NATIONAL
ATOMIC ENERGY
AGENCY

NATIONAL REPORT
OF THE REPUBLIC OF POLAND
ON COMPLIANCE WITH THE OBLIGATIONS OF THE CONVENTION ON NUCLEAR SAFETY

10th national report of Poland as referred to in Article 5 of the Convention on Nuclear Safety

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Acronyms, Abbreviations, and Definitions

ANVS – Dutch Authority for Nuclear Safety and Radiation Protection

CBSS – Council of the Baltic Sea States

CEZAR – Radiation Emergency Centre

CNS – Convention on Nuclear Safety

DBJ – Nuclear Safety and Security Department

DOR – Radiation Protection Department

EC – European Commission

EDA – Engineering Development Agreement

EIA – Environmental Impact Assessment

EPP – Energy Policy of Poland

GDOŚ – General Directorate for Environmental Protection

HERCA – Heads of the European Radiological Protection Competent Authorities

HTGR – High-temperature gas-cooled reactor

IAEA – International Atomic Energy Agency

IMS – Integrated Management System

INES – International Nuclear Event Scale

INIR – Integrated Nuclear Infrastructure Review

IRIS – International Research Integration System

IRRS – Integrated Regulatory Review Service

ISMS – Information Security Management System

LILW – Low- and intermediate-level waste

MC – management control

NCBJ – National Centre for Nuclear Research

NECP – National Energy and Climate Plan

NPP – Nuclear power plant

NRC – US Nuclear Regulatory Commission

NSSC – South Korea’s Nuclear Safety and Security Commission

NWP – National Warning Point

OPG – Ontario Power Generation

ONR – UK Office for Nuclear Regulation

OJ – Official Journal

PAA – National Atomic Energy Agency – regulatory authority

PEJ – Polskie Elektrownie Jądrowe – investor and prospective licensee

PNPP – Polish Nuclear Power Programme

PSR – Periodic Safety Review

PWR – Pressurized Water Reactor

QA – Quality Assurance

SARIS – Self-Assessment of Regulatory Infrastructure for Safety

SCSA – Safety Culture Self-Assessment

SMR – Small Modular Reactor

SSC – Systems, Structures and Components

SSM – Swedish Radiation Safety Authority

UDT – Office of Technical Inspection

WENRA – Western European Nuclear Regulators' Association

ZUOP – Radioactive Waste Management Plant

1. Introduction

This 10th National Report of the Republic of Poland has been prepared in accordance with the provisions of Article 5 of the Convention on Nuclear Safety (CNS) and in line with the guidance agreed upon by the Contracting Parties. It outlines the actions taken by Poland to implement the obligations arising from the Convention and reflects the developments that have occurred since the submission of the 9th National Report.

This Report has been prepared, according to the guidelines established by the Contracting Parties under Article 22, to fulfill the obligations of the Article 5 of the CNS. The Republic of Poland signed the Convention on Nuclear Safety on 20 September 1994 in Vienna, and it was ratified by the President of the Republic of Poland on 10 May 1995. The present Report is the tenth one, following national reports issued in September 1998, October 2001, September 2004, September 2007, August 2010, August 2013, August 2016, August 2019 and August 2022. Previous reports were presented during Review Meetings of the Contracting Parties of the Convention on Nuclear Safety held in Vienna in 1999, 2002, 2005, 2008, 2011, 2014, and 2017. In May 2012, the Republic of Poland also prepared a special report describing post-Fukushima actions, which was presented during the 2nd CNS Extraordinary Meeting held in Vienna in August 2012. Due to the postponement of the 8th Review Meeting of the Contracting Parties of the Convention on Nuclear Safety, the 8th report was not presented during the meeting initially scheduled for 2020. The 9th report was presented during the joint 8th and 9th meeting in 2023.

Despite **Poland being a contracting party without nuclear installations within the meaning of Article 2(i) of the Convention**, in the current report, as well as in the previous ones, information regarding the application of provisions of the Convention to existing Polish nuclear installations is provided, including the MARIA research reactor and spent nuclear fuel storage installations. Furthermore, the report describes the fulfillment of all articles of the Convention based on the current legislative and regulatory framework. The most important activities connected to the implementation of the Polish Nuclear Power Programme (PNPP), which outlines the country's strategic plan to embark on nuclear energy for electricity generation, are also described in the relevant articles. The summary of Polish plans to embark on nuclear power generated by Small Modular Reactors (SMR) is also presented.

This report also provides an update on the measures adopted in response to challenges identified specifically for the Republic of Poland and common issues identified for all Contracting Parties during the previous Review Meeting. Moreover, the report highlights changes in comparison with the previous National Report.

The 10th National Report was prepared by the President of the National Atomic Energy Agency (PAA) with contribution of the Ministry of Industry (Ministerstwo Przemysłu) – which coordinates the implementation of the Polish Nuclear Power Programme and the National Plan for the Management of Radioactive Waste and Spent Nuclear Fuel – and PEJ (Polskie Elektrownie Jądrowe) – prospective licensee of the first nuclear power plant in Poland. In July 2025, the Ministry of Industry was restructured and renamed as the Ministry of Energy (Ministerstwo Energii).

All information presented in this report is up to date as of 21 August 2025, unless otherwise stated in the text. Supporting details are included in the annexes to maintain readability while ensuring transparency. All links and references are underlined in the document.

2. Summary

Since the previous reporting cycle, Poland has made further progress in the implementation of its nuclear energy programme. This includes the continuation of preparatory works for siting and construction of the first nuclear power plant in accordance with the objectives set out in the updated Polish Nuclear Power Programme, adopted by the Council of Ministers on 2 October 2020. The programme foresees the commissioning of the first large-scale pressurized water reactor (PWR) with a total capacity of 6–9 GWe by 2043. The Polish Nuclear Power Programme is currently being updated. Public consultations on the proposed updates were initiated in June 2025.

In the context of the Polish Nuclear Power Programme, substantial efforts have been undertaken to strengthen the national legislative and regulatory framework. A number of amendments to the Atomic Law Act have been enacted to align domestic legislation with international standards and European Union directives. Furthermore, the President of the National Atomic Energy Agency, in his role as the regulatory authority, has continued to enhance the institutional capacity, regulatory infrastructure and safety oversight mechanisms, including the implementation of integrated management systems and human resource development initiatives.

During the reporting period, the Act of 29 June 2011 on the Preparation and Implementation of Investments in Nuclear Power Facilities and Accompanying Investments was amended two times, in 2024 and 2025. This Act establishes the legal framework for preparing and implementing investments in nuclear facilities in Poland. Moreover, an amendment of 20 February 2025 provides for investment financing through the recapitalization of the investor Polskie Elektrownie Jądrowe (PEJ), by the State Treasury in the years 2025–2030.

Apart from the above-mentioned, the updates of the National Energy and Climate Plan (NECP) and Energy Policy of Poland (EPP) documents are also under development. Both of these strategic and national policies ensure that electricity generated by a nuclear power plant will be included in the future Polish energy mix.

In order to prepare for the implementation of nuclear power, the Republic of Poland also actively prepares itself from a regulatory standpoint. In 2023, the President of the National Atomic Energy Agency (PAA) appointed an internal PAA team responsible for the preparation of the process of reviewing the application for a licence to construct the first Polish nuclear power plant.

The team is responsible inter alia for:

- identifying the basis for the review of each document required to be submitted with the application, with particular emphasis on the Preliminary Safety Analysis Report (“PSAR”) – this task also requires the staff to familiarize themselves with vendor country requirements to understand the legal basis based on which the AP1000 was designed;
- prioritizing issues of the regulatory review and identification of resources needed to conduct the review;
- identifying specific thematic areas in which the support of technical support organizations authorized by the President of the PAA will be necessary;
- development of external guides and internal review guides for specific chapters of PSAR and other documents that will be submitted with the application;

- identifying the risks associated with the application review process and proposing measures to mitigate them;
- developing the competences of the new staff members to perform their regulatory roles.

The team is furthermore responsible for the pre-licensing dialogue with the investor of the first Polish NPP, Polskie Elektrownie Jądrowe. In order to clarify the rules of the pre-licensing engagement PAA published a Policy on the "Dialogue of the President of the National Atomic Energy Agency with investors planning the construction of a nuclear facility", which defines general rules and forms of engagement between the President of PAA and potential investors planning to construct a nuclear facility. One of the means of dialogue is for the investor to submit a request for a general opinion – this process is described in the Policy on the "Dialogue of the President of the National Atomic Energy Agency with investors planning to apply for a general opinion". The PAA President issued six general opinions for three different investors in the time span covered by the Report. Three opinions regarding the large-scale NPP were issued for PEJ: on the scope and level of detail of independent verification of safety analyses (June 2023), on the methodology of the safety classification of structures, systems and components (August 2024), and on the safety classification of the Circulating Water System (March 2025). Two opinions for NuScale design were issued for the KGHM company: one regarding general design solutions (December 2023), and another one on methods for the performance of safety analyses (April 2024). One opinion on general design solutions was issued for the BWRX-300 design for OSGE company in May 2023.

The process of review of the application for a licence to construct the first nuclear power plant requires a multidisciplinary approach, and thus ensuring adequate resources, including continuous development of national competences and expertise, is of the outmost priority.

Due to the growing interest in the use of SMR technology in Poland, PAA undertakes a number of activities at the domestic and international level, engaging in pre-licensing dialogue with interested investors and participating in numerous international initiatives.

The Republic of Poland recognizes that regular international peer review missions encourage the application of IAEA safety standards and contribute to the improvement of safety and operational reliability of nuclear facilities. Therefore, Poland is actively participating in the international peer review missions coordinated by the International Atomic Energy Agency (IAEA). In line with its international commitments and the principles of transparency and continuous improvement, in 2021, Poland invited a second full IRRS mission, following the completion of the first IRRS cycle (the first IRRS mission was held in 2013 and the IRRS Follow-up in 2017). Preparations for the second IRRS mission included a self-assessment with the use of Self-Assessment of Regulatory Infrastructure for Safety (SARIS) and International Research Integration System (IRIS) online self-assessment tools. The **IRRS mission** was hosted in **September 2023** and covered the full scope with an additional tailored module for countries embarking on nuclear power. The report concluding the mission was published and is now available online at the IAEA and PAA websites.

The IRRS team concluded that **Poland's legal framework for nuclear and radiation safety is generally in line with the IAEA's safety standards**, covering the full range of facilities, activities and exposure situations. It has been underlined that **PAA is a competent regulatory body whose staff are committed to delivering their regulatory statutory obligations effectively and preparing to safely embark on the nuclear power programme**. The IRRS team identified several areas of good performance and one good practice consisting of conducting a simulation of an NPP construction licence application assessment and issuance

which included international participation. In the spirit of continuous improvement, the IRRS mission report included recommendations and suggestions intended to improve Poland's regulatory infrastructure and practices to effectively oversee nuclear and radiation safety.

In order to timely implement findings Poland has developed an Action Plan with the goal to implement recommendations and suggestions identified in the IRRS mission report. The majority of the actions are intended to be implemented between 2024 and 2026. The IRRS Follow-up mission is scheduled for April 2027.

At the end of 2022, Poland requested the IAEA to carry out a Phase 2 INIR mission in Poland. Phase 1 INIR follow-up mission was completed in 2016 and concluded that **the Republic of Poland had implemented all the recommendations and suggestions of the 2013 INIR mission**. Phase 2 INIR mission, conducted in April 2024, evaluated the status of the infrastructure in the Republic of Poland, covering all of the 19 Infrastructure Issues in accordance with the IAEA's milestone methodology. The report concluding the mission is available at the IAEA website.

The INIR team concluded that **Poland has carried out extensive work to implement the Polish Nuclear Power Programme (PNPP) and develop the required infrastructure**. Poland has established a sound 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 has made several recommendations and suggestions. The INIR team has also identified several good practices that may benefit other countries, which are considering the introduction of nuclear power.

Currently, the Republic of Poland is developing an Action Plan in order to address recommendations and suggestions identified during the Phase 2 INIR mission.

This CNS Report also responds to applicable challenges and suggestions identified under the CNS review process. During the last Review Meeting, Poland has received only one challenge:

Challenge from the Country Review Report:

Challenge no. 1: Human capacity building and competence development in the regulatory authority and other stakeholders in relation to the new build programme - the results of activities addressing the identified challenge are described in sections: 8.1.6. Competence development and maintenance, 11.2. Human Resources, and Annex 2, 3. Human resources development.

During the 9th Review Meeting, Contracting Parties identified eight major common issues arising from Country Group Discussions. The Report provides details on Poland's strategies, approaches and progress made under all defined topics with appropriate references in the text of the report.

Common issues arising during the 9th Review Meeting along with the corrective actions taken are addressed under the following sections of the report:

1. Common issue no. 1 – Managing extraordinary circumstances impacting the safe operation of nuclear installations – Article 16. Emergency preparedness;

2. Common issue no. 2 – Strengthening national regulatory capabilities taking into account new and innovative technologies – 8.1.5. Human resources development, 8.1.6. Competence development and maintenance;
3. Common issue no. 3 – Fostering international cooperation – 8.1.6. Competence development and maintenance;
4. Common issue no. 4 – Foster international peer review missions and timely addressing of findings – Summary, 7.1. National safety requirements and regulations, 8.1.6. Competence development and maintenance, Summary;
5. Common issue no. 5 – Possible impact of global climate changes on the safe operation of nuclear installations – Article 17. Siting
6. Common issue no. 6 – Securing reliable supply chains Article 13. Quality assurance, Annex no. 2 Local content;
7. Common issue no. 7 – Strategies for ageing management in support of the operation of nuclear installations – 14.2. Verification of safety;
8. Common issue no. 8 – Strengthening emergency preparedness and response arrangements and fostering cross border collaboration – Article 16. Emergency preparedness.

In addition, this report includes information on Poland's implementation of **the principles of the Vienna Declaration on Nuclear Safety**, as requested by the Contracting Parties. The Republic of Poland continued to report on the fulfillment of the Vienna Declaration principles in the preparation of this report as well. The relevant articles and subsections in which the Republic of Poland reported on the principles are listed below:

1. Principle 1 of the Vienna Declaration – refer to subsections: 17.1. Evaluation of site-related factors, 18.1. Implementation of defence in depth, 18.4. Prevention of early or large radioactive releases (implementation of 1st and 3rd principles of Vienna Declaration on Nuclear Safety in regulations);
2. Principle 2 of the Vienna Declaration – refer to Article 14. Assessment and verification of safety, Article 17. Siting;
3. Principle 3 of the Vienna Declaration – refer to Article 18. Design and construction, Article 19. Operation.

Based on the content of the National Report, it can be concluded that Polish regulations and practices continue to be in compliance with the obligations of the Convention to the extent applicable to Poland, and further progress is underway in the view of the Polish Nuclear Power Programme. Compliance with the Convention on Nuclear Safety and other instruments of the international nuclear safety regime was one of the key criteria when Poland was conducting works on the development of a national legislative and regulatory framework as preparation for introducing the nuclear power programme.

In order to facilitate the peer review of the report, changes comparing the current Report with the Report to the 9th Review Meeting are listed in the Tab. 1.

Tab. 1. List of changes

Report Section	Change
Introduction	New introduction
Summary	New summary
Article 6. Existing nuclear installations	Update on modernisation in research reactor MARIA, PSR and new licence for operation
Article 7. Legislative and regulatory framework	No changes
7.1. National safety requirements and regulations	Editorial changes, Update of the publication date
7.2. Licensing system for nuclear installations	Updated description of licensing process
7.3. Prohibition of the operation without a licence	Editorial changes
7.4. Regulatory inspections and assessment of nuclear installation	Editorial changes
7.5. Enforcement provisions	Editorial changes
7.6 Acts of Parliament amending the Atomic Law Act between 2023 and 2025	Description of the amendments
Article 8. Regulatory body	No changes
8.1. Establishment of the regulatory body	Editorial changes
8.1.1. Legal foundations and statute of the regulatory body	Editorial changes
8.1.2. Mandate, mission and tasks	Editorial changes
8.1.3. Authorities and responsibilities	Editorial changes
8.1.4. Organizational structure of the regulatory body	Updated organizational structure of PAA Updated documents determining the structure of PAA
8.1.5. Human resources development	Number of employees during last three years, Establishment of a new unit focused on SMRs
8.1.6. Competence development and maintenance	Completely updated
8.1.7. Financial resources	Updated to add funds for fiscal years 2022-2024
8.1.8. Management system	Updated mission and vision of PAA, Management control
8.1.9. Transparency and openness	PAA activities with regard to public communication, Communication strategy of PAA Strengthening relations with the stakeholders, Crisis and emergency situation communication
8.1.10. External technical support and advisory committees	Update in the process of authorization of support organizations by the President of PAA, Information on the Council for Nuclear Safety and Radiation Protection
8.2. Status of the regulatory body	Editorial changes

Report Section	Change
Article 9. Responsibility of the licence holder	Updated responsibilities of the licensee
Article 10. Priority to safety	Editorial changes
10.1. Safety Culture in a regulatory body	Safety and Security Policy in PAA IRRS recommendations and their implementation
Article 11. Financial and human resources	No changes
11.1. Financial Resources	Editorial changes
11.1.1. Financial provisions to ensure safety of nuclear installation throughout its lifetime	Editorial changes
11.1.2. Financial provisions during the period of commercial operation for decommissioning and management of spent fuel and radioactive waste from nuclear installations	Editorial changes
11.1.3. Arrangements for ensuring that the necessary financial resources are available in the event of a radiological emergency	Editorial changes
11.2. Human Resources	Editorial changes
11.2.1. Human resources policies	National Plan for the Development of Human Resources (2023)
Article 12. Human factors	Editorial changes
Article 13. Quality assurance	Editorial changes
Article 14. Assessment and verification of safety	No changes
14.1. Assessment of safety	Second PSR of the research reactor MARIA, Information on the tools and methods used to prepare safety analyses for the MARIA reactor
14.2. Verification of safety	Information on common issue no. 7 – Strategies for ageing management, The ageing control programme
Article 15. Radiation protection	Update regarding duties of the licensee, The content of the Central Dose Register, Regulatory oversight of the President of PAA with inspections conducted during the last theyears
Article 16. Emergency preparedness	Regulation on the scope of the environmental radiation monitoring program, Elaboration on Common issues 1 and 8, Activities caused by the war in Ukraine Discussion on national radiation monitoring system
Article 17. Siting	No changes
17.1. Evaluation of site-related factors	Editorial changes, Update of the Siting Regulation The first stage of in-depth geological surveys for the construction of a NPP
17.2. Impact of the installation on individuals, society and environment	Decision on Environmental Conditions, Environmental Impact Assessment report
17.3. Re-evaluation of site related factors	Site related factors in PSR

Report Section	Change
17.4. Consultation with other Contracting Parties likely to be affected by the installation	Transboundary consultations regarding potential environmental impact of first Polish NPP
Article 18. Design and construction	Design Regulation update
18.1. Implementation of defence in depth	Editorial changes
18.2. Incorporation of proven technologies	Editorial changes
18.3. Design for reliable, stable and manageable operation	Editorial changes
18.4. Prevention of early or large radioactive releases (implementation of 1st and 3rd principles of Vienna Declaration on Nuclear Safety in regulations)	Editorial changes
18.5. Provisions related to Fukushima Daiichi accident lessons learned	Editorial changes
Article 19. Operation	No changes
19.1. Initial authorization	Editorial changes
19.2. Operational limits and conditions	Editorial changes
19.3. Procedures for operation, maintenance, inspection and testing	Editorial changes
19.4. Procedures for responding to operational occurrences and accidents	Editorial changes
19.5. Engineering and technical support	Editorial changes
19.6. Reporting of incidents significant to safety	Editorial changes
19.7. Operational experience feedback	Editorial changes, PAA's preparations for licensing
19.8 Management of spent fuel and radioactive waste on the site	Editorial changes
Annex no. 1. Nuclear Installations	New licence for operation of the research reactor MARIA (2025), Start of the operation of the new national radioactive waste repository in 2033
Annex no. 2. Implementation of the Polish Nuclear Power Programme	Current status of the Polish Nuclear Power Programme; Project implementation schedule with the key milestones for years 2022-2025; Updated human resources development; Local content; HRD activities by PEJ.
Annex no. 3. Atomic Law Act	Amendments to the Atomic Law Act from 2023

3. COMPLIANCE WITH ARTICLES 6 – 19

Article 6. Existing nuclear installations

Each Contracting Party shall take the appropriate steps to ensure that the safety of nuclear installations existing at the time the Convention enters into force for that Contracting Party is reviewed as soon as possible. When necessary in the context of this Convention, the Contracting Party shall ensure that all reasonably practicable improvements are made as a matter of urgency to upgrade the safety of the nuclear installation. If such upgrading cannot be achieved, plans should be implemented to shut down the nuclear installation as soon as practically possible. The timing of the shut-down may take into account the whole energy context and possible alternatives as well as the social, environmental and economic impact.

At the moment, Poland has no nuclear installations within the meaning of Article 2(i) of the Convention. There are no nuclear power plants in operation, nor in construction in Poland. An NPP was planned in Żarnowiec in the 1980s but the project was cancelled in 1991 (construction of two units of WWER-440/V213, originally started in 1985 and was halted in 1990). Poland has currently only one research reactor in operation – MARIA, operated by the National Centre for Nuclear Research (NCBJ). A new licence for operation of the MARIA research reactor was granted on 31 July 2025.

Between 5 September 2022 and 27 October 2023, the MARIA reactor was shut down for necessary modernization and repair works. Conducted works included, inter alia, the replacement of the main electrical switchboards, modernization of the main control room, liquid waste tanks and selected measurement systems. Each modernized system was subject to regulatory approval by the means of separate administrative proceedings. The Atomic Law Act requires the written consent of the PAA President both for the modernization of structures, systems or components important to nuclear safety and radiation protection, as well as for the start-up of the reactor after such modernization. PAA reviewed in detail the assessment carried out by NCBJ of the impact of a given modernization on nuclear safety, radiation protection and physical protection during the operation of the reactor under normal operation, anticipated operational occurrences and during accident conditions. PAA inspectors carried out inspections to confirm the safety of the modernized systems before the PAA President issued consent to start-up the reactor with the modernized systems. Those modernization works are part of a multi-year programme adopted by the Council of Ministers on 20 June 2023[1]. The objective of the programme is to ensure that the necessary upgrades will extend safe operation of the research reactor beyond 2027 and until at least 2050. The modernization plan covers upgrades to be carried out in the period from 2023 to 2027.

