms Alicja Krajenta – Kopeć	PAA
		Mr Ernest Staroń	PAA
11	**Stakeholder involvement**	Ms Justyna Bracha-Rutkowska	NED
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		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
		Ms Iga Pocztarek–Tofil	PAA
		Mr Dariusz Janusz	PAA
		Ms Joanna Szostek	PEJ
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12	**Site and supporting facilities**	Ms Anna Jasińska	PEJ
		Mr Philippe Bordarier	PEJ
		Ms Joanna Jankowska	PEJ
		Mr Kamil Krysiuk	PEJ
		Mr Robert Urbaniak	PEJ
		Mr Artur Bazan	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
		Mr Paweł Domitr	PAA
		Mr Dariusz Janusz	PAA

13	**Environmental protection**	Ms Anna Jasińska	PEJ
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		Mr Kamil Krysiuk	PEJ
		Mr Robert Urbaniak	PEJ
		Mr Artur Bazan	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
		Ms Dorota Torytfer-Szumańska	GDOŚ
		Mr Marcin Kołodyński	GDOŚ
		Mr Paweł Domitr	PAA
		Ms Monika Skotniczna	PAA
		Mr Dariusz Janusz	PAA
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
14	**Emergency planning**	Mr Wojciech Dyrda	MSWiA
		Mr Piotr Szufnara	RCB
		Mr Ernest Bugała	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
		Mr Michal Zuba	PAA
		Mr Dariusz Janusz	PAA
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED

15	**Nuclear security**	Mr Marek Jastrzębski	PAA
		Ms Paulina Giżowska	PAA
		Mr Dariusz Janusz	PAA
		Mr Tomasz Szewczyk	PEJ
		Mr Marcin Borkowski	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Michał Rąpała	PEJ
		Mr Krzysztof Szymański	NED
		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
16	**Nuclear fuel cycle**	Mr Marcin Ruciński	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Michał Rąpała	PEJ
		Mr Tomasz Trzciński	PEJ
		Mr Paweł Pytlarczyk	NED
		Mr Andrzej Chwas	NED
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		Ms Aleksandra Kowalska	NED
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17	**Radioactive waste management**	Mr Paweł Pytlarczyk	NED
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		Mr Zbigniew Kubacki	NED
		Ms Aleksandra Kowalska	NED
		Mr Tomasz Bettin	ZUOP
		Mr Łukasz Celiński	ZUOP
		Mr Jakub Żebrowski	ZUOP
		Mr Michał Rąpała	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Tomasz Trzciński	PEJ
		Ms Barbara Zielińska	PAA
		Mr Dariusz Janusz	PAA
18	**Industrial involvement**	Mr Andrzej Sidło	NED
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		Mr Marcin Rowicki	PEJ
		Mr Philippe Bordarier	PEJ
		Mr Tomasz Trzciński	PEJ
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19	**Procurement**	Mr Michał Wierzchowski	PEJ
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		Mr Tomasz Ficek	PEJ
		Mr Dominik Sobański	PEJ
		Mr Marcin Rowicki	PEJ
		Mr Philippe Bordarier	PEJ
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		Ms Aleksandra Kowalska	NED

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APPENDIX 4: ABBREVIATIONS

ALA	Atomic Law Act
BIS	Bid Invitation Specification
BoP	Balance of Plant
CDR	Central Dose Registry
CETC	Clean Energy Training Centre
CfD	Contract for Difference
CFO	Chief Financial Officer
CNO	Chief Nuclear Officer
CNSC	Canadian Nuclear Safety Commission
CoM	Council of Ministers
CSC	Convention on Supplementary Compensation for Nuclear Damage
DBT	Design Basis Threat
DG-GROW	Department for Growth of the European Commission
EC	European Commission
ECA	Export Credit Agency
EIA	Environmental Impact Assessment
EPC	Engineering, Procurement and Construction
EPR	Emergency Preparedness and Response
ESC	Engineering Services Contract
EU	European Union
EUR	European Utility Requirements
GDOŚ	General Directorate for Environmental Protection
GW(e)	Gigawatt (electric)
HLW	High-Level Radioactive Waste
HRD	Human Resource Development

IAEA	International Atomic Energy Agency
IGA	Inter-Governmental Agreement
ILW	Intermediate Level Waste
INIR	Integrated Nuclear Infrastructure Review
INSARR	Integrated Safety Assessment for Research Reactors
IRRS	Integrated Regulatory Review Service
kV	Kilovolt
LLW	Low Level Waste
LOFs	Locations Outside Facilities
LPI	Local Information Points
MoCE	Ministry of Climate and Environment
MW(e)	Megawatt (electric)
NCMP	National Crisis Management Plan
NEC	Nuclear Energy Catalogue
NED	Nuclear Energy Department in the Ministry of Climate and Environment
NEPIO	Nuclear Energy Programme Implementing Organization
NHRDP	National Human Resources Development Plan
NPHR	Nuclear Power Human Resources
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission (US)
O&M	Operation and Maintenance
OJT	On-Job Training
PAA	National Atomic Energy Agency
PDP	Professional Development Programme
PEJ	Polskie Elektrownie Jądrowe sp. z o.o
PGE	Polska Grupa Energetyczna S.A.
PNPP	Polish Nuclear Power Programme

PPL	Public Procurement Law
PPS	Physical Protection Systems
PSAR	Preliminary Safety Analysis Report
PSE	Polskie Sieci Elektronenergetyczne S.A.
QA	Quality Assurance
QC	Quality Control
REP	Regulatory Engagement Plan
RoK	Republic of Korea
SER	Self-Evaluation Report
SMR	Small Modular Reactor
SPV	Special Purpose Vehicle
SSAC	State System of Accounting for and Control of Nuclear Material
STUK	Radiation and Nuclear Safety Authority of Finland
TC	Technical Cooperation
TNDP	Transmission Network Development Plan
TSO	Technical Support Organization
UDT	Office of Technical Inspection
USA	United States of America
VLLW	Very Low Level Waste
WAC	Waste Acceptance Criteria
WANO	World Association of Nuclear Operators
WEC	Westinghouse Electric Company
ZUOP	Zakład Unieszkodliwiania Odpadów Promieniotwórczych (Radioactive Waste Management Plant)