Based on the licence for operation issued in 2015, the operator of the research reactor MARIA performed the second periodic safety review. PAA received a periodic safety review report in January 2024. PAA requested additional information addressing, among others: the lack of implementation of some of the corrective actions included in the previous PSR report, inconsistencies in parts of the PSR report with the PSR plan and clarification of the information provided in the PSR report. The approval of the PSR report by the President of PAA is estimated for October 2025.

On the 31st of March 2025, the previous licence for operation of the MARIA research reactor expired. NCBJ submitted an application to the PAA for a new licence to operate the MARIA

[1] "Programme for the modernization of the MARIA research reactor to enable its operation after 2027"

research reactor, along with the required documents in August 2024. This application consisted of over 30 documents, including attachments, which required a thorough analysis and review by the PAA staff. As a result of the review performed at the PAA, the applicant was asked to provide clarifications and supplement the documentation. Due to the lack of licence, the reactor's operation was suspended from 1 April 2025 until 31 July 2025, when the new licence was issued.

Other research reactors operated in the past have been either permanently shut down or decommissioned – see Annex no. 1. Nuclear Installations for details.

On 2 October 2020, the Council of Ministers passed a resolution updating the Polish Nuclear Power Programme. In 2024 the PNPP was amended twice:

- on 24 June 2024 – Resolution of the Council of Ministers No. 66/2024 – Annex 3 (Expenditures related to the implementation of the Polish Nuclear Power Programme) and
- on 11 October 2024 – Resolution of the Council of Ministers No. 118/2024 – among others, changed designation of the supervising minister (to “minister responsible for energy resources management”) and updated Annex 3.

Annex no. 2. Implementation of the Polish Nuclear Power Programme provides information on the implementation of nuclear power in the Republic of Poland prepared by the Ministry of Industry (now Ministry of Energy) for this national report.

The Principles of the Vienna Declaration will be followed and implemented during the development of the Polish Nuclear Power Programme; nevertheless, the main provisions of law that already fulfil those principles are discussed in sections referring to Articles 14, 17, 18 and 19. As there are no nuclear installations in operation in Poland within the meaning of the CNS, Poland has no significant practical experience in this field.

Article 7. Legislative and regulatory framework

Each Contracting Party shall establish and maintain a legislative and regulatory framework to govern the safety of nuclear installations. The legislative and regulatory framework shall provide for:

i. the establishment of applicable national safety requirements and regulations;
ii. a system of licensing with regard to nuclear installations and the prohibition of the operation of a nuclear installation without a licence:
iii. a system of regulatory inspection and assessment of nuclear installations to ascertain compliance with applicable regulations and the terms of licences;
iv. the enforcement of applicable regulations and of the terms of licences, including suspension, modification or revocation.

7.1. National safety requirements and regulations

The issues of nuclear safety of nuclear facilities are regulated in the Act of 29 November 2000 “*Atomic Law Act*” (Journal of Laws of 2024, item 1277, as amended). The Atomic Law Act and its supporting regulations provide requirements related to:

1. radiation protection (of staff, society and patients);
2. nuclear and radiation safety, including:
    a. safety of nuclear facilities,
    b. proceeding with nuclear material and sources of ionizing radiation,
    c. matters related to radioactive waste and spent nuclear fuel,

   d. matters related to the transport of nuclear material, radioactive sources, spent nuclear fuel and radioactive waste,
   e. assessment of radiation level and emergency actions;
3. physical protection (of nuclear facilities and nuclear material);
4. non-proliferation of nuclear material and technology (safeguards);
5. civil liability for nuclear damage.

Annex no. 3. Atomic Law Act provides a summary of the entire Atomic Law Act. The Atomic Law Act incorporates provisions stemming from a number of international regulations, such as:

- Convention on Early Notification of a Nuclear Accident, Vienna, 26th September 1986 (Journal of Laws of 1998, No. 31, item 216) (INFCIRC/335);
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, Vienna, 26th September 1986 (Journal of Laws of 1998, No. 31, item 218) (INFCIRC/336);
- Convention on Nuclear Safety, Vienna, 20th September 1994 (Journal of Laws of 1997, No. 42, item 262) (INFCIRC/449);
- Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Vienna, 5th September 1997 (Journal of Laws of 2002, No. 202, item 1704) (INFCIRC/546);
- Convention on the Physical Protection of Nuclear Material, including annexes I and II, open for singing in Vienna and New York on 3rd March 1980 (Journal of Laws of 1989, No. 17, item 93) (INFCIRC/274/Rev.1);
- Amendment to the Convention on the Physical Protection of Nuclear Material, Vienna, 8th July 2005 (GOV/INF/2005/10-GC (49)/INF/6);
- Treaty on the Non-Proliferation of Nuclear Weapons, Moscow, Washington, London, 1st July 1968 (Dz. U. 1970, No. 8, item 60) (INFCIRC/140), and resulting acts:
  - Agreement between the Kingdom of Belgium, Kingdom of Denmark, Federal Republic of Germany, Ireland, Republic of Italy, Great Duchy of Luxembourg, Kingdom of Netherlands, European Atomic Energy Community and International Atomic Energy Agency, on Implementation of Article III, Sections 1 and 4, of the Treaty on Non-Proliferation of Nuclear Weapons, Brussels, 5th April 1973 (Dz. U. 2007, No. 218, item 1617);
  - Additional Protocol to the Agreement between the Republic of Austria, Kingdom of Belgium, Republic of Finland, Kingdom of Denmark, Federal Republic of Germany, Republic of Greece, Ireland, Republic of Italy, Great Duchy of Luxembourg, Kingdom of Netherlands, Republic of Portugal, Kingdom of Spain, Kingdom of Sweden, European Atomic Energy Community and International Atomic Energy Agency, on Implementation of Article III, Sections 1 and 4, of the Treaty on Non-Proliferation of Nuclear Weapons, Vienna, 22nd September 1998 (Dz. U. 2007, No. 156, item 1096);
- Vienna Convention on Civil Liability for Nuclear Damage, Vienna, 21st May 1963 (Journal of Laws of 1990, No. 63, item 370) (INFCIRC/500);
- Joint Protocol Relating to the Application of the Vienna Convention and Paris Convention (on liability for nuclear damage), Vienna, 21st September 1988 (Journal of Laws of 1994, No. 129, item 633) (INFCIRC/402);
- Protocol Amending the Vienna Convention on Civil Liability for Nuclear Damage (Journal of Laws of 2011, No. 4, item 9) (INFCIRC/556).

In addition, the Republic of Poland is a party to the Treaty Establishing the European Atomic Energy Community (Euratom). Based on the treaty, a number of directives have been adopted and implemented in the Polish legal system, including but not limited to:

- Council Directive 2003/122/Euratom of 20th November 2006 on the supervision and control of shipments of radioactive waste and spent fuel (OJ L 337 of 05.12.2006, page 21),
- Council Directive 2006/117/Euratom of 22nd May 2003 r. on the control of high-activity sealed radioactive sources and radioactive waste (OJ L 346 of 31.12.2003, page 57; OJ Polish version, chapter 15, vol. 7, page 694),
- Council Directive 2009/71/Euratom of 25th June 2009 establishing a Community framework for the nuclear safety of nuclear installations (OJ L 172 of 2.7.2009, page 18, and OJ L 260 of 3.10.2009, page 40),
- Council Directive 2011/70/Euratom of 19th July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199 of 2.8.2011, page 48),
- Council Directive 2013/59/Euratom of 5th December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionizing radiation and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom (OJ L 13, 17.1.2014, p. 1–73),
- Council Directive 2014/87/Euratom of 8th July 2014 amending Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations (OJ L 219, 25.7.2014, p. 42-48).

Before any legal act is prepared, the opportunity must be provided for interested parties to express their views on the proposed legal regulation. Consulting stakeholders on draft acts or regulations helps broaden perspectives on the issue and allows for final validation of the proposed solutions. Common consultation methods include public meetings (conferences), requests for opinions, public hearings, online consultations, interviews, written consultations and email correspondence. Along with the draft of the act or regulation, a justification for the proposed legislation is published. Public entities that submit their comments on a draft are informed of subsequent versions of the drafted provisions and invited to a conciliation conference to help finalize the contents of the proposal. It should also be noted that any entity may participate in the process at any stage, provided it meets the requirements resulting from the act of parliament concerning lobbying activities in the legislation process in accordance with the procedure laid down in the law.

The PAA's President is obliged to, at least once every ten years, subject the national nuclear safety and radiation protection system, including the nuclear regulatory activities, to external international review. As described in the Summary, PAA hosted the full IRRS mission in 2023. In addition, the Atomic Law Act obliges the PAA President to make an assessment of the nuclear regulatory activities and perform an analysis of the current legal status in terms of its adequacy and suitability to nuclear safety and radiation protection at least once every three years.

7.2. Licensing system for nuclear installations

The Atomic Law Act requires a separate licence for the construction, commissioning, operation and decommissioning of any nuclear facility, issued by the President of PAA (Article 4 section 1 item 2). The requirements concerning documentation to be submitted by an applicant and

the procedure to be followed to obtain an appropriate licence have been established in the Atomic Law Act and in the Regulation of the Council of Ministers of 30 August 2021 on the Documents Required with the Application for the Licence for Activities Involving the Exposure to Ionizing Radiation or with the Registration of Such Practices (abbreviated as "Documents Regulation" further in the text).

The PAA President is also involved during the environmental impact assessment stage and may be involved by the investor (future licensee) at the siting stage, as described below.

All the proceedings regarding the environmental impact assessment of NPPs are conducted by the General Directorate for Environmental Protection (GDOŚ). Before issuing the Decision on Environmental Conditions for NPPs, GDOŚ is obliged to receive the PAA President's opinion regarding nuclear safety and radiological protection. Therefore, PAA is involved in the review of EIA report in matters of radiological impact of the planned facility.

There is no separate PAA President's licence for the siting stage, but there are voluntary mechanisms for the investor to receive PAA President's opinions on the site. Before applying for a nuclear facility construction licence, the investor can apply to the PAA President for a preliminary opinion on the site or certain aspects of the site of a nuclear facility (Article 36a of the Atomic Law Act). Following the amendment to Article 36a of the Atomic Law Act, the legal framework allows the submission of partial siting documentation and a flexible definition of the scope of the requested opinion. The second option is to apply for an opinion of the PAA President on the Preliminary Site Evaluation Report, according to article 5b of the Act of 29 June 2011 on the Preparation and Implementation of Investments in Nuclear Power Facilities and Accompanying Investments. The PAA President reviews the full Site Evaluation Report developed by the applicant during the proceedings for granting a construction licence (Article 35b section 3 Atomic Law Act).

Atomic Law Act allows provides also the opportunity for the investors to ask for a general opinion, which is a non-mandatory pre-licensing engagement mechanism. The purpose of the general opinion is to enable the investor to seek the opinion of the President of PAA as to the compliance with the nuclear safety requirements of nuclear facility in terms of:

- the organizational and technical solutions that the investor plans to apply in future activities;
- the draft documents to be submitted with the application for a licence.

The general opinion issued by President of PAA is of a strictly individual nature. This is because the general opinion is prepared in response to a specific request set out in the application and on the basis of documentation submitted by the investor. The time allocated for the review of the application for general opinion is six months and in particularly complex cases – within nine months from the submission date of the application.

The investor shall submit a formal application for the **construction licence** directly to the President of PAA, as required under Article 4.1.2 of the Atomic Law Act. The application must include a Preliminary Safety Analysis Report, documentation of safety classification of nuclear facilities' systems, structures and components (Article 36j section 3 Atomic Law Act), Integrated Management System and all other supporting documentation listed in the *Documents Regulation.*

PAA staff perform a technical review of the documentation and may carry out on-site inspections and ask for clarifications and additional information. Independent experts or

institutions may be consulted by PAA provided that they are authorized by the PAA President (this process is elaborated further in the section relating to the authorization process). In accordance with Article 39d of the Atomic Law Act, the President of PAA publicly announces the initiation of proceedings via the Public Information Bulletin and local press. Public comments are allowed and must be submitted within 21 days.

The PAA President has 24 months for the review of the application. The Atomic Law Act also defines fees for each stage of the application for a licence to conduct activities involving ionizing exposure. Despite the fact that the payment shall be remitted to the bank account of the National Atomic Energy Agency, it is classified as the state budget revenue (Article 39 section 1, 39 section 3 Atomic Law Act) but it does not constitute PAA budget.

Before the construction licence is granted, the PAA President consults the Council for Nuclear Safety and Radiation Protection for an advisory opinion (based on Article 112 section 2 of the Atomic Law Act). Within one month from the receipt of the above-mentioned opinion, the applicant is provided with a draft licence and has one month to submit written objections, if any.

It should be emphasized that **in the design and construction process of a nuclear facility, no solutions or technologies shall be used which have not been demonstrated to be appropriate in practice in other nuclear facilities, or by means of tests, studies and analyses** (Article 36b Atomic Law Act).

The **commissioning** and **operation** stage requires separate licences.

A nuclear facility shall be commissioned and operated in a manner that will ensure nuclear safety and radiation protection of the personnel and general public, in accordance with the licence issued by the President of PAA and the implemented integrated management system.

The requirements for commissioning and operation of a nuclear facility are specified in the Regulation of the Council of Ministers of 11 February 2013 on Requirements Concerning Commissioning and Operation of Nuclear Installations (abbreviated as “Commissioning and Operation Regulation” further in the text). The commissioning is performed by the licensee according to commissioning programme that has to be approved by PAA President. This phase ends with the approval of the commissioning report by PAA President.

The nuclear facility commissioning licence shall be granted by the President of PAA within 9 months, whereas for the operation – within 6 months. The licence shall specify the conditions of activities covered by the licence, in line with the Atomic Law Act:

1. design requirements;
2. safety-related obligations of the organizational entity with reference to the nuclear facility, equipment, personnel, general public and environment, including the protection measures against radiation,
3. maintenance of the nuclear facility;
4. modernization of the nuclear facility;
5. emergency planning and emergency procedures;
6. nuclear facility management;
7. operating limits and conditions;
8. personnel authorizations;
9. anticipated operational occurrences and accidents which are required to be reported to nuclear regulatory bodies;

10. works and activities that need to be executed in the presence of a nuclear regulatory inspector.

The licence for operation of nuclear facility will also specify the time interval for the performance of periodic safety review of the facility, the lowest allowable frequency is once every ten years.

The final stage of a nuclear facility's lifecycle – **decommissioning** – is also subject to licensing (within 9 months) and regulatory oversight by the President of PAA. The President of PAA evaluates decommissioning programme and other documents submitted with the application to ensure that decommissioning activities are conducted in compliance with safety requirements, and that risks to people and the environment are properly mitigated. Decommissioning phase lasts until PAA Presidents approves the decommissioning report. The date of the submission of this report will be stipulated in the decommissioning licence.

In order to cover the costs of spent nuclear fuel and radioactive waste disposal, as well as the costs associated with the decommissioning of a nuclear power plant, the organizational entity authorized to operate such a facility shall make quarterly payments to a designated special decommissioning fund. The payment is calculated for each megawatt-hour of electricity produced by the nuclear power plant (see also 11.1.2. Financial provisions during the period of commercial operation for decommissioning and management of spent fuel and radioactive waste from nuclear installations).

7.3. Prohibition of the operation without a licence

According to Article 2 of the Atomic Law Act, activities involving actual and potential exposures to ionizing radiation shall be permitted after undertaking the measures defined in appropriate regulations, aimed at ensuring the safety and protection of human life and health, as well as protection of property and the environment.

Pursuant to Article 34 of the Act, no activities involving ionizing exposure and consisting in the construction, commissioning, operation or decommissioning of nuclear facilities can be conducted by an organizational unit that fails to comply with the requirements concerning nuclear safety, radiation protection, nuclear security and nuclear material safeguards. It means, in particular, that the operation of a nuclear installation without a licence is prohibited.

The applicant/licensee must submit proper safety documentation for the nuclear facility at each stage along with the application for the licence to the PAA President. Results of the review and assessment of this documentation provide the regulatory body with the basis for the preparation of a licence with relevant requirements, limits and conditions.

The licensee, who, without the required licence, or in violation of the conditions stipulated therein, engages in the construction, commissioning, operation and decommissioning of a nuclear facility, is subject to a fine (Article 123 of the Atomic Law Act), imposed by the PAA President.

7.4. Regulatory inspections and assessment of nuclear installation

According to the Atomic Law Act, the responsibilities of nuclear regulatory authorities include, in particular, conducting inspections in nuclear facilities and other facilities possessing (or involved in activities with) nuclear materials, ionizing radiation sources, radioactive waste and spent nuclear fuel (Article 64 section 4 item 2). The PAA President performs regulatory tasks through nuclear regulatory inspectors. Nuclear regulatory authorities can carry out (Article 65a Atomic Law Act):

- periodic inspections – as per inspection plan approved by PAA President;
- reactive inspections – whenever circumstances arise which may have a substantial impact on the nuclear safety and radiation protection at a nuclear facility;
- continuous inspections – at nuclear power plants by virtue of a permanent authorization.

In the context of a conducted inspection, the regulatory inspectors are entitled to (Article 66 section 1 Atomic Law Act):

- access at any time to the means of transport and the sites, facilities and premises of organizational units, where nuclear materials, ionizing radiation sources, radioactive waste or spent nuclear fuel are produced, used, stored, disposed or transported (in particular – to nuclear facilities),
- access to the documents and other data carriers relevant to nuclear safety and radiation protection in an inspected organizational unit,
- request copies of the documents and data carriers mentioned above,
- check whether the activity or practice referred to in Article 4 section 1 of the Atomic Law Act (i.e. subject to obtaining a licence or to be notified to the regulatory body) is conducted in compliance with the nuclear safety and radiation protection regulations and with the requirements, limits and conditions specified in the licence,
- conduct, if necessary, independent technical and dosimetric measurements,
- request written or oral information when it is necessary for clarifying a concern,
- collect samples for laboratory tests,
- inspect the site, facilities, premises and installations of the inspected organizational unit and its transport vehicles,
- record the processes and results of inspection using audio-visual recording systems,
- secure and request securing documents and other pieces of evidence,
- during inspections of nuclear power plants – to request the assistance of expert laboratories and organizations authorized by the PAA President, and during inspections of other organizational entities – to request the assistance of experts, specialists and laboratories.

Licensee being inspected is obliged (Article 66 section 2 Atomic Law Act) to take all necessary measures to allow the nuclear regulatory authorities to conduct the inspection. When being inspected, the licensee's employees have to give the inspectors oral or written explanations on the questions related to the subject of the inspection. Should an inspection reveal a direct risk to nuclear safety or radiation protection, the President of PAA and nuclear regulatory inspectors are obliged by Article 68 of the Atomic Law Act to give immediately applicable orders designed to eliminate the threat to nuclear safety.

The licensee is obliged to ensure suitable conditions for the inspection. In accordance with Article 37 of the Atomic Law Act, inspection may also be carried out of producers and suppliers of nuclear facility systems, structures and components, as well as contractors for systems, components and works important to the nuclear safety, radiation protection and safe operation of installations referred to in the regulations issued under Article 5 section 4 of the Technical Inspection Act of 21 December 2000, carried out or provided during construction, installation, commissioning, operation and decommissioning of a nuclear facility. The above-mentioned inspections may verify selected nuclear facility systems, structures and components which have been or are being produced, as well as works being performed at the nuclear facility.

7.5. Enforcement provisions

The Atomic Law Act gives the regulatory body adequate powers to enforce compliance with safety requirements imposed by laws, regulations and licence conditions (Article 5 section 5). According to Article 5 section 11 of the Act, the PAA President may revoke a licence as needed. In particular, the President of PAA shall revoke a licence if nuclear safety and radiation protection requirements imposed by applicable regulations and licence conditions have not been fulfilled. Depending on the regulatory assessment of the situation, the following enforcement actions can be undertaken:

- immediately applicable order – may be oral or written (Article 68),
- issuance of a written order or a recommendation to the licensee (Article 68a, Article 68b),
- ordering the licensee to curtail activities (Article 37b section 1, Article 37c section 3),
- revoking the licence (Article 5 section 11),
- fines enforced by means of administrative enforcement proceedings (Article 123),
- punishment by fine or detention (Article 127).
- recommendation of prosecution through the courts of law.

The nuclear regulatory inspectors have been equipped by Article 68 of the Atomic Law Act with the authority to make on-the-spot decisions.

The nuclear regulatory body may also charge the authorized party with a fine in cases specified in Article 123 of the Atomic Law Act. Fines are imposed in the form of an administrative decision.

7.6 Acts of Parliament amending the Atomic Law Act between 2023 and 2025

In 2023, the Act of 29 November 2000 – Atomic Law Act was amended twice.

On 13 April 2023, amendments to the Atomic Law Act came into force and were aimed at:

a) clarifying the requirements on construction and commissioning phases of nuclear facilities and radioactive waste repositories, through:
   - introduction of a definition of a nuclear power plant (added Article 3 Item 6f),
   - clarification that construction work on buildings that do not cover systems, structures and components of a nuclear facility falling within the scope of the preliminary safety analysis report for nuclear facilities does not require a licence of the President of the PAA (new Article 36d Section 2a),
   - specifying that an organizational entity performing exposure-related activities involving the construction, commissioning, operation or decommissioning of a nuclear facility shall bear the costs of the opinion given to the nuclear regulatory authorities in the course of inspections at contractors or suppliers of systems, structures and components for a nuclear facility and at contractors carrying out work on the construction, equipping or decommissioning of a nuclear facility, and specifying the modalities for imposing the obligation to bear these costs and the rules for meeting this obligation by the organizational entity (added Article 37 Sections 7 to 9),
   - introduction of provisions on pre-operational tests carried out during the construction of a nuclear facility (added Article 36e Sections 6 and 7, repealed Article 37a Section 2 Item 1),
   - allowing the submission of an application for a licence for the construction or commissioning of a nuclear facility and for the construction of a radioactive waste

repository before obtaining the opinion of the European Commission issued under Article 43 or Article 37 of the Euratom Treaty respectively, while stating that the licence is conditional on the investor's submitting the relevant opinion of the European Commission after it has been obtained (repealed Articles 39i Section 1 Item 2 and Article 55r Section 1 Item 2 and Section 2, added Articles 39 Section 4 and Article 55r Section 4 and amended Article 39j),

- moving to Article 77 Section 1 Item 5 of the Act of 3rd October 2008 on the provision of information on the environment and its protection, public participation in environmental protection and environmental impact assessments (Dz. U. of 2023, item 1094, as amended), the obligation for the General Director for Environmental Protection to consult the President of the PAA before issuing a decision on environmental conditions of an investment in the case of nuclear facilities and radioactive waste repositories (repealed Article 39 Sections 2 and 3),
- imposing an obligation on the licensee to submit to the President of the PAA a permit for the use of a nuclear facility no later than 7 months from the submission date of the application for a nuclear facility commissioning licence (new Article 39ja),
- allowing the investor to submit a licence for the construction of a nuclear facility, once obtained from the President of the PAA, during the proceedings for the issuance of a construction permit for that facility by the voivode (amended Article 39k),
- introduction of an obligation for the President of the PAA to immediately notify the locally competent voivode of the initiation of proceedings to issue a licence for the construction of a nuclear facility which is also a nuclear power facility (new Article 33 Section 4a);

b) unequivocally regulating the authorization to continue operating a nuclear facility after the approval of the commissioning report, pending the operation licence of the President of the PAA, based on the terms of the commissioning licence and the approved nuclear facility commissioning report (added Article 37b Sections 5 and 6),

c) clarifying the provisions on the restricted use area (repealed Article 36f Section 2 and amended Article 36f Section 3 Items 1 and 4),

d) strengthening the independence and systemic position of the President of the PAA by restoring the previously applicable procedure for the dismissal of the Vice-Presidents of the PAA, i.e. by a motion of the President of the PAA (amended Article 109 Section 3) and restoring the competence of the President of the PAA to shape the composition of the Council for Nuclear Safety and Radiological Protection (amended Article 112),

e) extending the catalogue of activities eligible for the subsidy allocated by the minister in charge of energy to ensure the country's nuclear safety and radiation protection may be rationed pursuant to Article 33 of the Act – Atomic Law Act: radiation monitoring of the environment in Otwock – Świerk (added Article 33 Section 2 Item 4a), measurement of the dose rate or radioactive contamination (added Article 33 Section 2 Item 5a), measurement of the absorbed dose in persons irradiated as a result of a radiation emergency by means of biological dosimetry (added Article 33 Section 2 Item 5b),

f) in the context of awarding the subsidies intended for investments in connection with the operation of research reactors, introducing exceptions to: the obligation of the applicant to have the financial capacity to co-finance the proposed activities; and the limitation of the amount of the subsidy to a maximum of 50% of the investment's planned costing value (added Article 33 Section 4a),

g) for applications for a licence for a nuclear facility, applications for a licence for the construction of a radioactive waste repository, applications for preliminary opinion on the site or certain aspects of the site of a nuclear facility (amended Article 36a Section 5) and applications for a general opinion on the planned organizational and technical solutions for future operations and draft documents to be submitted with the application for a licence (added Article 39b Sections 1a and 1b) – regulating the process of the application for the aforementioned licences or opinions and to charge the applicant for the costs of justified activities carried out by authorized laboratories and expert organizations, and experts and laboratories in the course of examining the application (added Article 39e Sections 2a to 2e, amended Article 39e Section 3 and Article 55o Section 2),
h) clarifying issues related to the approval of nuclear security systems for nuclear materials and nuclear facilities by the President of the PAA (amended Articles 41 and 41m),
i) defining the procedure for charging the organizational entity with the costs of laboratory tests and other activities indicated in the course of the inspection by the nuclear regulatory authorities and the rules of the payment by the organizational unit of fees to bear these costs (added Article 67d Sections 2 and 3),
j) the coverage, in the event of a radiation emergency, of workers and emergency team members with individual retrospective dosimetry where there is no other means of determining the ionizing radiation dose received by the worker or the emergency team member (added Article 86i Sections 9 and 10),
k) excluding activities related to scientific, technical and legal information from the scope of the information activities of the minister in charge of energy undertaken in connection with the development of the nuclear power sector (amended Article 108a Item 3),
l) changing the rules for drafting the Polish Nuclear Power Programme, including deletion of the requirement to include a research cooperation plan in the Programme, extension of the Programme update period from 4 to 8 years and extension of the period for which the Programme implementation report is drawn up from 2 to 4 years (amended Articles 108b – 108e),
m) taking into account, in the periodic review of the existing legislation, the question of its adequacy to ensure nuclear security, nuclear safeguards and security of radioactive sources (amended Article 113a Section 1).

As of 16 October 2023, amendments to Article 36a of the Atomic Law Act by the Act of 13 July 2023 amending the Act on the provision of information on the environment and its protection, public participation in environmental protection and environmental impact assessments, and certain other acts (Dz. U., item 1890) came into force and added the option to apply to the President of the PAA for a preliminary opinion on the site or certain aspects of the site of a nuclear facility (described above in section 7.2).

Article 8. Regulatory body

1. Each Contracting Party shall establish or designate a regulatory body entrusted with the implementation of the legislative and regulatory framework referred to in Article 7, and provided with adequate authority, competence and financial and human resources to fulfil its assigned responsibilities.
2. Each Contracting Party shall take the appropriate steps to ensure an effective separation between the functions of the regulatory body and those of any other body or organization concerned with the promotion or utilization of nuclear energy.

8.1. Establishment of the regulatory body

8.1.1. Legal foundations and statute of the regulatory body

The President of the National Atomic Energy Agency (PAA) constitutes the central organ of governmental administration competent for nuclear safety and radiation protection (Article 109 of Atomic Law Act). The activities of the President of PAA are regulated on the basis of Article 110 of the Atomic Law Act and its secondary legislation. The President of the PAA, as the central organ of public administration, is independent in the decisions concerning tasks entrusted to the President on the basis of the Atomic Law Act. Since 1 January 2002 the supervision over the PAA President has been exercised by the minister competent for environmental matters, i.e. the Minister of Climate and Enviroment. PAA President is appointed for a 5-year term and may be reappointed for another period only once. This provision has been added in the 2019 amendment of Atomic Law Act to implement the recommendation from the IRRS mission held in 2013. The Prime Minister nominates the President of PAA.

The President of PAA executes the President's tasks through the National Atomic Energy Agency (PAA). The PAA's internal organization is determined by the Order of the Minister of Climate of 18 June 2020 on Granting Statute to the National Atomic Energy Agency (pursuant to Article 113 Section 1 of the Atomic Law Act). This document determines the departments included in the PAA's structure and the scope of functions that those departments perform. Organizational structure is described in section 8.1.4 of this report. Article 112 Section 2 of Atomic Law Act establishes the Council for Nuclear Safety and Radiation Protection that serves as an advisory body to the President of PAA. The functions and responsibilities of the Council are described in section 8.1.10 of this report.

8.1.2. Mandate, mission and tasks

Mandate, authority and particular responsibilities of PAA are defined in Chapter 13 of the Atomic Law Act. In accordance with Article 110 of the Atomic Law Act the scope of activities of the President of PAA includes the tasks that involve ensuring national nuclear safety and radiation protection, in particular:

1. preparation of draft documents related to national policies involving nuclear safety and radiation protection, taking into account the programme for nuclear power development and both internal and external threats;
2. exercising regulatory control and supervision over the activities leading to actual or potential ionizing radiation exposure of humans and the environment, including the issuance of decisions on licences and authorizations and other decisions, as provided in the Atomic Law Act;
3. promulgation of technical and organizational guidelines concerning nuclear safety and radiation protection;
4. performing tasks involving the assessment of national radiation situation in normal conditions and in radiation emergencies, and the transmission of relevant information to appropriate authorities and to the general public;
5. performing tasks resulting from the obligations of the Republic of Poland concerning accountancy and control of nuclear materials, physical protection of nuclear materials and facilities, special control measures for foreign trade in nuclear materials and technologies, and from other obligations resulting from international agreements on nuclear safety and radiation protection;

6. activities connected with public communication, scientific, technical and legal information concerning nuclear safety and radiation protection, including activities consisting in providing the general public with information about ionizing radiation and its impact on human health and the environment and about feasible measures to be implemented in the event of radiation emergency – excluding the promotion of the use of ionizing radiation and, in particular, the promotion of nuclear power sector;
7. cooperation with governmental and local administration authorities in matters involving nuclear safety and radiation protection as well as matters concerning scientific research in nuclear safety and radiation protection;
8. performing the tasks involving national and civil defense and the protection of classified information, which result from other regulations;
9. preparing opinions, for the purposes of governmental and local administration, concerning nuclear safety and radiation protection with regard to the proposed technical activities involving peaceful uses of atomic energy;
10. cooperation with suitable foreign national entities and international organizations within the scope stated in the Atomic Law Act;
11. developing the drafts of legal acts on the issues covered in the Atomic Law Act and conducting the process of establishing their final form, according to the procedures established in the working rules for the Council of Ministers,
12. issuing opinions on the draft legal acts developed by authorized bodies;
13. submitting annual reports on the activities of the President of PAA and the assessments of the status of national nuclear safety and radiation protection to the Prime Minister.

PAA's internal documents entitled "Mission, Vision of the National Atomic Energy Agency" and "Safety Policy" determine the objectives, principles, and efforts undertaken to ensure effective oversight of any activity that might lead to ionizing radiation exposure is handled in a safe manner for the staff and the society.

8.1.3. Authorities and responsibilities

The Atomic Law Act requires that activities involving actual and potential ionizing radiation exposures from man-made radioactive sources, nuclear materials, equipment generating ionizing radiation, radioactive waste and spent nuclear fuel are supervised and controlled by the State and can be permitted on the condition of employing means for ensuring safety and protection of life and health of people as well as for the protection of property and environment (Article 2).

Article 4 of Atomic Law Act describes 17 types of activities involving exposures that require a licence or a notification. That list covers, among other things:

- manufacturing, processing, storage, disposal, transport or use of nuclear materials, radioactive sources, radioactive waste and spent nuclear fuel,
- construction, commissioning, operation and decommissioning of nuclear facilities,
- construction, operation and decommissioning of radioactive waste repositories,
- production, installation, use and maintenance of the equipment containing radioactive sources,
- commissioning and use of the equipment generating ionizing radiation.

According to Article 5, Articles 36-39 and Article 63 of the Atomic Law Act, legal authority to issue licences, binding opinions and to perform regulatory inspections for siting, design,

construction, commissioning, operation and decommissioning of nuclear facilities in Poland is given to the President of the PAA.

According to the Article 64 Section 1 of the Atomic Law Act, the "regulatory authorities" consist of the President of PAA as the supreme nuclear regulatory body and nuclear regulatory inspectors. The Atomic Law Act defines the tasks of the regulatory authorities in Chapter 9. They include in particular (Article 64 Section 4):

- issuing licences and other decisions on issues related to the nuclear safety and radiation protection, according to the principles and modes established by the Atomic Law Act;
- conducting inspections in nuclear facilities and organizational units which possess nuclear materials, ionizing radiation sources, radioactive waste and spent nuclear fuel,
- issuing on-the-spot orders if, during the inspection, it is found that nuclear safety and radiation protection are endangered.

8.1.4. Organizational structure of the regulatory body

The current structure of the PAA (Fig. 1) is determined by:

- the Atomic Law Act,
- Order of the Minister of Climate of 18 June 2020 on Granting Statute to the National Atomic Energy Agency,
- Order no.3 by the President of the National Atomic Energy Agency of 30 June 2023 on Establishing Organizational Bylaws of the National Atomic Energy Agency.

Within the PAA, the Nuclear Safety and Security Department is responsible for performing tasks related to nuclear safety, nuclear security and safeguards that include, among other things, issuing licences, conducting inspections and assessment of safety documentation for nuclear facilities and radioactive waste repositories.

The Radiation Protection Department is responsible for performing tasks related to radiation protection that include, inter alia, issuing licences and permits for activities involving ionizing exposure, conducting inspections of those activities, and managing the Central Dose Register and register of high-activity sources.

The Radiation Emergency Centre is responsible for assessing the national radiation situation in normal operation and during radiation emergencies, continuous radiation monitoring and operating a contact point for detection of radiation emergencies and radioactive contamination.

The Budget and Financial Department, Legal Department, Director General's Bureau, and Policy and International Cooperation Bureau are performing their tasks to assist the President of PAA and Director General of PAA.

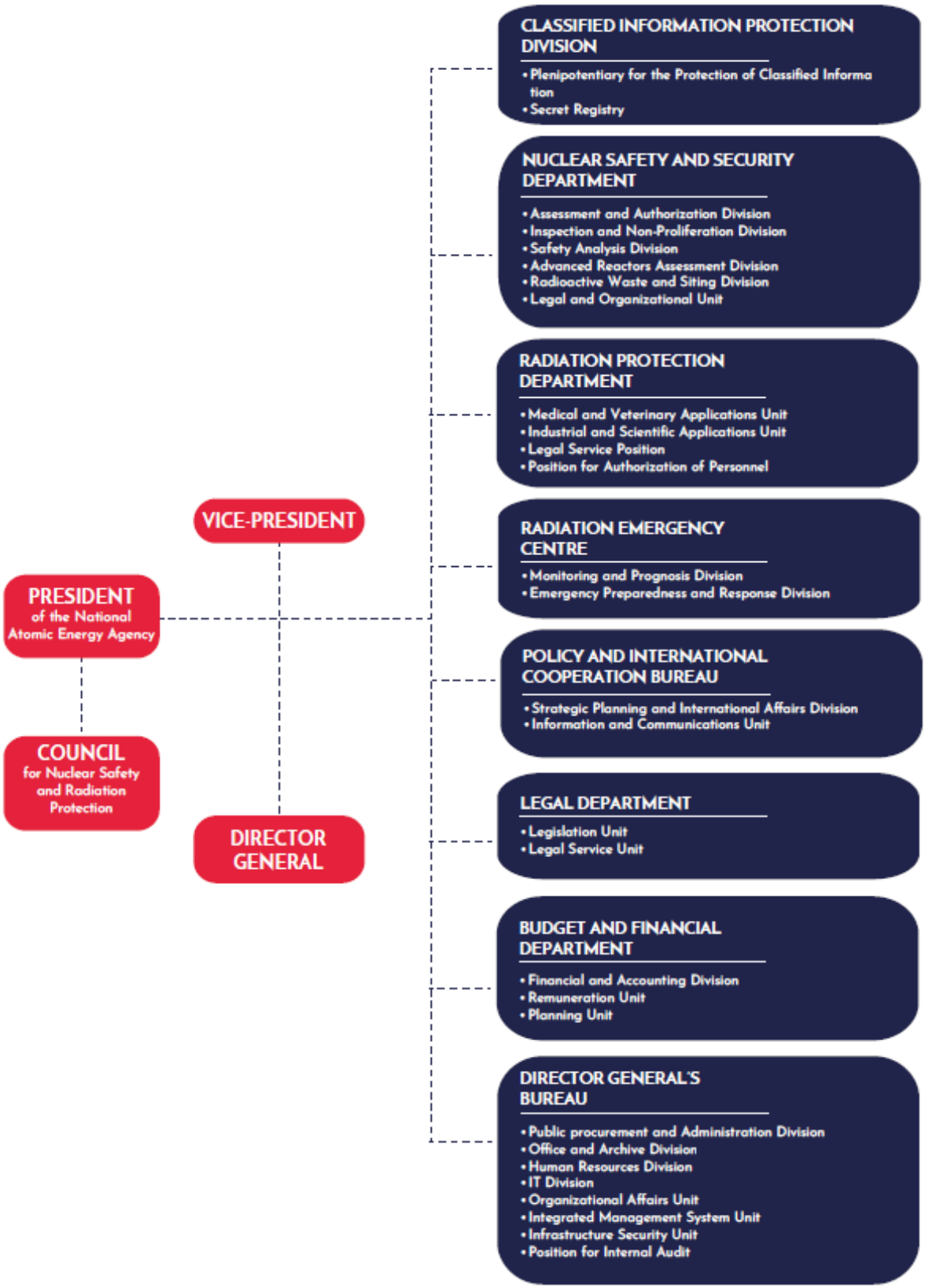

Fig. 1. Organizational Structure of the National Atomic Energy Agency

8.1.5. Human resources development

The strategic document titled Polish Nuclear Power Programme (PNPP), updated and published in 2020, includes plans to hire additional staff members by PAA. The strengthening of the regulatory body is one of the main tasks of PAA being performed under the PNPP.

The Programme determines funds that will be necessary for strengthening the staff and building PAA's competencies. These funds are included in the annual PAA budget. The recruitment plan is based on the needs of PAA, and specifies, among other things, the number of specialists required for specific roles and fields of technical review. The recruitment plan, preferred education and experience, as well as final competencies and necessary training were specified in the recruitment plan.

Overall human resources available in PAA during the last three years (2022-2024) were as follows:

- 2022 – 128 employees,
- 2023 – 147 employees,
- 2024 – 163 employees.

As of 2025, the recruitment plan is in progress, the funds provided by PNPP have enabled to hire new PAA employees, particularly much needed experts in the Nuclear Safety and Security Department. Moreover, within this Department, a new unit dedicated to Small Modular Reactors – the Advanced Reactors Assessment Division – was established in 2023. This division is currently expanding along with the growing interest in SMRs.

8.1.6. Competence development and maintenance

PAA's management is committed to a continuous competence development of its personnel while recognizing international cooperation as one of key tools enabling it to achieve this goal. This attitude has been appreciated by the 2023 IRRS mission experts who identified **"PAA's early, pro-active approach and continuous enhancement of technical and regulatory capabilities for the licensing of the first NPP through international cooperation"** as an area of good performance.

The direct exchange of knowledge and experience with foreign nuclear regulatory authorities, especially from countries with developed nuclear power programmes, is of particular importance. In recent years, PAA has signed a number of bilateral agreements on cooperation and exchange of information. In 2023, PAA concluded agreements and adopted multiannual action plans with the regulators of the two vendor-States providing technologies under consideration in Poland (AP1000 and BWRX-300): the U.S. Nuclear Regulatory Commission (US NRC) on cooperation and information exchange, and the Canadian Nuclear Safety Commission (CNSC) on cooperation on advanced reactor and small reactor technologies. Moreover, in 2023 PAA concluded an agreement with the South Korea's Nuclear Safety and Security Commission (NSSC) on cooperation and information exchange. PAA continues to develop a system of bilateral agreements with regulators of neighboring countries and those representing shared interests, e.g. in joint safety assessments of new reactor designs. In 2024, PAA concluded two new agreements: with the Swedish Radiation Safety Authority (SSM) and the Dutch Authority for Nuclear Safety and Radiation Protection (ANVS). Based on the bilateral agreements, as well as a well-established cooperation within the IAEA Regulatory Cooperation Forum (RCF), PAA's personnel benefit from a range of training opportunities and courses abroad, foremost in the form of "On-the-Job Trainings" (OJTs). From 2022 to 2024 a total

number of 11 PAA employees took part in OJTs, kindly hosted by the US NRC and CNSC. In 2025, there are more OJTs planned for PAA's staff: by the US NRC (4 persons), the CNSC (2 persons), and the United Kingdom's ONR (2 persons). PAA's management considers the OJTs as one of the most efficient tools for capacity building. OJTs offer a unique hands-on experience to PAA's personnel who are given an opportunity to familiarize themselves with the regulatory framework, decision-making process, approaches to inspections, and safety assessment in countries that are more experienced in the oversight of nuclear facilities. Leveraging foreign experience through trainings and courses effectively accelerates the development of PAA into a strong regulator equipped with means and competencies to oversee the Polish Nuclear Power Programme.

Another important means of continuous competence building is participation in the works and meetings of recognized multilateral organizations, associations, working groups and expert bodies. PAA invests a lot of resources in participating in global initiatives that offer excellent training opportunities, but also a real chance of shaping international nuclear standards. There are 75 delegates from PAA to over 60 working groups and expert bodies. PAA's employees actively participate in the IAEA's committees shaping safety standards on radiation protection, nuclear waste, transport, nuclear safety, nuclear security guidance, and emergency preparedness and response: RASSC, WASSC, TRANSSC, NUSSC, NSGC, EPReSC.

The Republic of Poland is a member of Euratom, International Atomic Energy Agency (IAEA), Heads of the European Radiological Protection Competent Authorities (HERCA), OECD Nuclear Energy Agency (NEA) and ENSREG. Most recently, in November 2023, Poland changed its status from an observer to a full member of the Western European Nuclear Regulators Association (WENRA).

At the same time Poland is willing to share its experience from developing the Polish Nuclear Power Programme with other countries. Knowledge and experience of PAA's experts is internationally recognized. PAA's experts were invited to join IAEA peer review missions – IRRS in the Republic of South Korea (2024), IPPAS in the United States of America (2024), IRRS in Hungary (2025) and upcoming IPPAS in Thailand (2026, team leader).

Since 2023 (new cooperation agreement signed) PAA has been intensifying its cooperation with Canada's nuclear regulator (CNSC), evaluating an application to construct the BWRX-300 reactor in Canada. Under this cooperation, in 2023, one PAA employee completed a three-month on-the-job training at the Canadian nuclear regulatory authority and a joint Committee on Advanced Nuclear Technology and SMR, with experts from both the institutions, was established. At the meetings of this Committee in 2024 and in 2025, CNSC and PAA experts adopted the PAA–CNSC cooperation plan for 2024-2025 on the areas of cooperation to be developed over the next two years with a possible extension for the following years. Within the framework of the cooperation plan, two PAA representatives participated in 2025 in the CNSC's on-the-job training (OJT). Participation in the OJT increased PAA staff's knowledge of the Canadian licensing process for the first nuclear power plant based on BWRX-300 technology. This knowledge will be used in the internal review of the SMR technology licence application in Poland. In addition, in October 2024, PAA staff members participated in the first part of the Public Hearing, where Ontario Power Generation (OPG) and CNSC presented their position on the Darlington New Nuclear Project (DNNP) project and the regulatory assessment of the construction permit application. Participation in this process increased PAA staff's knowledge of the final phase of Canada's licensing process for the first nuclear power plant based on BWRX-300 technology.

PAA also engages in SMR-related projects with other countries. As part of the cooperation with the UK nuclear regulatory authority (UK ONR), PAA had an opportunity to participate as an observer in the UK nuclear regulatory authority's Generic Design Assessment (GDA) licensing process of the Rolls-Royce SMR reactor. In 2023, five PAA employees attended three meetings as part of the GDA process whereas in 2024 nine PAA employees participated in thirteen meetings under this process.

PAA is also a participant of the Joint Early Review (JER) project, which consists of a joint evaluation of the NUWARD reactor by 6 EU nuclear regulators. Respect Energy has expressed interest in building a NUWARD reactor in Poland. Participation in this project has allowed PAA to exchange experience with nuclear regulatory authorities from countries with developed nuclear industries. In 2024, eight meetings were attended by 13 PAA employees whereas in 2025 – two meetings were organized so far and attended by two employees. Further activities are planned in this respect.

As part of multilateral cooperation on SMRs with nuclear regulators, PAA has been observing the meetings of the 6-party working group, a meeting of the U.S., Canadian and UK nuclear regulators with companies involved in the development of the BWRX-300 reactor in these three countries. As an outcome of these meetings, PAA has gained experience on the licensing process of the BWRX-300 reactor in the U.S., Canada and the UK. The meetings discuss the status and progress of the BWRX-300 reactor licensing and its outcomes are very helpful for PAA’s own licensing process.

In 2023, PAA opened a dialogue with two companies interested in SMR technologies – OSGE and KGHM to exchange information that would enable the companies to properly prepare applications for a licence to construct a nuclear power plant using SMR technology, and PAA to effectively evaluate these applications. PAA continues its dialogue with OSGE. In addition, in May 2025, PAA and NCBJ started a technical dialogue about HTGR-POLA – a high-temperature gas-cooled reactor project developed by NCBJ as a result of Polish-Japanese cooperation.

SMRs are also a topic of interest for the International Atomic Energy Agency. Representatives of PAA have participated in working groups under the IAEA to harmonize licensing processes and safety requirements, and support the exchange of experience among countries implementing SMR reactors. This has mainly been done through the Nuclear Harmonization and Standardization Initiative (NHSI) programme, which, under Phase I, focused on establishing rules for the exchange of knowledge and information between nuclear regulatory authorities when performing pre-licensing assessments of reactors and cooperation in the regulatory assessment of a reactor in their own country. PAA’s staff members have participated in the creation of three TECDOCs, which are currently undergoing the process of official publication at the IAEA. The conclusion of Phase I was followed by a smooth transition to the activities of Phase II of the initiative. PAA representatives participate in all working groups of the Phase II (Nuclear Security of SMRs Working Group, Development of an SMR Regulation and Cooperation Hub, Step-by-step Blueprint to Establish a Global Framework for Regulatory Review and Regulatory Cooperation Toolkit (NHSI Regulatory Track WG3).

8.1.7. Financial resources

The President of PAA is an administrator of his own part of the state budget – "National Atomic Energy Agency". Therefore, PAA's budget is determined separately every fiscal year. All fees and penalties provided for in the Atomic Law Act constitute an income of the state budget and cannot be used directly for the functioning of the nuclear regulatory body. Yearly expenditures for the years 2022 – 2024 are provided below:

- 2022 – 30,7 million PLN;
- 2023 – 50,6 million PLN;
- 2024 – 48,5 million PLN.

This significant increase between 2022 and 2023 was due to the implementation of the Polish Nuclear Power Programme. In the Polish Nuclear Power Programme, as updated in 2020, appendix 3 describes the expenditures related to the implementation of the Programme for the years 2020-2033. One of the items includes strengthening the nuclear regulatory body in four areas:

- strengthening the staff and building PAA's competencies,
- adaptation of the PAA's facilities and infrastructure to the tasks stemming from the PNP Programme,
- development of the system of technical and expert support for PAA,
- performance of oversight and other tasks stemming from the PNP Programme.

The funds intended to strengthen and build PAA's competencies allowed the PAA to increase the salaries of experts and hire new staff, including experts with prior industry experience. The Polish Nuclear Power Programme recognizes that staffing reinforcement also involves the need to ensure appropriate financial resources for PAA. The nuclear power plant project implementation period will see a high demand for the scarce domestic specialized workforce. The situation will involve the risk of personnel outflow from the PAA to the private sector offering attractive salaries. Since it is viewed as a risk from the point of view of the efficiency of nuclear regulatory control activities, preventive measures were taken, primarily based on the pursuit of the elimination of wage disparities between PAA and the commercial nuclear sector. It is assumed that for positions that require specialist knowledge and unique competencies, competitive employment conditions will be ensured compared to the market, which will enable experts to be hired and retained in PAA.

8.1.8. Management system

The management system of PAA has been developed on the basis of the 'management control' standards (obligatory in Polish public administration), other respective legal requirements and the IAEA safety standard GSR Part 2 Leadership and Management for Safety.

Key elements and areas of the integrated management systems of PAA include:

- Mission, Vision, Safety Policy, goals and objectives,
- management system documentation,
- process management,
- the risk management,
- Information Security Management System (ISMS),
- the Management system review and improvement,

- Internal Audit.

Mission, Vision, Safety Policy, goals and objectives

The mission of PAA states that **"through regulatory and supervisory activities we aim to ensure that activities involving exposure to ionizing radiation are conducted safely for workers, the general public, and the environment".**

The vision updated in 2024 states that "**(The National Atomic Energy Agency) is a modern, competent nuclear regulatory authority respected and trusted by the general public, conducting activities that are significant for ensuring nuclear safety and radiological protection".**

The Safety Policy was first approved in December 2016 and updated in 2023. The policy constitutes the main policy document for the organization. The Safety Policy covers the elements of regulatory culture (in reference to nuclear safety, radiation protection, nuclear security and safeguards) and internal safety culture.

Long-term and annual goals, as well as corresponding tasks and measures, are set in the "Plan of Actions of the President of the PAA". Complementary objectives with measures are included in the task-based budget. The execution of all goals and objectives is systematically reviewed by the management of the PAA.

Management System documentation

The management system of the PAA is described in the IMS Manual, which refers to the requirements of the GSR Part 2 standard. The structure of documentation and the role of particular types of documents was set and described in the Manual. Three levels of documentation are as follows:

- Level I – Directions and main principles (including Statute, Mission, Vision, Safety Policy; Organizational Regulations, MS Manual, long-term programs and strategies),
- Level II – Management of processes and tasks and internal regulation (President's and Director General procedures, process general descriptions - charters),
- Level III – Process execution (procedures, instructions, guidelines, job descriptions).

The procedure for control of MS documents was elaborated and implemented. New or changed documents are being verified, approved and made available for employees.

Required records are specified in the MS documents and managed according to the legal requirements complemented by internal records management instruction and Archive instruction.

Process management

The hierarchy of the PAA processes includes main processes and sub-processes. Processes are classified into three groups: operational (core), management, and administrative (supporting). The processes are described in line with the requirements of the process approach (including goals, inputs, outputs, steps and performance indicators). For each process and sub-process, the process owner is appointed responsible for describing, setting goals and measures, monitoring, reviewing and improving the process. The overall responsibility for the effectiveness of the processes is held by the directors of respective units.

The risk management

The risks for each internal process are identified and analysed with respect to tasks, processes and goals set in the Plan of Actions of the President of the PAA and the task-based budget. Additionally, the financial and corruption risks are being identified and analysed. The results of risk analysis and assessment are being tabulated in the form of risk registers. For the risks classified as nonacceptable or serious, the mitigating actions are planned and implemented. The risks and mitigating actions are subject to review twice a year.

Internal audit

Since 2023 an internal audit based on the requirements of the Act on Public Finances as well as the requirements and standards of an internal audit and management control (MC) for entities of the public finance sector has been introduced in the PAA.

The purpose of an MC internal audit is to verify the compliance of the functioning of the PAA with the legal provisions and internal procedures, as well as to examine the correctness, effectiveness and efficiency of the tasks executed. An internal audit is conducted by a qualified internal auditor appointed by the Director General.

Information Security Management System (ISMS)

The ISMS was implemented in 2021. The system refers to the applicable legal requirements and the ISO 27001 standard. The key informational assets were identified and classified. The information and its carriers are being protected according to the class of the information and the risks identified. In the framework of the ISMS, additional internal audits and ISMS reviews (focused on the information security issues) are conducted. The respective corrective actions are being implemented.

Management system review and improvement

Since 2012 PAA has been reviewing its management system according to management control standards. This kind of review (reported as “self-assessment”) includes employee opinion surveys and assessments conducted by directors of units – with the use of questionnaires.

In 2018 the procedure for review of IMS was elaborated and implemented. The comprehensive IMS review consists of the outputs from other reviews and assessments as well as additional data and information, including implementation of changes, the accomplishment of goals, execution of programmes and projects, implementation of improvement initiatives, and results of external controls and audits.

The implementation of approved improvement initiatives is being supervised by directors (or a Steering Committee in the case of projects) and also reviewed during the following IMS review.

8.1.9. Transparency and openness

A transparent and open regulator is a trusted regulator. Therefore, transparency and openness are one of the pillars of PAA. The public should have access to information on initiatives taken by the authorities in the nuclear field, but also be educated about nuclear safety and radiation protection issues.

The Polish Atomic Law Act specifies the scope of PAA’s activities related to external communication (Article 110 Item 6). These are activities consisting in providing the general

public with information about ionizing radiation and its impact on human health and the environment, as well as about feasible measures to be implemented in the event of a radiation emergency. PAA has taken a proactive approach towards informing the public and understanding its needs.

The Agency's social communication activity relies on:

- regularly informing the public about the current activities of the National Atomic Energy Agency via a web page. The page meets the standards and requirements of WCAG 2.1, which refer to needs of people with visual or hearing impairments;
- implementing informational and educational materials (brochures, films);
- crisis communication;
- regular contacts with the media (sending press releases, answering questions from journalists);
- media presence (interviews) and in social media (LinkedIn, X, YouTube);
- providing citizens with access to public information;
- publishing basic information on, inter alia, radiation situation in the online sources, available to a broad audience (PAA provides data collections on the portal dane.gov.pl and also publishes quarterly reports of the President of PAA in the Official Journal of the Republic of Poland);
- providing the public with the current results of radiation monitoring 24/7;
- scientific and technical communication - since 1989 PAA has been regularly publishing the quarterly "Nuclear Safety and Radiation Protection";
- publicizing annual reports on the activities of the President of PAA and the assessment of nuclear safety and radiation protection in Poland.

In 2022, a survey of public opinion on the National Atomic Energy Agency, its role in the Polish Nuclear Power Programme and public knowledge about radiation was conducted by an outside company at the request of PAA. The survey was conducted with a quantitative method – using the CATI technique, and was nationwide. With this tool PAA wanted to gain more information about public needs in the field of communication with reference to nuclear safety and radiological protection. The report from the social survey indicated that more than half of the respondents declared that they knew what ionizing radiation was (54%), while 40% of respondents did not have such knowledge. More than half of the respondents indicated that they would like to learn more about ionizing radiation (59%). In order to respond to this need, audiovisual materials were produced at the request of PAA, which are promoted on the PAA's website, on social media, and also made available during events with external stakeholders in which the PAA participates, including job fairs. The aforementioned materials include four animations on ionizing radiation and nuclear safety issues in relation to nuclear power plants (prepared in 2023), and an extensive 3D animation in which PAA presents the interior of a nuclear power plant from the perspective of a nuclear regulatory inspector (produced in 2024). The very attractive format encourages a wider audience to familiarize themselves with the technical information, while the substantive content itself is formulated in a transparent manner. In 2025 an informative cartoon booklet about nuclear safety and radiation protection was ordered to popularize this knowledge among younger audiences.

The above-mentioned publications also informed the public about the role of PAA in the Polish Nuclear Power Programme – in which the PAA is one of the three key stakeholders. Under the PNPP, in the field of public communication, PAA is responsible for providing the society with information on the issues of nuclear safety and radiation protection. In view of these tasks

arising from the PNPP, the National Atomic Energy Agency has prepared its communication strategy, approved by the President of PAA in 2023.

It should be highlighted that the IRRS mission to Poland in 2023 in its final conclusions recognized, among others, areas of good performance of Poland such as "the communication strategy of PAA to interact effectively with its interested parties, including information published on its website in relation to the conflict in neighboring Ukraine".

The communication strategy provides a SWOT (strengths, weaknesses, opportunities and threats) analysis of PAA's image and communication goals, as well as methods and forms of communication with stakeholders. The strategy indicates four operational goals in the scope of PAA's communication activities. These are: increasing public knowledge about radiation, increasing public awareness of PAA itself, increasing trust in nuclear oversight and a greater sense of social safety. According to the Strategy, the primary goal of the communication activities conducted by PAA should be to develop among fellow citizens the following opinion: "The National Atomic Energy Agency upholds nuclear safety and radiological protection – I feel safe".

The communication strategy of the National Atomic Energy Agency is a general document that does not indicate a schedule for individual activities, and the implementation of the proposed forms of communication is dependent on the available human resources and current circumstances. Therefore, for the purposes of the licensing process of the first Polish NPP, the PAA introduced an additional document – an internal communication plan related to licensing activities divided into specific tasks for the years 2024-2027. The aim of this plan is to schedule and prioritize communication tasks, beyond legal requirements described further in the text, in connection with the role of nuclear oversight, including the process of constructing the first nuclear power plant in Poland. One of the main activities includes an open meeting with the local community from the Choczewo municipality (where the first Polish NPP will be built) planned for October 2025. The PAA is preparing for this task well in advance. In November 2024, by courtesy of the U.S. Nuclear Regulatory Commission (NRC), four PAA representatives participated in a public hearing organized with reference to the Palisades NPP restart project. The experience gained during this study visit was used to update the above-mentioned communication plan.

As part of strengthening contacts with other stakeholders, PAA is also planning to meet with local officials with reference to the PAA's role in the Polish Nuclear Power Programme.

In order to better understand social needs in the region, a second qualitative and quantitative public opinion survey was carried out between June and July 2025 by an external company at the request of PAA. The topic was defined as follows: the Perception of the National Atomic Energy Agency and Polish citizens' attitude towards nuclear safety and radiation protection in the context of the implementation of the Polish Nuclear Power Program. The results are going to be taken into account when implementing public communication activities.

The Polish nuclear regulatory authority, in accordance with the principle of transparency, also provides the public with information on official documents prepared as part of the pre-licensing dialogue conducted by the PAA, both with the company responsible for the construction of the large-scale nuclear power plant and with investors who are interested in small modular reactors (SMRs). Between 2023 and 2025, the President of PAA issued six general opinions within the scope specified by the applicants. The general opinions by the President of PAA do

not constitute an element of the official licensing process, but allow the investor to early identify possible gaps or deficiencies pointed out by the President of the PAA in documents submitted by the investor with the request for a general opinion, which will allow the investor to supplement, if necessary, the required documentation before submitting an application for a construction licence. In addition, a general opinion may serve to identify technical issues for which, for example, the reactor design may require possible design changes due to failure to meet Polish requirements or identify the information or analyses that the investor may need to provide to demonstrate compliance of technical solutions within design with Polish safety requirements. All general opinions of the President of PAA are available to the public on the website of the National Atomic Energy Agency.

Another important aspect of PAA's work is crisis communication and the ability to provide timely information during emergencies. Such situations often lead to a surge in public interest in the agency and require it to deliver regular, clear, and accessible messages on topics that may cause public concern or anxiety. The National Atomic Energy Agency has been conducting intensive crisis communication efforts during the war in Ukraine and has also responded to other emergencies, e.g. the incident involving the loss of a flaw detector in one region of the country in March 2024.

It is worth emphasizing that Polish law regulates communication issues in many aspects, especially in the crisis situations as well as, in connection with the issuance of a licence for the construction of a nuclear facility by the President of PAA. Pursuant to the Article 110 Item 4 of Atomic Law Act the responsibilities of National Atomic Energy Agency include "performing the tasks involving the assessment of national radiation situation in normal conditions and in radiation emergency situations, and the transmission of relevant information to appropriate authorities and to the general public".

According to Article 39d of the Atomic Law Act, the regulatory body involves the public in the process of issuing a licence to build a nuclear facility. After initiating the procedure, the President of the National Atomic Energy Agents publishes the application in the Public Information Bulletin together with the abridged safety report and information on:

- initiation of the procedure to issue a licence to build a nuclear power plant;
- the possibility of submitting comments and motions;
- the manner and place for submitting comments and motions;
- the date and place of the administrative hearing.

Comments may be submitted in writing or orally for the record and by means of electronic communication without the requirement of an electronic signature. If the public voices comments, it will be necessary to organize an administrative hearing. After it is resolved, the President will be able to decide whether or not to grant a licence to build a nuclear power plant.

When it comes to the subject of communication in crisis situations, the Polish law also provides for emergency communication in the event of a radiation emergency. According to the article 92 of the Atomic Law Act, members of the public, who in the event of a radiation emergency might receive an ionizing radiation dose exceeding the dose limit for members of the public, shall be periodically informed of the applicable health protection measures and of the actions which they should take in the event of a radiation emergency (pre-emptive information). The information should be updated as the situation develops. Preparation of pre-emptive information is within the responsibility of the licensee.

Additionally, detailed guidelines in this matter are included in the Regulation of the Council of Ministers of 27 April 2004 on Advance Information for the Population in the Event of a Radiation Emergency. According to this document, the President of the National Atomic Energy Agency prepares advance information in the event of a radiation emergency in areas that may be affected by the effects of a radiation emergency. In the message, the PAA President should inform about:

- ionizing radiation and its effects on human beings and the environment;
- types of emergency situations and scenarios of their development;
- methods of alerting the population about the occurrence and about the development of a radiation emergency;
- methods of conduct and behavior of the population in order to protect against the effects of a radiation emergency and to obtain the necessary assistance.

Advance information is provided by the President of the National Atomic Energy Agency to the voivodes of voivodeships where the effects of a radiation emergency may occur.

8.1.10. External technical support and advisory committees

The need for the availability of external support during the review stage of the licensing process has been recognized in the Atomic Law Act. In line with Article 39e, PAA's President might use organizations previously authorized to perform the safety assessment of a nuclear power plant. PAA might use authorized organizations in the review process, although it is not obliged in every case to do so, i.e. PAA will perform the majority of the review using an internal workforce.

An entity applying for an authorization must specify its scope. A list of authorization topics suggested currently by the President of PAA is available on the PAA's website, however the scope proposed may be different or a combination of the proposed topics. PAA's website also includes additional information relating to the authorization process, covering inter alia: legal information on the authorization process, examples of possible scopes of authorization, a suggested application form for authorization, a suggested form enclosing the information on the competence of the applicant, and an explanation of the idea of conflict of interest. All applications are reviewed. The authorisation of the PAA's President can be granted if all requirements, including proof of relevant experience have been met. Until now 15 institutions have been granted authorizations, while 8 more applications are currently ongoing internal assessment. **It is a significant change compared to the 9th Report when only one authorisation was granted.**

With respect to the advisory committees, the Atomic Law Act establishes The Council for Nuclear Safety and Radiation Protection as the consulting and advisory body of the President of PAA. The Council consists of a chairperson, deputy chairperson, secretary and not more than seven members. Members of the Council are appointed by the President of PAA. Currently the Council consists of 5 members. The term of office of the Council is 4 years. The main task of the Council is, in particular, issuing opinions upon request of the PAA's President with regard to draft versions of licences to conduct activities, draft versions of legal acts drawn up by the PAA's President, and draft versions of organizational and technical guides issued by the PAA's President.

8.2. Status of the regulatory body

The PAA's independence in performing its functions is assured by the law. Article 109 of the Atomic Law Act provides that the President of PAA constitutes the central organ of the

governmental administration, competent for nuclear safety and radiation protection matters to the extent specified in this Act. Independence of the regulatory body is guaranteed by a clear separation of promotional and regulatory functions:

- matters related to the social and economic use of nuclear energy are within the scope of activities of the Minister of Energy (according to the Act on Governmental Administration Departments),
- nuclear safety and radiation protection matters are within the scope of activities of the PAA President (pursuant to the Atomic Law Act).

Regulatory decisions made by the PAA President cannot be affected by any other organ of governmental administration. This authority is ensured by the Atomic Law Act. The President of PAA and other regulatory bodies are independent in performing their regulatory functions, which include, in particular, regulation of activities involving exposure (issuance of licences and receipt of notifications) and inspection functions. No other organ can supervise their regulatory decisions except for the Administrative Courts of Law.

The Minister of Climate and Environment provides administrative supervision of the President of PAA and grants the statute of the Agency. The PAA President is obliged to report annually to the Prime Minister of Poland.

Article 9. Responsibility of the licence holder

Each Contracting Party shall ensure that prime responsibility for the safety of a nuclear installation rests with the holder of the relevant licence and shall take the appropriate steps to ensure that each such licence holder meets its responsibility.

According to Article 35 Section 1 of the Atomic Law Act “the head of an organizational unit authorized to conduct activities involving exposure and consisting in construction, commissioning, operation or decommissioning of nuclear facilities shall be responsible for nuclear safety, radiation protection, physical protection and nuclear material safeguards”. Moreover, Article 34 of the Atomic Law Act states that “no activities involving exposure and consisting in construction, commissioning, operation or decommissioning of nuclear facilities can be conducted by an organizational unit which fails to comply with the requirements concerning nuclear safety, radiation protection, physical protection and nuclear material safeguards”. The responsibility of the licensee also entails responsibility for the actions of subcontractors and suppliers, as well as ensuring that subcontractors and suppliers whose activities may affect the facility’s nuclear safety, radiation protection, physical protection or safeguards maintain adequate staff resources to carry out these activities.

Any activity involving exposure and consisting in construction, commissioning, operation and decommissioning of nuclear facilities requires a licence issued by the PAA President. The periodic assessments, inspections and enforcement system will serve PAA as the basis to assess whether the licence holder discharges its prime responsibility for safety (see sections 7.4 and 7.5 for more details). In addition, the PAA President can impose an obligation on the licensee to review certain technical and organizational aspects related to the operation of the nuclear facility, as well as the obligation to make any necessary changes identified during this review which will contribute to strengthening safety.

The licence holder is obliged to inform each individual that so requests of the status of nuclear safety and radiation protection of a facility, its impact on human health and the natural environment, and of the volume and isotopic composition of radioactive substance emissions

from the nuclear facility to the environment (Article 35a Atomic Law Act). At least once in 12 months licence holders must publish such information on their websites.

In the case of events that may cause a radiological risk, the licensee shall immediately inform the relevant authorities, including the PAA President, the voivode and local authorities. In addition, every 12 months, the licensee provides the PAA with information on all events in a nuclear facility causing a radiological risk. The PAA President may impose on the licensee an obligation to review certain technical and organizational aspects of the facility related to the operation of the facility and to prepare a report. The review report must include the results of the activities, conclusions and a proposal for possible changes along with a timetable for their implementation.

If necessary, the licensee may be required to make changes to the nuclear facility or the operation of the facility. In emergency situations that may require off-site operations or civil protection measures, the PAA shall immediately order a review of certain technical and organizational aspects related to the operation of the nuclear facility.

An NPP investor shall open a Local Information Centre no later than on the day of the submission of the application for the construction licence. The Centre is established to provide information to the local community on the operation of the NPP and the status of nuclear safety and radiation protection in the area surrounding the facility. A local community can establish a Local Information Committee, which can provide community supervision over the project's implementation, represent the local community in relations with the applicant/licensee and inform the local community on the activities of the nuclear power facilities. The Committee will be authorized to enter the facility and request information or documents concerning the implementation of the project and operation of the NPP.

The licensee's provisions for obtaining appropriate financial and human resources are described in Article 11. The licensee should also use adequate technical and organizational solutions to meet the requirement of optimization of radiation protection at all stages of a nuclear installation operation, designed to prevent accidents and/or limit its consequences. The financial provisions to cover the possible harms caused by a nuclear accident have been arranged according to the Vienna Convention on Civil Liability for Nuclear Damage to which Poland is a Party, by means of obligatory third-party responsibility insurance required from the nuclear installation's operator, in accordance with the Minister of Finance Regulation on Obligatory Third-party Liability Insurance of Nuclear Installation Operator (Article 103 Section 10), issued on 14 September 2011.

Article 10. Priority to safety

Each Contracting Party shall take the appropriate steps to ensure that all organizations engaged in activities directly related to nuclear installations shall establish policies that give due priority to nuclear safety.

As stated in relation to Article 9, the prime responsibility rests on the licensee that was granted a licence for the construction, commissioning, operation, or decommissioning of a nuclear facility. In addition to the licensee's obligations, other persons (organizations) involved in the project of a nuclear facility are responsible, in accordance with their duties, for ensuring compliance with the nuclear safety and radiation protection requirements (Article 35 Section 3 Atomic Law Act).

The Atomic Law Act requires that, beginning with site selection, through construction, commissioning and during operation, such technical and organizational measures shall be

taken that the number of facility staff and the members of the public exposed to the harmful effects of ionizing radiation, as well as the probability of exposure, should be minimized. The doses received by the staff and members of the public should also be as low as possible. Furthermore, potential accidents should be prevented, and if they occur, their consequences should be limited, while large and early releases of radioactive substances should be avoided (Article 35 Section 4 Atomic Law Act).

Furthermore, any organization involved in the construction, operation, or decommissioning of nuclear facilities shall have an integrated management system that includes a quality policy, quality assurance programme, and safety culture policy (Article 36k Atomic Law Act). The definition of Integrated Management System included in Atomic Law Act prioritizes nuclear safety by making sure that all decisions are adopted based on their influence on nuclear safety analysis, radiation protection, physical protection, and the protection of nuclear materials. The specific content of the Integrated Management System is provided in the description of compliance with Article 13 of the Convention. *Documents Regulation* provides that the Integrated Management System shall include, among other things, a description of the strategy for the development, maintenance and establishment of a safety culture at every stage of the lifetime of the plant. Moreover, one of the goals of the quality management system is to "promote and support safety culture in the organizational unit of the applicant and units of the suppliers of items and services".

The *Commissioning and Operation Regulation* include provisions regarding safety improvements and safety monitoring of activities. Paragraph 44 of the regulation states that the experience from the nuclear facility operation shall be subject to systematic assessment. The assessment shall refer in particular to extraordinary events in the nuclear facility when an assessment is made to identify their causes. Information resulting from the examination of events important from the viewpoint of nuclear safety or radiation protection and conclusions drawn from this examination shall be submitted to the nuclear facility employees. It is also required that the licensee have a suitable review and assessment system enabling permanent monitoring of nuclear safety issues and the performance of periodic nuclear safety assessments. Moreover, systematic analyses shall be conducted with regard to operational experience, development of international safety requirements, technological developments, and new knowledge. Afterward, conclusions from these analyses shall be used to improve the nuclear safety in the facility (para. 8 of the regulation).

On 12 April 2022, Poland adopted its first "Strategy and Policy on the Development of Nuclear Safety and Radiation Protection of the Republic of Poland". The main objective of the Strategy is to ensure the protection of people and the environment against the harmful effects of ionizing radiation and to increase the level of nuclear safety and radiation protection in Poland. Four detailed strategic objectives were also specified:

- development of the national regulatory system for nuclear safety and radiation protection;
- development of the national radiation monitoring system;
- strengthening national competences in the field of nuclear safety and radiation protection;
- enhancing the research potential and social awareness in the field of nuclear safety and radiation protection.

This document describes the fundamental nuclear safety and radiation protection principles and provides a course of actions to further increase nuclear safety and radiation protection in the country. One of those actions is the promotion of a safety culture and attitudes enhancing safety culture.

10.1. Safety Culture in a regulatory body

PAA developed the Safety Policy placing safety priority as an overriding principle and addressing healthy safety culture as the necessary condition for the implementation of this principle in practice. PAA's Safety Policy (approved in December 2016 and revised in 2023) binds all staff members in the organization – the management and the employees – to pursue a safety priority approach as well as to promote, develop and follow the safety culture. Further expectations and rules in this matter are described in PAA's Integrated Management System Manual (also developed in 2016 and revised in 2023). Since 2015 PAA has been developing and implementing consecutive Action Plans on enhancing safety culture covering the main directions as well as variable actions (including continuous and systematic) to be taken by PAA. The last plan covers the years 2024 – 2025.

As a result of these approaches, safety, safety culture and their promotion play an important role in the PAA's daily work. The President, Vice President, Directors and other leaders at the PAA systematically highlight issues related to safety and safety culture and engage employees in matters important to nuclear safety, including expanding competencies and supporting continuous improvement. The management promotes openness, communication, cooperation, a questioning attitude and exchange of opinions and support effective communication within and between Departments. Regular and adhoc meetings of various types are organized within the PAA. At least once a year meetings of PAA President, Vice President, and Director General with PAA employees are held to present the tasks and challenges for the Departments for the upcoming year and to sum up organizational achievements. Safety culture and safety priority are furthermore included in the documents and rules of the PAA management system.

In order to get acquainted with best practices in the area of safety culture, PAA employees systematically participate in bilateral meetings and study visits organized in cooperation with other foreign regulatory bodies and authorities which set international standards in this area. Furthermore PAA representatives participate in the meetings and workshops on the topics of management, leadership, and safety culture organized by the IAEA as well in the CNRA (NEA OECD) Working Group on Leadership and Safety Culture.

In 2023, the Republic of Poland hosted the IRRS Mission and received a recommendation that is should "establish a documented process of conducting assessment of leadership for safety and of the safety culture in its management system, and should regularly conduct such assessments". The preliminary preparations to implement this recommendation started in 2023 and covered collection of materials (publications, good practices) and the IAEA training on the Safety Culture Self-Assessment (SCSA) methodology. In 2024 a Safety Culture Team and the SCSA project were established, and further preparation were conducted – covering workshop and on-line meetings with the US NRC experts as well one week workshop with PNRA experts (who conducted self-assessment of their RB using IAEA methodology). In the fourth quarter of 2024, the PAA conducted the first phase of a complex safety culture self-assessment project. This phase covered data collection with the use of 5 self-assessment methods (survey/questionnaire, focus groups, individual interviews, document review and observations). The analysis phase as well as drafting the report is in progress and is planned

to be finished in the III quarter of 2025. On the basis of SCSA outputs the new long term plan for enhancements of the safety culture will be developed.

The 2023 IRRS mission outputs also included recommendations towards strengthening safety culture oversight in respect to both operating organization and activities related to exposure to ionizing radiation. So far internal recommendations for inspection of safety culture in nuclear facilities were developed by the Nuclear Safety and Security Department at PAA. A draft procedure for assessing and supporting safety culture in organizational units performing activities related to exposure to ionizing radiation was developed by the PAA Radiation Protection Department.

Article 11. Financial and human resources

1. Each Contracting Party shall take the appropriate steps to ensure that adequate financial resources are available to support the safety of each nuclear installation throughout its life.
2. Each Contracting Party shall take the appropriate steps to ensure that sufficient numbers of qualified staff with appropriate education, training and retraining are available for all safety-related activities in or for each nuclear installation, throughout its life.

11.1. Financial Resources

11.1.1. Financial provisions to ensure safety of nuclear installation throughout its lifetime

According to Article 38g.1 point 2 of the Atomic Law Act, the licence to conduct activities consisting in construction, commissioning, operation and decommissioning of a nuclear facility shall only be granted to an organizational unit that has sufficient funding to cover the costs of nuclear safety, radiation protection, physical protection and nuclear material safeguards at all stages of the nuclear facility operation, until the facility is decommissioned. In the case of a licence granted to build a nuclear facility, the organizational unit needs to have sufficient funding to finish the construction.

In order to confirm that the required funding for the construction of the nuclear facility is available, the following documents shall be enclosed in the licence application: documents confirming the availability or possibility of obtaining funding to finish the construction, including the financial plan and financial report featuring estimated costs and expenditure to be incurred.

In order to confirm that the required funding to cover the costs of nuclear safety, radiation protection, physical protection and nuclear material safeguards at all stages of the nuclear facility operation, until the facility is decommissioned is available, the following documents shall be enclosed to the application: documents confirming the availability of funding, and in particular, bank account statement, bank guarantee or insurance guarantee, a financial report featuring estimated costs and expenditure to be incurred.

Therefore, the licensee's policy regarding appropriate funding of its activities should consider the above-stated requirements. PAA will be assessing financial provision with other documentation required in the licensing process. Assessment will be made either by PAA’s staff or a contracted external organization that specializes in financial audits.

Principles for financing safety improvements to the nuclear facility over its operational lifetime are ensured by the PAA's President's ability to enforce necessary actions. Modification or modernization of any nuclear facility system, structure or component important to nuclear safety and radiation protection, as well as each reactor start-up following fuel loading, shall require written approval of the President of PAA (Article 37d of the Atomic Law Act). If it is

considered necessary from the viewpoint of nuclear safety, radiation protection, physical protection and nuclear material safeguards – especially based on the conclusions from the periodical assessment reports, the President of PAA is authorized to amend the conditions of activities covered by the licence (Article 39h Section 1 Atomic Law Act).

11.1.2. Financial provisions during the period of commercial operation for decommissioning and management of spent fuel and radioactive waste from nuclear installations

Article 38d of the Atomic Law Act provides for the system of financing the costs of the spent nuclear fuel and radioactive waste disposal as well as the costs of nuclear power plant decommissioning. In order to cover the costs of the spent nuclear fuel and radioactive waste disposal and the costs of nuclear power plant decommissioning, the organizational unit authorized to operate the nuclear power plant shall make quarterly payments to a "decommissioning fund", with a dedicated bank account assigned to the fund. Resources collected on the account can be deposited on fixed-term deposit accounts or invested in bonds emitted by the Minister competent in public finance matters.

The amount of the fee to be paid for the decommissioning fund was determined by Regulation of the Council of Ministers of 10 October 2012 on the Amount of Contributions to Cover the Cost of the Final Management of Spent Fuel and Radioactive Waste and to Cover the Costs of Decommissioning a Nuclear Power Plant made by the Organizational Unit, which has Received a Licence for the Operation of a Nuclear Power Plant and is established to be 17.16 PLN for each MWh of electricity produced in a nuclear power plant.

In determining the amount of payments for the decommissioning fund, the Council of Ministers took into account the predicted: lifetime of a nuclear facility, the amount of radioactive waste, including spent nuclear fuel produced by the facility, the final cost of disposal of the waste, and the cost of decommissioning a nuclear facility. It should also be noted that with the progress in implementing the PNPP in the future, it may be necessary to amend the amount of payments to the decommissioning fund. The deadline for payments was established to be on the fifteenth day of the month following the quarter to which the payment relates, as from the first day of the quarter following the quarter in which the nuclear power plant produced the first MWh of energy until the start of decommissioning.

Resources collected on the decommissioning fund may only be allocated to cover the cost of the final radioactive waste and spent nuclear fuel disposal from those plants and to cover the costs of decommissioning the nuclear facility. Therefore, withdrawal of resources from the decommissioning fund will take place only after approval is granted by the minister competent for energy resources management.

In order to allow the minister competent for energy resources management to supervise the organizational unit's obligation to make payments to the decommissioning fund, the licensee holding a licence for the operation or decommissioning of a nuclear power plant will be obliged to submit quarterly reports to the minister stating the amount of payments to the decommissioning fund and the amount of megawatt-hours of electricity produced in this quarter. If the organizational unit delays making payments for at least 12 months, the minister competent for energy resources management applies to the President of PAA to issue a warrant to stop the operation of a nuclear power plant. The President of PAA is obliged to order the stop of NPP operation without undue delay.

11.1.3. Arrangements for ensuring that the necessary financial resources are available in the event of a radiological emergency

Article 93 of Atomic Law Act states that the costs of intervention measures and the elimination of radiation emergency consequences shall be covered by the organizational unit which caused this radiation emergency. In the event of a radiation emergency, which has not been caused by an organizational unit, the costs shall be borne by the perpetrator, whereas in the event of an emergency caused by an unknown perpetrator or when such costs may not be exacted from the perpetrator, and also in the event of an emergency which has occurred outside the borders of the Republic of Poland – such costs shall be borne by the national budget. If the means at the disposal of the authority that directs the actions aimed at elimination of the hazard and emergency consequences are inadequate, this authority may impose the obligation to render personal and material services with respect to relevant regulations concerning the services rendered to overcome natural disaster situations.

The Atomic Law Act also provides civil liability for nuclear damage. Article 101 provides that exclusive liability for nuclear damage caused by a nuclear incident in the nuclear facility or related to this facility shall be borne by the licensee, except for damage caused directly by acts of war or armed conflict. The licensee is obliged to conclude a contract for insurance against civil liability for nuclear damage. The licence holder's liability for nuclear damage shall be limited to the amount equivalent to SDR 300,000,000. When the claims for nuclear damage exceed the amount mentioned above, the licence holder shall establish a limited liability fund. The procedures for the establishment and distribution of this fund shall be regulated, as appropriate, by the provisions of the Sea Code on the limited liability for sea claims.

11.2. Human Resources

The basic requirements concerning the competence of the staff of the licence holder are specified in the Atomic Law Act. According to Article 38g Section 1 Item 3, the licence to conduct activities consisting in construction, commissioning, operation and decommissioning of a nuclear facility shall only be granted to an organizational unit that employs personnel suitably qualified to execute activities stated in the application.

More specific requirements about the personnel qualifications are provided in Article 12c of the Atomic Law Act. It states that in any organizational unit conducting activities involving exposure and consisting in commissioning, operation, or decommissioning of a nuclear power plant, all activities important to nuclear safety and radiation protection shall be performed exclusively by individuals who possess an appropriate authorization issued by the President of PAA. The types of activities important to nuclear safety and radiation protection include activities directly related to managing and operating a nuclear power plant, as well as managing nuclear fuel and radioactive waste at a nuclear power plant. In order to obtain the authorization granted by the President of PAA, an individual needs to inter alia:

- hold a medical certificate confirming the absence of contraindications for performing work in occupational exposure conditions;
- hold a medical certificate confirming the absence of mental disorders and the absence of any psychological disorders;
- possess a higher education degree and professional experience necessary to be authorized to conduct the relevant activities at a nuclear power plant;
- successfully pass the post-training examination, both theoretical and practical, referred to in Regulation of the Council of Ministers of 10 August 2012 on Activities Important

to Nuclear Safety and Radiation Protection in an Organizational Unit Conducting Activity which Consists in Commissioning, Operation, or Decommissioning of a Nuclear Power Plant (abbreviated as “Activities Regulation” further in the text).

The authorizations are granted for a period of 3 years.

The above mentioned *Activities Regulation* specifies, among others, a list of activities important to nuclear safety and radiation protection, detailed conditions and procedures for granting authorizations to perform those activities by the President of PAA, and required training programmes, including practicalities and the organization of training. Types of activities that require obtaining the authorization are as follows:

- management of the organizational unit;
- managing of commissioning and operation of NPP;
- supervision over NPP’s operation on the working shift;
- control of the reactor/NPP and operations with the fuel in the reactor and spent fuel pool.

The *Activities Regulation* also specifies required qualifications relating to education and professional experience for each type of activity. Candidates who apply for the authorization to perform those activities need to undertake both practical and theoretical training specified in the regulation mentioned above. The scope of training depends on the type of activity, but always includes both theoretical and practical training. In the case of practical training, the training covers, among others, simulator training. The simulators of real devices in a nuclear power plant with complete software should allow to practice the performance of activities in the conditions of normal operations of the nuclear power plant as well as in other plant states. Reference tests of simulators shall be performed at the vendor of a nuclear reactor and manufacturers of systems and elements of the nuclear power plant installations in periods not longer than 12 months. The results of such tests shall be submitted to the President of PAA.

After completion of training, a candidate needs to pass the examinations organized by the President of PAA. The examination consists of theoretical and practical parts. The candidate is allowed to take the practical part of the examination only after passing the theoretical part. The practical exam for candidates applying for authorization for operating supervision and control of the reactor involves conducting a selected activity sequence on a full-scale simulator of a nuclear power plant’s unit.

Additionally, *Documents Regulation* requires that the schedule of periodic training, recruitment plan, and programmes for preliminary and periodic training for authorized employees performing activities important to nuclear safety and radiation protection are submitted at the stage of obtaining a construction licence, and subsequently updated at the stages of commissioning and operation licence.

According to Article 11 of the Atomic Law Act, other employees of an organizational unit conducting activities involving ionizing exposure must possess the appropriate knowledge, skills, and qualifications ensured by undertaking training described in the training programme. Those preliminary and periodic trainings are covered by the programme prepared by the licence holder. Short-term personnel training plans should be prepared at least once every three years, while long-term training plans should be prepared at 10-year intervals. Those plans are subject to approval by the President of PAA. The first assessment is made at the stage of issuing the licence for the commissioning of a nuclear facility. Scope of training includes, among others:

- general radiation protection procedures and undertaken preventive measures, as related to the activities conducted by an organizational unit;
- radiation protection procedures and undertaken preventive measures as related to a specific workplace;
- procedures of conducting workplace-specific tasks and activities;
- for nuclear power plants – training involving the performance of tasks and activities using simulators of the actual nuclear equipment at the given nuclear power plant

After finishing the training, the employees need to pass an internal examination organized by the licensee. Employees who fail to pass the exams are forbidden to work in the organizational unit.

During every stage of licensing, the applicant needs to provide statements that employees of the organizational unit and contracted personnel involved in works important to nuclear safety and radiation protection have enough qualifications and that the number of employees is sufficient to handle those tasks. Copies of documents authenticating obtained authorizations of employees shall be submitted along with those statements.

The *Commissioning and Operation Regulation* states that in order to ensure a proper level of nuclear safety and radiation protection in the organizational unit which possesses a licence for commissioning or operation of the nuclear facility, a sufficient workforce shall be guaranteed, possessing qualifications and professional experience adequate to tasks performed, provided that:

- the number of employees and their qualifications required for the safe operation of the nuclear facility is systematically verified and documented,
- employees in the positions important to nuclear safety and radiation protection are staffed in accordance with a long-term plan,
- changes in the number of employees that could significantly affect nuclear safety and radiation protection are planned in advance and assessed after implementation.

11.2.1. Human resources policies

Article 108a of the Atomic Law Act obliges the minister competent for energy resources management to conduct activities aimed at ensuring a supply of competent professionals in the nuclear power sector. The minister competent for energy resources management is responsible for preparing the Human Resources Development Plan for Nuclear Power, aiming to assess staffing needs for the Polish nuclear power sector and governing human resources development activities. The document was prepared and adopted in June 2016. The report on the implementation of the activities of the Framework Plan for the Development of the Human Resources for the Purposes of Nuclear Power is approved by the Minister of Climate and Environment annually.

The new National Plan for the Development of Human Resources for Nuclear Power was established on 7 December 2023. The purpose of the Plan is to provide Poland with such quantity and quality of human resources that will guarantee efficient and safe construction and operation of nuclear power plants, as well as to develop a national base of nuclear power experts. The Plan includes tasks in the area of human resources development and a schedule for their implementation for the main stakeholders of the PNPP, the regulator and the investor in particular. The document identifies the resources and human resources needs of the entities involved in the nuclear project and outlines the possibilities for meeting them. The plan also identifies nuclear education and training programmes necessary for implementation in the

national education system. As the PNPP develops and other nuclear technologies are possibly incorporated into the national energy mix, the Plan will be updated.

More detailed information on the Ministry of Energy activities in the field of human resources development can be found in Annex 3. Human resources development.

Article 12. Human factors

Each Contracting Party shall take the appropriate steps to ensure that the capabilities and limitations of human performance are taken into account throughout the life of a nuclear installation.

The Polish regulatory system takes human factors into account both on the level of the Atomic Law Act and several regulations, including:

- Regulation of the Council of Ministers of 31 August 2012 on Nuclear Safety and Radiation Protection Requirements which must be Fulfilled by a Nuclear Facility Design (abbreviated as “Design Regulation” further in the text);
- Regulation of the Council of Ministers of 31 August 2012 on the Scope and Method for the Performance of Safety Analyses Performed before Applying for a Nuclear Facility Construction Licence and on the Scope of the Preliminary Safety Analysis Report for a Nuclear Facility (abbreviated as “Safety Analysis Regulation” further in the text).

According to Article 36c.1 point 3 of the Atomic Law Act, nuclear facility design shall include solutions that provide reliable, stable, easy and safe nuclear facility operation, with particular attention to factors related to human-machine interactions between personnel and structures, systems, and components.

The *Design Regulation* provides more specific requirements. It states that the design shall apply solutions within levels of defense in depth to prevent any possible negative consequences caused by a human error during nuclear facility operations or performance of maintenance activities concerning operations, including nuclear facility repairs and modernization (Paragraph 4 Section 2 Item 4). Furthermore, a nuclear facility shall be designed to minimize the possibility and limit the consequences of human error, with particular consideration given to the spatial layout of the nuclear facility and ergonomics (Paragraph 43 of the *Design Regulation*). Nuclear facility design shall ensure that the conditions in the plant are appropriate for the activities of the nuclear facility operator, taking into account the time available for these activities, the anticipated work environment, and the psychological strain of nuclear facility operators. The design shall also minimize the probability of situations that require intervention measures by the nuclear facility operator over a short period of time; however, if the operator takes such intervention measures, the design solutions shall ensure that:

- the operator has sufficient time to make the right decisions and implement correct measures;
- the necessary information for the operator to make the right decision is presented simply and unequivocally;
- following the accident, in the main control room or the backup control room and in the route leading to the backup control room, there is an acceptable occupational environment in terms of radiation protection and work health and safety.

Paragraph 44 of the *Design Regulation* considers human factors in the main and backup control room design. It states that when designing the main control room and the backup control room of the nuclear facility:

- human factors shall be analyzed and taken into account appropriately, in particular aspects of the human-machine interface, to ensure an appropriate and transparent division of control functions between nuclear facility operators and nuclear facility automated systems; furthermore, the minimum number of operating personnel required for the simultaneous performance of measures necessary for the nuclear facility to attain a safe shut-down state shall be specified;
- solutions assuring that the nuclear facility operators will be provided with complex but easy-to-understand information relevant to the timing of decision-making and performance of the activities.

Moreover, the layout of instrumentation and control systems and the manner of presenting information in the nuclear facility's main control room shall be designed in accordance with the principles of ergonomics so that staff could be provided with an adequate and comprehensive picture of the state and functioning of the nuclear facility (Paragraph 83 of the *Design Regulation*). Human factors are also considered in the design of the protection systems. According to Paragraph 87 Section 2 Item 3 of *Design Regulation,* the protection system shall be designed to prevent nuclear facility operator activities that could foil the protection system's effectiveness in operational states and accident conditions but would not render impossible correct activities of the nuclear facility operator in accident conditions.

The Safety Analysis Regulation also gives the requirements to include human factors in safety analyses of a nuclear facility. Human factors should be considered when identifying the internal postulated initiating events (Paragraph 7 Section 1). Those factors include events caused by human error, which could lead to common cause failure and should be taken into account. In particular: incorrect or incomplete maintenance and repair activities, incorrect control and protection system settings, and workers' errors. Paragraph 22 Section 2 provides the requirement that the personnel actions to prevent or mitigate the effects of the accident may only be considered in the safety analyses when it is proven that the staff has enough time to perform activities, poses appropriate information to diagnose the event, the procedures are available, and the staff has been sufficiently trained. Workers' errors shall be also considered in the probabilistic safety analysis.

Regulation of the Council of Ministers of 27 December 2011 on the Periodic Safety Assessment of a nuclear facility considers the "impact of nuclear facility's employees and their behavior and issues related to the performance of safety priority principle on the state of a nuclear facility" in the scope of the periodic safety assessment report (Paragraph 2 Item 13).

Arrangements for providing feedback from a licence holder of experience in relation to human factors, as well as methods and programmes for analyzing and correcting the human errors during operation and maintenance of the facility, will be covered by the licence conditions of activities, integrated management system and more broadly by nuclear facility's procedures.

Article 13. Quality assurance

Each Contracting Party shall take the appropriate steps to ensure that quality assurance programmes are established and implemented with a view to providing confidence that specified requirements for all activities important to nuclear safety are satisfied throughout the life of a nuclear installation.

The Atomic Law Act requires in Article 7 Section 2 that every licence holder with a licence issued by the President of PAA is obliged to establish and implement a quality assurance (QA) programme. Submission of this programme within the documentation provided with the application for the licence is a prerequisite to obtain the licence. The programme is subject to review by PAA. Practical implementation of the programme is subject to oversight by regulatory body inspectors.

According to the Atomic Law Act (Article 36k) the quality assurance programme is a part of an integrated management system (IMS) of a nuclear facility. In order to ensure implementation and documentation of the system as a whole, the integrated management system should include actions that are taken directly by the licence holder as well as other actions crucial for nuclear safety and radiation protection that are taken by suppliers, contractors and subcontractors. An integrated management system is defined via documentation that includes:

1. the quality policy;
2. the quality assurance programme;
3. the description of the management system;
4. the description of the organizational structure;
5. the description of responsibilities, duties, authorizations of and interdependencies between personnel involved in management, implementation and assessment operations;
6. the description of interdependencies between an organization unit and external entities;
7. the description of organizational unit processes along with explanations concerning preparation, revision, implementation, documentation, assessment and improvement of the nuclear facility's daily operations;
8. safety classification of nuclear facility systems, structures and components;
9. preliminary safety analysis report or final safety analysis report;
10. safety culture policy understood as a jointly agreed and implemented commitment of management and employees, ensuring the practical functioning of a safety culture in an organizational unit.

The documentation describing the Integrated management system has to be submitted to the President of PAA for approval along with the application for a licence.

Manufacturers and suppliers of nuclear facility systems, structures and components as well as contractors for construction works at the nuclear facility, are obliged to have appropriate quality systems implemented for the services they provide.

The QA programme should describe the ways of assuring that all quality-related activities will be performed in the properly controlled conditions, i.e., by properly qualified personnel using appropriate tools, equipment, methods and technological processes and under suitable environmental conditions, so that the required quality is attained and may be verified by inspection or test. A review and assessment of this programme shall be carried out by the regulatory body at all stages of the licensing process, i.e., prior to and during the construction, during commissioning and operation. If necessary, suitable conditions and requirements will be included in the licence.

The requirements for the inclusion of a quality assurance programme at every step of the licensing process are also provided by the *Documents Regulation*. The regulation describes more specific requirements for every step of licensing process.

The documentation describing the integrated management system referred to in Article 36k of the Act, for the commissioning stage of a nuclear facility, covering the activities of all

participants of the commissioning of a nuclear facility performing activities essential for ensuring nuclear safety and radiation protection should indicate that this system promotes and supports a safety culture in the applicant's organizational unit and at suppliers and contractors participating in the commissioning and should contain in particular:

1. the description of the management structure, with a presentation of the elements of the integrated management system relating to effective supervision of the management in order to ensure nuclear safety and radiation protection at the stage of commissioning a nuclear facility, in particular – tasks and interdependencies between organizational units responsible for the design, supply of equipment, construction and assembly works and commissioning;
2. the description of the requirements for ensuring a sufficient number of suitably qualified employees for commissioning;
3. the description of the strategy to develop, maintain and strengthen a safety culture;
4. the description of the quality assurance program for the commissioning phase, including at least:
    a. a description of the process of developing and approving the procedures: conducting tests and commissioning tests, controlling the conduct of these tests and examinations as well as evaluating and approving their results,
    b. a description of the procedure to be followed when the test or research results do not fully meet the design requirements,
    c. proposed audits and reviews to ensure that the organizational unit's safety policy is effectively implemented and that conclusions are drawn from the experience of a given organizational unit and from the experience of other organizational units in order to improve nuclear safety and radiation protection;
5. the program for safe management of radioactive waste and spent nuclear fuel containing at least descriptions of:
    a. sources of solid, liquid and gaseous radioactive waste, including data on the production rate and the amount of accumulated waste,
    b. measures to control and reduce the amount of radioactive waste generated in a nuclear facility, including methods of classification, recording and segregation of waste,
    c. characteristics of radioactive waste with different aggregation status and levels of activity,
        d. methods and technical means for processing, conditioning, handling and storage of radioactive waste.

The documentation describing the integrated management system at the stage of nuclear facility operation referred to in Article 36k of the Act should cover the applicant's organizational unit and units of suppliers of goods and services for the purposes of operation, which are essential for ensuring nuclear safety and radiation protection. It should include:

1. the description of the management structure, including and justification for achieving effective management oversight in order to ensure nuclear safety and radiation protection at the stage of nuclear facility operation, including in particular descriptions of tasks and interdependencies between the units;
2. the description of the requirements for ensuring a sufficient number of suitably qualified employees for the operation and requirements for the provision of goods and services for the operation of the required quality;
3. the description of a strategy to develop, maintain and strengthen a safety culture;

4. the description of the quality assurance program for the operation phase, covering the activities of all suppliers and contractors of services and goods for the operation;
5. other elements of the documentation describing the integrated management system.

The regulatory body, through the requirements concerning the preparation and implementation of the QA programme, obliges the applicant/licensee, as well as his vendors, to plan, perform, verify and document all their activities in an organized and systematic way. An effective QA programme established and implemented by the licensee, allows the regulatory body to obtain satisfactory confidence in the quality of the nuclear facility's equipment and in the quality of all performed activities.

According to Article 37 of Atomic Law Act, both PAA and the Office of Technical Inspection (UDT)[2] are authorized to inspect the suppliers of nuclear facility systems, structures and components, as well as contractors hired for works important to nuclear safety and radiation protection during every stage of facility lifetime. Those inspections can cover SSC both on the stage of manufacture and after completion and inspection in a nuclear facility to check the works important to nuclear safety and radiation protection. The arrangements for these provisions shall be included in contracts with suppliers and contractors.

Reliable supply chain and manufacturers' inspections are among the topics of the technical meetings between PAA and UDT. Moreover, Poland is currently updating regulations on quality assurance and supply chains for nuclear power. The new regulations are expected to enter into force in 2027.

Article 14. Assessment and verification of safety

Each Contracting Party shall take the appropriate steps to ensure that:

i. comprehensive and systematic safety assessments are carried out before the construction and commissioning of a nuclear installation and throughout its life. Such assessments shall be well documented, subsequently updated in the light of operating experience and significant new safety information, and reviewed under the authority of the regulatory body;

ii. verification by analysis, surveillance, testing and inspection is carried out to ensure that the physical state and the operation of a nuclear installation continue to be in accordance with its design, applicable national safety requirements, and operational limits and conditions.

14.1. Assessment of safety

Article 36d of the Atomic Law Act provides that before applying for a nuclear facility construction licence to the President of PAA, the applicant shall carry out nuclear safety analyses, taking into account the technical and environmental factors, and shall have them verified by independent entities which are not involved in the design process of the future nuclear facility. Safety analyses include probabilistic and deterministic safety analyses. Deterministic analyses for anticipated operational occurrences and design basis conditions should be based on the conservative approach. However, the analysis of accidents that are more severe than design basis accidents may be analyzed using the best estimate methods. Based on the safety analysis results, the investor shall draw up a preliminary safety analysis report, which will be included in the construction licence application.

Detailed requirements on the scope of the preliminary safety analysis report are provided in the *Safety Analysis Regulation*. This regulation was based on several IAEA safety standards, including NS-G-1.2 (now superseded by GSR Part 4 Rev.1), SSG-2 (now updated to rev.1),

[2] Office of Technical Inspection (UDT) – a State institution established to ensure the safety of technical devices and installations subject to technical supervision. UDT and PAA cooperate in the so-called coordination system managed by the President of the PAA.

SSG-3 (now updated to rev.1), SSG-4 (now updated to rev.1), GS-G-4.1 (superseded by SSG-61 in 2021), and relevant WENRA, "EUR" documents as well as guides and regulations from several other countries. Currently, this regulation is being updated.

The *Documents Regulation* provides for the detailed scope of safety analysis reports submitted with applications for a licence at the stage of commissioning, operation and decommissioning. The most critical issues that require the most significant updates are explicitly specified. The intermediate safety analysis report submitted at the commissioning stage should update the information from the preliminary safety analysis report, with special consideration given to, among other things, changes to the design made during the construction and issues connected with emergency preparedness and planning. An operational safety analysis report should include updates on the information from previous reports with particular emphasis on, inter alia: commissioning results, operational procedures, severe accident management guidelines, maintenance programmes, and waste management.

According to Article 37e of the Atomic Law Act the licensee shall perform a periodical safety review. The review should consider ageing management issues, operational experiences, and recent advancements in the nuclear community. The exact time interval of the periodic review will be established in the licence but should not exceed ten years. A detailed periodical safety review plan needs to be approved by the PAA's President. Based on the periodical safety review, the licensee shall draw up a periodical safety review report and submit it to the President of PAA for approval. The President of PAA has six months to issue a decision on the acceptance of the periodical safety review report. Regulation of the Council of Ministers of 27 December 2011 on the Periodical Safety Review of a Nuclear Facility provides a detailed scope of this review and the scope of a periodical assessment report. The assessment should include, among other things, a review of design solutions, the status of SSCs (including ageing), a review of safety classification of SSCs, issues related to the natural wear and tear of SSCs, deterministic analyses, and probabilistic analyses. The President of the PAA is authorized to decline the acceptance of the periodic safety review report, which leads to the suspension of the licence. The suspension is lifted when the President of the PAA accepts the periodic safety review report.

Based on the presented information, it can be stated that the Polish provisions of law meet the second principle of the Vienna Declaration.

The operator of the MARIA research reactor – NCBJ carried out the second periodic safety review and submitted the report on this review to the PAA on the 19 of January 2024. A number of documents were analysed by PAA staff (plans, procedures, instructions, forms, orders), an inspection of the structures, systems and components was carried out and a number of conversations were held with NCBJ staff. The degree of implementation of corrective actions formulated as a result of the previous PSR was also assessed. Areas still requiring corrective actions were identified and a programme of necessary actions was developed by NCBJ to increase the level of nuclear safety during further operation of the MARIA reactor.

In recent years, no significant changes have been observed in the tools and methods used to prepare safety analyses for the MARIA reactor. The assessment of deterministic analyses showed that some of them require repeating the calculations and re-estimating the effects of the event. According to the analyses included in the operational safety analysis report, the reactor is protected against the effects of internal and external events, however, some areas require re-verification of the changing boundary conditions, in particular taking into account the impact of climate change. The Integrated Management System documentation required

supplementation and clarification. The assessment area of emergency planning was rated overall positively because there were improvements compared to the previous PSR, but some elements still require improvement. Emissions of radioactive substances from the MARIA reactor are significantly lower than the limits set in the operating licence. The operation of the MARIA reactor does not increase the concentration of radioactive activity in environmental components in its surroundings. The level of exposure of people from the general population living in the vicinity of the reactor is at the level of fractions of a percent of the limit doses. Some corrective actions formulated as a result of the previous PSR are still under implementation.

The general state of nuclear safety, compliance with the requirements set out in the licence, in legal provisions and international safety standards were assessed positively. None of the observations or non-compliances pose a direct risk to nuclear safety and radiation protection and do not require immediate action, although corrective actions are planned for all of them. NCBJ should introduce solutions to improve the implementation of corrective actions resulting from the previous PSR.

14.2. Verification of safety

Safety of a nuclear facility during its operation is under constant verification by the licensee. The licensee's primary responsibilities for performing safety verification are provided in the *Commissioning and Operation Regulation*.

The Regulation states that the operation of a nuclear facility has to be conducted according to the operational limits and conditions, which are accepted beforehand by the President of PAA. These conditions cover, among others, requirements for internal inspection and oversight of systems, structures and components, which are important to nuclear safety. Moreover, the licensee is obliged to prepare a programme of maintenance, repairs, oversight and control of these important items. This programme has to consider ageing processes.

One of the common issues from the 9th Review Meeting of CNS Contracting Parties was "Strategies for ageing management in support of the operation of nuclear installations".

The National Centre for Nuclear Research (NCBJ), which is the MARIA research reactor operator, has submitted the Ageing Management Programme to the PAA for acceptance. This document is based on the requirements of the IAEA's Specific Safety Guide No. SSG-10 Ageing Management for Research Reactors. The Programme covers general objectives and responsibilities and describes conditions and ageing mechanisms of systems, structures and components, which are important to nuclear safety. It also contains a set of detailed guidelines for ageing management dedicated to individual systems, including preventive actions against ageing, monitored parameters, methods of detection of ageing effects and acceptance criteria.

The ageing control programme – management of ageing processes, is part of an internal NCBJ control programme known as the "Programme of maintenance and repair, testing, surveillance and control of systems and components of a construction and equipment of a nuclear facility which is essential to ensure nuclear safety and radiological protection". The programme includes aspects, such as such as:

- incidents rather than specifications and repair,
- aspects of mathematical prediction leading to inferences about possible future failure (estimated degradation), it prescribes the generation of aging characteristics of

systems and components of structures and equipment important to safety, defines preventive actions based on the aging characteristics (mathematical prediction),
- acceptance criteria,
- addresses the effects of environmental conditions such as vibration, temperature, pressure, impact of fluid or debris flows, electromagnetic field, irradiation, flooding, humidity and any combination of these.

Recognising the importance of peer review mechanisms in delivering continuous improvement to nuclear safety, the amended Nuclear Safety Directive (Council Directive 2014/87/EURATOM) introduced a European system of topical peer reviews (TPR). The first TPR took place between 2017 and 2018, covering the following topics: electrical cables, concealed pipework, reactor pressure vessels, calandria/pressure tubes (CANDU) and concrete containment structures. MARIA research reactor took part in the TPR process. TPR 2, covering fire protection of nuclear facilities, was conducted at the MARIA research reactor between mid-2022 and 2024.

Polish regulations allow for regulatory oversight of the safety of nuclear installations and to impose on operating organizations improvements in safety so they comply with the Vienna Declaration principle 2.

Safety of nuclear facilities is also regularly verified by the regulatory body by means of, inter alia, regulatory inspections. The primary purpose of a regulatory inspection is the independent determination of how the licensee complies with the general nuclear safety and radiation protection requirements, licence terms, additional regulatory requirements and good engineering practices. Inspections also check the implementation of the quality assurance programme. While performing regulatory inspections, international guidelines and experience from former inspections of nuclear facilities are also taken into account.

Regarding regulatory verification of safety, the nuclear regulatory bodies (the PAA President and nuclear regulatory inspectors) in accordance with Article 64 Section 4 of the Atomic Law Act, may:

- conduct inspections in nuclear facilities and organizational units that hold nuclear materials, ionizing radiation sources, radioactive waste and spent nuclear fuel,
- issue orders and interdictions, in accordance with Article 68 Section 1 of the Atomic Law Act.

In addition to conducting inspections, the regulatory body reviews and analyses quarterly operating reports, as well as reviews data received from the reactor monitoring systems.

The PAA Radiation Protection Department and the Nuclear Safety and Security Department have specific procedures and instructions regarding regulatory inspections. Inspections need to be planned (excluding necessary reactive inspections), authorized by the PAA's President, prepared by the leading inspector in accordance with applicable instructions and adequately documented. This process ensures the effectiveness of routine regulatory inspections. The programme and scope are formulated prior to the inspection. The inspectors designated to carry out each inspection – and additional experts, if necessary – are provided adequate time to prepare and become acquainted with all necessary background material. Inspection reports are completed at or as soon as possible after the inspection and include all essential information, such as the names of the inspectors, the facility staff who provided responses, a description of the activities performed and inspection results. When necessary, a post-inspection notice may be issued by the PAA President.

The inspection topics are elaborated on in section 7.4. Regulatory inspections and assessment of nuclear installation.

Article 15. Radiation protection

Each Contracting Party shall take the appropriate steps to ensure that in all operational states the radiation exposure to the workers and the public caused by a nuclear installation shall be kept as low as reasonably achievable and that no individual shall be exposed to radiation doses which exceed prescribed national dose limits.

The radiation protection issue at the national level is addressed in chapter 3 of the Atomic Law Act and several relevant secondary regulations in which internationally endorsed criteria and standards have been incorporated. The Act takes into account the IAEA Safety Standards Series No. GSR Part 3 Radiation Protection and Safety of Radiation Sources. It also ensures compliance with the provisions of the EURATOM Treaty and Council Directive 2013/59/Euratom of 5 December 2013, laying down basic safety standards for protection against the dangers arising from exposure to ionizing radiation. Atomic Law Act provisions introduce the requirements relevant for the protection of workers and the general public.

Detailed requirements concerning specific facilities and activities conducted by the individual licensees are specified in the licence conditions. These conditions take into account the results of assessments and analyses performed to establish the operational conditions and limits assumed in safety analysis reports for these facilities and activities.

In the case of activities that may lead to the release of radioactive material to the environment lciensee must: develop and implement procedures for measuring and assessing the exposure of members of the general population, conduct dosimetric measurements, and record the results of these measurements and the results of the assessment of the exposure of members of the general population. Information on the impact on human health and the environment of such practices is publicly available and must contain: the quantity and isotopic composition of the release of radioactive substances into the environment in connection with the activity, and in the case of new types of applications – also information on the justification for such activity.

Dose limits are established in the Atomic Law Act strictly according to the EU Council Directive 2013/59/EURATOM. The effective dose limit for workers is 20 mSv per year, or the equivalent dose for the lens of the eye – 20 mSv per year, for the skin – 500 mSv per year and for the extremities (hands, forearms, feet and ankles) – 500 mSv per year. However, in special cases (excluding radiation emergencies), category A workers, with their consent and subject to the approval of the President of the PAA, may receive doses exceeding the dose limits specified by the President of the PAA if this is necessary to perform a specified task, in a specified workplace and in a specified time.

The same limits are for apprentices and students over 18 years old. For this category, for ages between 16 and 18 years old annual limit is 6 mSv/y, for younger than 16 years – 1 mSv per year, i.e. the same as for members of the public. In addition to the limits on effective dose for apprentices and students aged between 16 and 18 years, the following limits on equivalent dose apply: the limit on the equivalent dose for the lens of the eye is 15 mSv in a year, the limit on the equivalent dose for the skin is 150 mSv in a year, and the limit on the equivalent dose for the extremities is 150 mSv in a year. For members of the public equivalent dose limits are 15mSv per year for the lens of the eye and 50 mSv per year for the skin.

As soon as a pregnant worker informs the licensee of the pregnancy, the licensee shall ensure that the employment conditions for the pregnant worker are such that the equivalent dose to

the unborn child does not exceed 1 mSv. Also, a breastfeeding woman may not work under conditions of exposure to radioactive contamination. In special circumstances authorized by the President of PAA, the occupational dose limits may be exceeded, with the exclusion of apprentices, apprentices younger than 18 years old, pupils, students and pregnant and breastfeeding workers.

Emergency occupational exposures shall remain, whenever possible, below the values of the dose limits for occupational exposure. For situations where the above condition is not feasible, the following conditions apply: reference levels for emergency occupational exposure shall be set in general below an effective dose of 100 mSv; in exceptional situations, in order to save life, prevent severe radiation-induced health effects, or prevent the development of catastrophic conditions, a reference level for an effective dose from external radiation of emergency workers may be set above 100 mSv, but not exceeding 500 mSv.

The value of the effective dose reference level for members of the public in the event of a radiation emergency should be set to a level below 100 mSv, and for the existing exposure situation below 20 mSv. These are specified in the relevant emergency plan.

Occupational exposure is subject to optimization. For this purpose, the licensee may establish the radiation protection targets. They are not subject to review or endorsement by the regulatory authority. On the other hand, the discharges of effluents to the environment are under control by the regulatory body and numerical values of relevant limits are usually included in the terms of the licence. For the purpose of protection of population groups living in the vicinity of the nuclear facility, the zone of limited use is established within such a distance from the facility that the effective dose at its perimeter does not exceed the value of 0.3 mSv per year during normal operation and anticipated operational occurrences. Under the Atomic Law Act, the responsibility for compliance with the nuclear safety and radiation protection requirements rests upon the licensee conducting activities/practices involving exposure to ionizing radiation (Article 7). This exposure must not exceed the dose limits described above. At the same time, the principle of exposure optimization must be observed (Article 9). This means that the activity should be conducted in such a way that – after reasonable consideration of technical knowledge and societal and economic factors – the number of exposed workers and members of the public and their doses are as low as reasonably achievable. According to this principle, the licensee is responsible for an assessment of the employees' exposure. If optimization analysis shows the need for reducing exposure to ionizing radiation, the licensee shall establish dose constraints for the workers' exposure to ensure that their radiation doses will not be greater than these dose constraints, which in turn are lower than dose limits. On the contrary, the authority that issues the authorization may determine dose constraints for workers or members of the public for a given practice at a lower level than dose constraints set by the licensee, if those are not in accordance with the principle of optimization. If dose constraints are set in the licence, the possibility of exceeding them must be reported by the licensee to the authority that issued the licence. Moreover, if a worker has received an effective dose exceeding 15 mSv in a given calendar year, the licensee shall immediately report the data to the Central Dose Register maintained by the President of the PAA.

For the purposes of monitoring and surveillance, a distinction is made between two categories of exposed workers:

- category A: those exposed workers who are liable to receive an effective dose greater than 6 mSv per year or an equivalent dose greater than 15 mSv per year for the lens of the eye or greater than 150 mSv per year for skin and extremities;
- category B: those exposed workers who are not classified as category A workers.

The assessment of the employees' exposure is based on individual dose measurements or radiation measurements in the workplace environment. The licensee is obliged to maintain a register of individual doses of exposed workers. Additionally, once a year, the licensee conducts an assessment of the exposure of members of the public to ionizing radiation.

The dose record of category A workers must be annually submitted to the Central Dose Register and to the authorized medical practitioner, who maintains the medical records of these workers according to the requirements established in the Regulation of the Council of Ministers of 25 May 2021 on the Requirements for the Individual Doses Registration.

In the case of an accidental exposure or emergency exposure situation (emergency worker), the licensee is obliged to communicate the results of individual monitoring and dose assessments to the individual, authorized medical practitioner and the regulatory body without delay.

The data related to the doses obtained by category A workers have been collected since 2003 in the Central Dose Register . The Central Dose Register contains:

1. the number and date of the establishment of the record in the Central Dose Register;
2. the employee's surname, first names, gender, date of birth and personal identity number;
3. information on the type of work performed by the employee during the registration period;
4. definition of the registration period;
5. assessment of the effective dose, including the committed effective dose, and additionally depending on the type of work performed by the employee: equivalent doses for the lens of the eye, skin and the extremities, received by the worker during the registration period, together with information on the basis for the assessment;
6. sum of doses received by the worker during the calendar year and the sum of doses received by the worker during the following 4 calendar years;
7. name and address of the entity reporting the worker's doses to the Central Dose Register, as well as its National Official Business Register Number;
8. the date of entry in the record card of the Central Dose Register ;
9. information on the circumstances under which the exposure occurred;
10. information on the actions taken in the case of: accidental exposure, exposure level exceeding the permissible dose limits, exposure in case of removing the effects of a radiation emergency and, exceptional exposure, exposure to radon in the air exceeding the reference level;
11. in case of category A workers, information identifying the authorized medical practitioner exercising medical supervision over the worker.

The Central Dose Register is kept in the form of an electronic database comprising electronic registration cards, separate for every category A worker. The dose record of the exposed workers is retained during the period of their working life involving exposure to ionizing radiation and until they reach the age of 75 years but not less than for a period of 30 years since the last entry in the Central Dose Register.

Article 16. Emergency preparedness

1. Each Contracting Party shall take the appropriate steps to ensure that there are on-site and off-site emergency plans that are routinely tested for nuclear installations and cover the activities to be carried out in the event of an emergency.
For any new nuclear installation, such plans shall be prepared and tested before it commences operation above a low power level agreed by the regulatory body.
2. Each Contracting Party shall take the appropriate steps to ensure that, insofar as they are likely to be affected by a radiological emergency, its own population and the competent authorities of the States in the vicinity of the nuclear installation are provided with appropriate information for emergency planning and response.
3. ***Contracting Parties which do not have a nuclear installation on their territory, insofar as they are likely to be affected in the event of a radiological emergency at a nuclear installation in the vicinity, shall take the appropriate steps for the preparation and testing of emergency plans for their territory that cover the activities to be carried out in the event of such an emergency.***

The main requirements regarding emergency preparedness are provided by the Atomic Law Act. The recommendations contained in the EU Council Directive 2013/59/Euratom and IAEA General Safety Requirement No. GSR Part 7 have been implemented through the Atomic Law Act in 2019.

The Regulation of the Council of Ministers of 25 May 2021 on the Emergency Plans for Radiation Emergency (abbreviated as “Emergency Plans Regulation” further in the text) defines the responsibilities, scope, requirements and general rules of cooperation in the case of a radiation emergency. According to this regulation, plans on different levels (on-site, regional level, national level) and appropriate emergency preparedness arrangements have to be in place and maintained by the organizations and bodies responsible for directing actions aimed at eliminating the threat and its consequences, and in particular – for implementation of intervention measures in case of radiation emergency with consequences beyond the site where it has occurred. An emergency management system which includes hazard assessment should be developed at each level. Licensees are categorized according to the potential hazard, which may arise in the case of a radiation emergency associated with the performance of such activities, to the proper threat category specified in the Atomic Law Act. The hazard assessment should be prepared based on threat categorization. Conclusions from hazard assessment shall be considered during the development of emergency plans and, in particular, the emergency scenarios that may occur. Licensees which belong to threat category I or II shall ensure organizational and technical solutions and human resources to warrant proper and prompt execution of tasks in the case of a radiation emergency, including carrying out actions in the case of simultaneous occurrence of radiation emergencies in several nuclear facilities within the same licensee.

When the projected consequences of a radiation emergency may cross the area of one voivodeship or borders of the Republic of Poland, the Minister of the Interior and Administration shall ensure coordination of cooperation between, respectively, national or foreign authorities in terms of planning and preparing intervention activities in case of that emergency.

Licensees, regional governors and the Minister of the Interior and Administration are responsible for systematic testing of these plans and arrangements within the prescribed time-intervals as established by the Atomic Law Act for the national level (Article 96) and by the *Emergency Plans Regulation.* Emergency plans for spent fuel and radioactive waste management facilities located at the Świerk site and for the National Radioactive Waste

Repository in Różan are in place. The external transportation of radioactive waste is essential for these plans. The plans include internal and external communication and cooperation arrangements (including the President of the PAA, the Regional Governor office and services, the State Regional Sanitary Inspector, police, and fire department). The Atomic Law Act requires that during an on-site radiation emergency, the licensee shall direct actions aimed at the elimination of the threat and its consequences. During a radiation emergency on a regional scale, actions, including intervention measures, shall be directed by the regional governor (Voivode) in cooperation with the proper Regional Sanitary Inspector. On a national level, this is the responsibility of the Minister of Interior, with the PAA President's assistance. The regulation describes the scope, content and roles of the parties involved in the public communication process during an emergency.

This minister is obliged by law (Article 96 Section 5 of Atomic Law Act) to perform exercises to test the national level radiation emergency preparedness plan at least once every 3 years. According to present requirements (Article 96 Section 1 of Atomic Law Act and the Regulation on the Emergency Plans for Radiation Emergency), the frequency of testing of the relevant plans at the regional and facility levels must be established within each particular plan by the regional governor or the licensee respectively. In practice, such exercises are performed by licensees that belong to threat category I or II – at least once a year. These exercises shall include verification of all emergency scenarios specified in the on-site emergency plan. Cooperation between threat category I/II activities and external emergency teams should be exercised at least once every 3 years. Licensees that belong to threat category III, IV or V shall perform exercises at least once every two years. The regional emergency plan shall be tested at least once every three years. As there are no NPPs in Poland and other existing nuclear facilities are sited far from the national borders, it is rather unlikely that Poland could create an immediate radiation threat to a neighboring country. However, appropriate arrangements have been made to be able to respond adequately to even very unlikely radiation emergency situations.

According to the Atomic Law Act, the PAA President is responsible for performing the tasks concerning the assessments of the national radiation situation in normal conditions and in radiation emergency situations, and for the transmission of relevant information to appropriate authorities and to the general public. For the purpose of information gathering and assessment, as well as forecasting of radiation situation development, the President of PAA has established the Radiation Emergency Centre – CEZAR as one of the departments in the PAA structure. CEZAR operates the National Contact Point (for domestic matters and for EC, IAEA, CBSS, and bilateral agreements) and has direct access to the data from the Country-wide system for early detection of radioactive contamination (early warning radiation monitoring system), the meteorological data as well as appropriate computerized tools (decision support systems e.g. RODOS, RASCAL), relevant databases, and the staff adequately trained to operate these tools, to perform analysis and prognosis and to formulate recommendations for decision-makers. CEZAR also operates the International and Domestic National Warning Point (NWP), working on 24h a day and 7 days a week basis. It serves as a channel for exchanging information on radiation emergencies with IAEA, EC, CBSS, and neighboring countries according to international conventions and bilateral agreements. Poland has signed bilateral agreements on early notification of a nuclear accident and cooperation in nuclear safety and radiation protection with Denmark (1987), Norway (1989), Austria (1989), Ukraine (1993), Belarus (1994), Russian Federation (1995), Lithuania (1995), Slovak Republic (1996), Czech Republic (2005) and Germany (2009). The Radiation Emergency Centre – CEZAR conducts

a 24/7 assessment of the radiation situation in the country. The results of gamma radiation dose rate measurements are presented on the PAA website and in the EURDEP system. Additionally, information on the radiation situation in Poland is published in quarterly notices in "*Monitor Polski"* and in the annual report of the President of PAA, which includes the full range of measurement results. Additionally, the PAA informs the general public about the radiological situation (potential threats, comments on rumors) on the website and on social media.

Poland participates in international projects in the emergency preparedness area, therefore the Radiation Emergency Centre CEZAR of PAA regularly participates in many international exercises and tests organized by IAEA (CONVEX level 1, 2 and 3), EU (ECURIE level 1 and 3), NEA-OECD (INEX-5 in 2016), the Council of Baltic Sea States (CBSS) EGNRS (Expert Group for Nuclear and Radiation Safety), and within bilateral agreements with neighboring countries. Each year CEZAR participates in several domestic exercises on the national or regional level. Special attention is put on aspects of international and bilateral cooperation in an emergency situation with transboundary impact to identify gaps and areas for further improvement. Moreover, in order to support the achievement of further harmonization of response, Poland participates in international initiatives focused on this issue.

The Regulation of the Council of Ministers of 9 August 2022 on the Scope of the Environmental Radiation Monitoring Programme Developed and Implemented by Licencees which Belong to Threat Category I or II has been implemented.

Both Common issues **1 – Managing extraordinary circumstances impacting the safe operation of nuclear installations** and **8 – Strengthening emergency preparedness and response arrangements and fostering cross border collaboration** have been great concerns in the Republic of Poland since 22 February 2022, when the Russian military aggression on Ukraine started. The PAA conducted intensive crisis communication, especially by denying false information that has been circulating. Every time when media reports inform about an incident at or near Ukrainian nuclear installations and facilities, PAA publishes notices with detailed explanations of the incidents and their potential consequences on the Polish territory or lack thereof. Due to the growing demand, PAA also publishes reports on the current radiation situation in the country more often than before. In order to provide the public with reliable information, the PAA President and representatives of the PAA joined the media space by taking part in a press conference, and giving interviews on the television, radio or social networks. The President of PAA remains in contact with his counterpart in Ukraine. There were also meetings organized between the President of PAA and the Minister of the Interior and Administration. Pills containing Iodine I-131 have also been distributed to the distribution points in case of an emergency. Additionally, the situation in Ukraine triggered a revision of existing emergency response procedures within PAA and improvements have been implemented, including to the scope of activities of the National Contact Point's Duty Officer.

The constant process of the expansion of the national radiation monitoring system has been accelerated significantly and most of the new early warning stations for radioactive contamination have been installed along the Eastern border of the country. As of 31 December 2024, there were 58 permanent monitoring stations in Poland operated by PAA. Until 2033, there are going to be 145 PAA stations installed nationwide.

Article 17. Siting

Each Contracting Party shall take the appropriate steps to ensure that appropriate procedures are established and implemented:

i. for evaluating all relevant site-related factors likely to affect the safety of a nuclear installation for its projected lifetime;
ii. for evaluating the likely safety impact of a proposed nuclear installation on individuals, society and the environment;
iii. for re-evaluating as necessary all relevant factors referred to in sub-paragraphs (i) and (ii) so as to ensure the continued safety acceptability of the nuclear installation;
iv. for consulting Contracting Parties in the vicinity of a proposed nuclear installation, insofar as they are likely to be affected by that installation and, upon request providing the necessary information to such Contracting Parties, in order to enable them to evaluate and make their own assessment of the likely safety impact on their own territory of the nuclear installation.

17.1. Evaluation of site-related factors

Article 35b of the Atomic Law Act provides that nuclear facilities shall be located within an area that ensures that nuclear safety, radiation protection and physical protection requirements are fulfilled during commissioning, operation and decommissioning of the facility, and emergency measures can be effectively implemented in response to any radiation emergency. The licence holder (or before the issuance of the licence – investor) being liable for nuclear safety should independently evaluate the terrain for the prospect site of a nuclear facility using methods of evaluation that yield quantifiable results and appropriately reflect the actual conditions of such terrain. Such an evaluation is the prerequisite for selecting the site for a nuclear facility, and concerns:

- seismic, tectonics, geological, geo-engineering, hydrogeological, hydrological and meteorological conditions;
- human-induced external hazards;
- external hazards attributed to the forces of nature;
- population density and land development;
- conditions for the employment of emergency measures in response to a radiological emergency.

The investor needs to prepare the results of the terrain evaluation for the prospective site of a nuclear facility together with the results of tests and measurements that are the basis for such evaluation, in the form of a *Site Evaluation Report*. The Site Evaluation Report will be subject to assessment by the PAA President in the process of issuing a *licence for the construction* of a nuclear facility. No separate siting licence is foreseen in the Polish legal framework. Before applying for a nuclear facility construction licence, the investor can apply to the PAA's President for a preliminary opinion on the site or certain aspects of the site of a nuclear facility and an opinion on the Preliminary Site Evaluation Report.

More detailed provisions for siting are provided by the Regulation of the Council of Ministers of 10 of August 2012 on the Detailed Scope of Assessment with Regard to Land Intended For the Location of a Nuclear Facility, Requirements Concerning Siting Report for a Nuclear Facility (abbreviated as "Siting Regulation" further in the text). A list of site-related factors is covered by paragraph 2 of the *Siting Regulation*. An excerpt from paragraph 2 of the *Siting Regulation* is provided below:

A detailed scope of assessment with regard to land intended for the location of a nuclear facility shall include:

1. information from the field of seismology and tectonics, including seismic shocks and faults;
2. information from the field of geological and engineering conditions, including the intensity of erosion and accumulation processes, stability of existing scarps and slopes;

3. information from the field of hydrogeological conditions, including underground waters, filtration features of the ground, physical and chemical features of underground waters, prognosis concerning changes of dynamics of underground waters;
4. information from the field of hydrology and meteorology, including inter alia flooding hazards and history, the impact of different periods of precipitation, extreme atmospheric phenomena, values (including extremes) of atmospheric and hydro-meteorological variables, impact of long periods of drought on the system of underground and surface waters;
5. human-induced external hazards, including i.e. transport infrastructure, distance from a nuclear facility to active and planned military facilities, potential threat to a nuclear facility posed by industrial plants and installations, telecommunication devices;
6. external hazards attributed to the forces of nature, including i.e. risk of seasonal loss or deterioration of capacity of a nuclear facility's cooling systems, natural fire threat, risk of the detrimental impact of living organisms on a nuclear facility, in particular on its cooling systems;
7. analyses concerning pace, amount and paths of dispersing of radioactive substances outside the nuclear facility and the possibility of carrying out intervention measures in case of radiation emergency under normal operating conditions, anticipated operational occurrences and accident conditions;
8. information on population density and land management;
9. survey of the ground geological structure;
10. distribution of radioactive isotopes' concentration in the ground, surface waters, underground waters and in the atmosphere and analysis of the distribution of ionizing radiation dose rate valid as of the day when the land assessment is carried out.

As presented above, the *Site Regulation* includes a set of natural and human-induced hazards that the licensee is obliged to investigate. However, the regulation contains a non-exhaustive list of natural hazards. Phenomena that are not covered by the Regulation which can negatively impact the NPP must also be investigated.

Concerning siting topics, PAA has prepared three regulatory guides:

- technical recommendations of the President of the National Atomic Energy Agency concerning the assessment of tectonic stability of substrata and seismic activity of faults with reference to the locations of nuclear facilities,
- technical recommendations of the President of the National Atomic Energy Agency concerning the assessment of geological, engineering and hydrogeological conditions for the locations of nuclear facilities,
- technical recommendations of the President of the National Atomic Energy Agency concerning the assessment of seismic activity of substrata with reference to the locations of nuclear facilities.

Additional provisions for site-related factors affecting the safety of nuclear facilities are provided by the *Design Regulation.*

Paragraph 19.3 of the *Design Regulation* provides that in the design of a multi-unit nuclear power plant, consideration shall be given to the possibility of simultaneous impact of given events and external hazards on more than one power unit. Paragraph 49 of the *Design Regulation* states that the design of the nuclear power plant shall take into account its mutual interaction with the power grid, including independence and the number of power lines connected to the nuclear power plant, possible fluctuation and anticipated interference in

voltage, mains frequency and system failure, from the viewpoint of ensuring the necessary reliability of power supply to the nuclear power plant systems important to nuclear safety and radiation protection.

The list below provides the summary of the most important provisions for selected events:

- Fires and explosions – provisions are provided in chapter 8 of section IV of the *Design Regulation* titled "requirements on the fire protection and the prevention of explosions". Systems, structures and components important to nuclear safety and radiation protection shall be designed and distributed to minimize the probability of fire and explosion caused by external or internal events. Redundancy, diversity and physical separation of those systems are required. Fire barriers, fire detection systems, fire alarms and the extinguishing of fires at the nuclear facility shall be designed based on the analyses of the fire threat of the nuclear facility indicating required fire resistance, need for application and output.
- Aircraft crash – provisions are stated in paragraph 33 of the *Design Regulation*. Design solutions ensuring NPP's safety in case a large civilian aircraft crashes into it should be provided. Design should ensure that with limited operator's actions the reactor core continues being cooled or the primary reactor containment remains intact, and the cooling of spent nuclear fuel or the integrity of the spent nuclear fuel pool is maintained.
- External flooding – provisions are stated in paragraph 23 of the *Design Regulation*. In the event of locating the nuclear facility in the areas where the probability of flooding is once every 1000 years or more than once every 1000 years, the nuclear facility shall be designed in a manner preventing the negative consequences brought by floods or flooding. When designing anti-flooding protection for a nuclear facility, consideration shall be given to the maximum water surface ordinate with the probability of occurring once every 1000 years.
- Severe weather conditions, earthquakes, heavy rains – provisions can be found in two different regulations:
    - the *Siting Regulation* in paragraph 5, which states that the land shall not be considered to fulfil location requirements concerning a nuclear facility location in case of the following factors:
        - in the location ground of a nuclear facility at a distance which is less than 20 km from the borders of the planned site of a nuclear facility, there is an active fault or fault in relation to which the probability of activation is more than once in 10,000 years, and such activation could cause a threat to nuclear safety of a nuclear facility (it follows the European Commission recommendation from post-Fukushima stress tests);
        - in the region of the site, there has been an earthquake of 8 grade on the EMS-98 scale within the last 10,000 years, or there is a probability of an earthquake with the same scale which is more than once in 10,000 years;
        - there is the possibility of an earthquake with an occurrence probability of more than once in 10,000 years and with a scale below 8 EMS-98, which will prevent the safe operation of a nuclear facility.
    - the *Design Regulation* in Paragraphs 21 and 22. Paragraph 21 provides that the nuclear facility shall be designed to ensure its nuclear safety in case of the occurrence of seismic events and their consequences. Consideration shall be

given to design seismic events with the shock repetition once every 10 000 years, which generates the highest horizontal ground acceleration spectra. The design seismic event shall define: the shock type and mechanism, its location, magnitude, duration, spectral parameters, vertical and horizontal ground acceleration spectra and the seismic moment tensor. Additionally, when a nuclear facility is in danger of an induced earthquake, natural and induced earthquakes scenarios shall be considered for the identification of the design seismic event. Design solutions should ensure that in the case of a design seismic events, systems, structures and components important to nuclear safety will resist stress arising from such an event so that the nuclear facility can be brought into a safe shutdown state. This should be assured in particular by proper seismic classification of SSCs depending on their required resistance to seismic stress, taking into account implemented safety functions, and by defining the appropriate technical requirements depending on seismicity class. Moreover, paragraph 22 adds that the design should take into account the capabilities of SSCs important for performing fundamental safety functions to resist the consequences of seismic events which are more severe than design seismic events, to demonstrate that they will not be suddenly damaged, even in the case of design stress being slightly exceeded. In designing the facility for seismic events, an assumption will be made for the loss of electrical power supply to the nuclear facility from external power grids due to seismic shocks, including pre-emptive shocks and aftershocks.

- Related sequential natural external events – provision is stated in paragraph 18 of the *Design Regulation.* In case of the coincidence of given random events, which could lead to anticipated operational occurrences or accident conditions, such events shall be included in the nuclear facility design. Events that may be due to other secondary events, such as floods following earthquakes, shall be treated as elements of the original postulated initiating event.
- External events and events resulting from human activities are taken into consideration in determining the Postulated Imitating Events adopted for the performance of the safety analyses.

The *Siting Regulation* was based on a number of relevant IAEA safety standards, including NS-R-3, and a series of NS-G's from 3.1 to 3.6 (now superseded by newer documents). The process of issuing an updated *Siting Regulation* is ongoing. This regulation is going to include provisions from the following IAEA Safety Standards:

- SSR-1 *Site Evaluation for Nuclear Installations*,
- SSG-9 (rev.1) *Seismic Hazards in Site Evaluation for Nuclear Installations*,
- SSG-18 *Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations,*
- SSG-79 *Hazards Associated with Human Induced External Events in Site Evaluation for Nuclear Installations*
- SSG-35 *Site Survey and Site Selection for Nuclear Installations.*

Taking this into account, as well as the above-presented excerpts from regulations, it can be stated that Polish Law provisions follow the Vienna Declaration.

In August 2025, the first stage of in-depth geological surveys for the construction of a nuclear power plant was completed by PEJ. The first phase of in-depth geological investigations was

aimed at a detailed assessment of hydrogeological and geotechnical conditions within the specified part of the Lubiatowo-Kopalino site. The results of this stage are going to be essential for implementing appropriate design solutions for the three AP1000 nuclear power units planned in the Republic of Poland. Received data is also going to be used to prepare the Site Evaluation Report and the Preliminary Safety Analysis Report.

17.2. Impact of the installation on individuals, society and environment

When applying for a licence for the construction of a nuclear power plant the licensee will have to provide, among other things:

- a Decision on Environmental Conditions issued by the General Directorate of Environmental Protection following the PAA's President opinion;
- a Preliminary Safety Analysis Report including a chapter describing the radiological impact of the nuclear facility on the environment and a chapter describing the site;
- a Site Evaluation Report.

The Site Evaluation Report needs to contain an analysis of all site-related factors, which should include models of dispersing radioactive isotopes to underground waters, surface waters and the atmosphere for assumed design releases, taking into account the food chain and evaluation of effective and equivalent doses received by the population as a result of the exposure to ionizing radiation with the indication of parameters and data used, calculation methodology and methods applied for the model verification.

Article 36f of the Atomic Law Act establishes the creation of a restricted-use area around the nuclear facility. This area should be bounded so that the annual effective dose from all routes of exposure shall not exceed 0.3 mSv under normal operating conditions of the nuclear facility and during anticipated operational occurrences;

Moreover, paragraph 9 of the *Design Regulation* provides that a nuclear facility design shall ensure the limitation of releases of radioactive substances beyond the reactor containment in case of the occurrence of accident conditions so that in the event of:

- a design basis accidents, there is no need to take any intervention measures beyond the limits of the restricted-use area;
- a design extension conditions, there is no need to take:
    - early intervention measures beyond the limits of the restricted-use area of the nuclear facility during the releases of radioactive substances from the nuclear facility,
    - medium-term intervention measures at any time whatsoever beyond the limits of the emergency planning zone,
    - long-term intervention measures beyond the limits of the restricted-use area of the nuclear facility.

Consideration should also be given to the interaction between the nuclear facility and the environment (paragraph 17 of the *Design Regulation*). The characteristics of the planned site and the region of the nuclear facility location should determine the impact of the nuclear facility on the environment. The interactions should, in particular, take into consideration:

- definitions of the emission of radioactive substances to persons belonging to the general population and the environment, including the spreading of radioactive substances in the air, surface water and groundwater;

- in terms of the possible impact on intervention measures and risk assessment for given persons belonging to the general population and the population as a whole in case of an accident, such as:
    - population distribution around the nuclear facility,
    - the use of land and water,
    - communication routes.

To ensure nuclear safety and radiation protection, the nuclear facility design shall provide for equipment to monitor ionizing radiation in the operational states, as well as during and after the considered accidents (paragraph 123 of the *Design Regulation*).

On 25 May 2016 the General Directorate for Environmental Protection (GDOŚ) issued a decision on the scope of the report of environmental impact assessment for the proposed locations of the first Polish nuclear power plant identified by PGE EJ 1 (now PEJ), i.e. "Lubiatowo-Kopalino" (municipality Choczewo) and "Żarnowiec" (municipality Krokowa and Gniewino). On 29 March 2022 PEJ submitted to GDOŚ the Environmental Impact Assessment report for those two sites. On 19 September 2023 the General Director of Environmental Protection issued the Decision on Environmental Conditions for the “Lubiatowo – Kopalino” location. Before the decision was issued, public consultations and transboundary consultations with 14 interested countries were conducted.

The Environmental Impact Assessment (EIA) report contained a subsection regarding climate change and the resulting changes in the operating conditions of the nuclear facility, and regarding increased frequency of extreme events. Chapter III.3.2.2 of EIA report specifies how climate change should be taken into account in the project – during its planning, obtaining licenses and authorizations, design preparation, construction, operation and decommissioning. Such an approach is aimed to ensure consistency in the implementation of work related to planning and environmental impact assessment.

17.3. Re-evaluation of site related factors

In order to ensure the continued acceptability of the safety of the nuclear installation with regard to site related factors, the periodic safety review shall include the analysis of internal and external events being the consequences of human activities and forces of nature. This provision is in line with the regulation by the Council of Ministers of 27 December 2011 on the Periodic Safety Review of a Nuclear Facility.

17.4. Consultation with other Contracting Parties likely to be affected by the installation

To ensure nuclear and radiation safety, the Republic of Poland signed a number of international bilateral agreements. Agreements concerning early notification of nuclear accidents and exchange of information and experience were adopted with the neighbouring countries: Russian Federation (it refers to the zone of 300 km from the Polish border, this area encompasses the Kaliningrad Oblast), Lithuania, Belarus, Ukraine, Slovakia, Czech Republic, Austria, Denmark, Norway and Germany under the international Convention on Early Notification of Nuclear Accidents.

Because of the number of nuclear power plants operating in close vicinity of the territory of Republic of Poland, the cooperation with nuclear regulators of the neighbouring countries, conducted following the mentioned intergovernmental agreements, is an essential element of Polish nuclear and radiation safety. While assessing possible radiation events, partners of the said agreements use consolidated criteria provided by the International Nuclear Event Scale

(INES), which was developed by the IAEA. During the last three years, Poland took part in consultations with Belgium, Ukraine, the Czech Republic, Finland and Belarus regarding their plans to build new NPPs/extend the lifetime of existing NPPs or radioactive storages. Moreover, it is required that before applying for a licence to build a nuclear facility, the applicant is required to obtain an opinion of the European Commission issued pursuant to Article 37 of the Euratom Treaty. Therefore, countries of the European Union are allowed to participate in the discussion concerning the safety of the planned nuclear power plants.

The potential transboundary environmental impact of the nuclear installations' activity is also under consultation with the involved party in line with Article 5 of the Convention on Environmental Impact Assessment in a Transboundary Context. Therefore, in September 2022 the General Director for Environmental Protection, as part of the transboundary consultations, submitted documentation related to conducting the transboundary environmental impact assessment of the first Polish NPP to the States participating in this international assessment. A total of 14 countries participated in the transboundary consultations, including neighbours, countries located in the Baltic Sea region, and countries that had previously expressed their willingness to participate in the procedure. The Czech Republic, Finland, and the Netherlands did not submit any comments or questions regarding the environmental report prepared by PEJ and fully accepted its assumptions and analysis results, thereby supporting Poland's efforts to develop nuclear energy. Written comments were submitted by Austria, Belarus, Denmark, Estonia, Lithuania, Latvia, Germany, Slovakia, Sweden, Ukraine, and Hungary. At the request of Latvia, Denmark, Germany, and Austria, explanations were provided in writing or during bilateral meetings. The Parties did not submit any further comments after comprehensive explanations.

Article 18. Design and construction

Each Contracting Party shall take the appropriate steps to ensure that:

- ***i. the design and construction of a nuclear installation provides for several reliable levels and methods of protection (defence in depth) against the release of radioactive materials, with a view to preventing the occurrence of accidents and to mitigating their radiological consequences should they occur;***
- ***ii. the technologies incorporated in the design and construction of a nuclear installation are proven by experience or qualified by testing or analysis;***
- ***iii. the design of a nuclear installation allows for reliable, stable and easily manageable operation, with specific consideration of human factors and the man-machine interface.***

General provisions for the nuclear facility design, which include the prevention of accidents, are provided by Article 36c of the Atomic Law Act. More detailed requirements are contained in *Design Regulation.* This regulation is based on IAEA Safety Standards (in particular SSR 2/1), WENRA recommendations, European Utility Requirements for LWR NPPs and relevant regulatory provisions and requirements binding in particular EU countries, and as such, it complies with **the principles of the Vienna Declaration on Nuclear Safety.** This regulation is currently being updated taking into account the newest safety standards.

18.1. Implementation of defence in depth

The Atomic Law Act provides general provisions for the defence in depth concept. Article 36c Section 1 Item 2 requires that nuclear facility design shall take into account the sequence of safety levels to prevent deviations from normal operating conditions, anticipated operational occurrences and design basis accidents, as well as severe accidents, and if any of the deviations, occurrences or accidents cannot be prevented – to control them and to mitigate the radiological impact of the emergency. This requirement is described more broadly in the

Design Regulation. Paragraph 3 of this regulation describes five safety levels, as well as functions and actions that should be taken at each level. The sequence of protective barriers ensuring the maintenance of radioactive substances at given barriers of the nuclear facility and preventing their uncontrolled releases to the environment, such as nuclear fuel material (fuel matrix), fuel cladding, pressure boundary of the reactor cooling circuit and reactor containment need to be implemented in the nuclear facility design. In all circumstances, fundamental safety functions of the plant shall be performed.

Defence in depth is also included in other requirements for facility design. General requirements provide that the design shall ensure (Paragraph 4 of the *Design regulation*) as follows:

- high level of quality of the nuclear facility in order to minimize the occurrence of failures and deviations from normal operation and to prevent accidents;
- technical solutions for controlling nuclear facility behaviour during and after the occurrence of a postulated initiating event, with the use of the built-in safety features of the nuclear facility and appropriate components of the nuclear facility;
- nuclear facility control by applying automatic actuation of safety systems in a manner limiting the operator's activities in the earlier phase of the postulated initiating event, as well as the control of the nuclear facility by the operator;
- as far as it is practically possible, equipment and procedures that permit the control of the course of an accident and limit its consequences;
- redundancy of technical solutions to ensure the performance of each of the fundamental safety functions, attaining protective barrier effectiveness and limiting the consequences of postulated initiating events.

Moreover, the nuclear facility design shall apply solutions concerning safety level sequences in order to prevent:

- endangering the integrity of protective barriers;
- failure of one or more protective barriers;
- failure of the protective barrier resulting from the failure of another protective barrier or system, structure or component of a nuclear facility;
- any possible negative consequences caused by human error during nuclear facility operation or the performance of maintenance activities concerning operation, including nuclear facility repairs and modernization.

Paragraph 5 of the *Design regulation* states that the nuclear facility shall be designed so that, in case of the occurrence of all types of events, except for the most unlikely postulated initiating events, the safety level two, at the most, would be sufficient to prevent their escalation up to the accident conditions.

The design of nuclear facilities should include all postulated initiating events, which serve as the basis for the performance of safety analyses (Paragraph 16 of *Design regulation*). They should cover, among other things, both internal and external events. Additionally, the design of the nuclear facility should include its behaviour during design extension conditions (Paragraph 13). The nuclear facility shall be designed so that, in the event of design extension conditions, it could be brought towards a controlled state while retaining the safety functions of the reactor containment system. The requirements regarding the prevention of accidents and mitigating the consequences if they occur are presented in subsection 18.4.

18.2. Incorporation of proven technologies

Under the provision of the Article 36b of the Atomic Law Act, it is required that in the design and construction process of a nuclear facility, no solutions or technologies shall be used which have not been demonstrated to be appropriate in practice in other nuclear facilities, or by means of tests, studies and analyses.

During the construction and manufacture of the facility systems, structures and components, nuclear regulatory inspectors and inspectors from the Office of Technical Inspection will conduct inspections to ensure that high technological standards are met at every step of the construction. Experience of the Office of Technical Inspection inspectors will be a significant asset in the inspection process. Equipment classification and qualification are also required to provide for the high quality and reliability of used equipment. The required reliability of a given safety group for each postulated initiating event, with the assumption of a single failure, shall be ensured by the appropriate choice of technical solutions, which cover the usage of proven components, redundancy, diversity, physical and functional separation and the isolation of components.

18.3. Design for reliable, stable and manageable operation

Paragraph 35 of the *Design Regulation* provides that the nuclear facility design employs diversity and functional independence of systems, structures and components of the nuclear facility important to nuclear safety and radiation protection in order to attain the required level of reliability based on reliability analyses conducted on the basis of the common cause failure criterion.

Paragraph 43 of the *Design Regulation* provides that a nuclear facility shall be designed to minimize the possibility and limit the consequences of human error, with particular consideration being given to the nuclear facility's spatial layout and ergonomics. It should be ensured that the operator is provided with optimal conditions to undertake needed actions. Nuclear facility design shall minimize the probability of situations that require intervention measures by the nuclear facility operator over a short period of time; however, if the operator takes such intervention measures, the design solutions shall ensure that:

- the operator has sufficient time to make the right decisions and implement correct measures;
- the necessary information for the operator to make the right decision is presented simply and unequivocally;
- following the accident, there is an acceptable occupational environment in terms of radiation protection and work health and safety in the main control room or the backup control room and in the route leading to the backup control room,.

Moreover, paragraph 44 of the *Design Regulation* considers human factors in the main and backup control room design. It states that when designing the main control room and the backup control room of the nuclear facility:

- human factors shall be analyzed and taken into account appropriately in particular aspects of the man-machine interface to ensure an appropriate and transparent division of control functions between nuclear facility operators and nuclear facility automated systems; furthermore, the minimum number of operating personnel required for the simultaneous performance of measures necessary for the nuclear facility to attain a safe shut-down state shall be specified;

- solutions assuring that the nuclear facility operators will be provided with complex but easy-to-understand information relevant to the timing of decision-making and performance of activities.

18.4. Prevention of early or large radioactive releases (implementation of 1st and 3rd principles of Vienna Declaration on Nuclear Safety in regulations)

The amendment of the Atomic Law Act that came into force in 2019 introduced a provision for technical and organizational solutions to be implemented in siting, design, construction, operation (including modifications and modernizations) and decommissioning such that the accidents are prevented and in the event of an accident consequences are mitigated and large and early releases of radioactive substances are avoided (Article 35.4 Atomic Law Act).

Paragraph 2 Item 2 of the *Design Regulation* provides that a nuclear facility shall be designed in a manner that ensures limiting the radiation consequences of any possible accident without significant degradation of the reactor core, which is taken into account in the nuclear facility design, to prevent the evacuation of the population and long-term limitations in the use of land and waters around the nuclear facility. Furthermore, Paragraph 9 Item 2 of the *Design Regulation* states that nuclear facility design shall ensure the limitation of releases of radioactive substances beyond the reactor containment in case of the occurrence of accident conditions so that in the event of design extension conditions, there is no need to take neither early intervention measures beyond the limits of the restricted-use area of the nuclear facility during the releases of radioactive substances from the nuclear facility, nor medium-term intervention measures beyond the limits of emergency planning zones, nor long-term intervention measures beyond the limits of the restricted-use area. Additionally, Paragraph 10 Item 3 of the *Design Regulation* states that nuclear facility design shall ensure that the probability of accidents that could lead to failure of containment or large releases of radioactive substances to the environment should be below 1 in 1 000 000 years of reactor operation.

Paragraph 32 Section 2 of the *Design Regulation* adds that nuclear power plants and research reactors shall be designed to prevent the occurrence of severe accidents, which could lead to a premature failure of the primary reactor containment, or it shall be demonstrated that the probability of occurrence of such accidents is so small that it is not necessary to include it in the design.

18.5. Provisions related to Fukushima Daiichi accident lessons learned

The primary Polish regulation concerning the design of the nuclear facility – the *Design Regulation* – was in preparation when the accident in Fukushima Daiichi NPP occurred. Many preliminary lessons learned and solutions were implemented in the regulation before its issuance in 2012. The description below presents the most important design and construction provisions related to the Fukushima Daiichi accident lessons learned provided in the *Design Regulation*:

- Paragraphs 93-101 give special attention to emergency power supply sources for the nuclear facility. These sources shall be selected in a manner to ensure the reliable operation of the systems and components important to nuclear safety and radiation protection. Furthermore, in the event of a loss of external alternating current, the internal sources of power supply to the nuclear facility with alternating current, except for mobile generators, shall ensure the power supply for systems and components important for ensuring nuclear safety and radiation protection, for at least seven days in operational states, and during and after the considered accidents. Besides internal

sources of power supply, the nuclear facility design shall also provide for an alternative source of supplying the facility with alternating current to be used in case of unavailability of internal sources of power, in particular transportable or portable power generators or combined systems for supplying emergency power to a nuclear facility. Additionally, paragraph 34 states that a nuclear facility shall be equipped with electrical power supply systems from internal and external sources so that the fulfilment of the safety function should be possible by using either of the two sources of electrical power.

- Paragraphs 22 and 23 provide requirements for potential seismic and flooding hazards and their consequences. Systems, structures and components important to the fulfilment of safety functions should be able to withstand the consequences of seismic events more severe than design basis seismic hazard. The design of the nuclear facility should also consider the unavailability of external power supply as the result of seismic events, taking into account pre-emptive shocks and aftershocks.
- Paragraph 76 states that reactor containment system design shall provide for, as required, systems used to limit, reduce, and control the quantities of fission, hydrogen, oxygen, and other substances, which may be released into the reactor containment. Those systems should be designed with the appropriate degree of redundancy and appropriate mutual connections to ensure that each safety group fulfils the required safety function, with electricity supply from internal facility sources or the external power grid, assuming a single failure. In order to reduce the concentration of flammable gases in the reactor containment, systems or components which do not require electricity should be used.
- Paragraphs 28 and 29 provide general requirements for the containment of nuclear facilities. The design of a nuclear facility should allow for the achievement of a safe state during design extension conditions while maintaining safety functions of containment. The design solutions of reactor containment and its systems should guarantee that it will be able to cope with scenarios involving core melts. Additionally, Paragraph 32 Section 4 provides that the design of nuclear power plants and research reactors shall provide solutions ensuring limitation, by means of the reactor containment system, of the consequences of severe accidents involving reactor core degradation.

Article 19. Operation

Each Contracting Party shall take the appropriate steps to ensure that:

i. the initial authorization to operate a nuclear installation is based upon an appropriate safety analysis and a commissioning programme demonstrating that the installation, as constructed, is consistent with design and safety requirements;

ii. operational limits and conditions derived from the safety analysis, tests and operational experience are defined and revised as necessary for identifying safe boundaries for operation;

iii. operation, maintenance, inspection and testing of a nuclear installation are conducted in accordance with approved procedures;

iv. procedures are established for responding to anticipated operational occurrences and to accidents;

v. necessary engineering and technical support in all safety-related fields is available throughout the lifetime of a nuclear installation;

vi. incidents significant to safety are reported in a timely manner by the holder of the relevant licence to the regulatory body;

vii. programmes to collect and analyse operating experience are established, the results obtained and the conclusions drawn are acted upon and that existing mechanisms are

used to share important experience with international bodies and with other operating organizations and regulatory bodies;

viii. the generation of radioactive waste resulting from the operation of a nuclear installation is kept to the minimum practicable for the process concerned, both in activity and in volume, and any necessary treatment and storage of spent fuel and waste directly related to the operation and on the same site as that of the nuclear installation take into consideration conditioning and disposal.

As Poland does not have any nuclear installations as defined by the Convention on Nuclear Safety, the information presented below is based mostly on relevant requirements from the Atomic Law Act and relevant regulations. The *Commissioning and Operation Regulation* is based on IAEA Safety Standards (SSR – 2/2, NS-G-2.9, NS-G-2.2, GS-R-3) as well as relevant WENRA documents and regulations and guides from other countries. **Therefore, the relevant Polish regulations meet the third principle of the Vienna Declaration.**

19.1. Initial authorization

Article 4 of the Atomic Law Act states that separate licences for commissioning and operation are required. A list and scope of documents required at this stage of licensing process are provided by the *Documents Regulation* The most important documents required at the commissioning stage include inter alia:

- Updated Safety Analysis Report including safety analysis, based on the Preliminary Safety Analysis Report with updates, clarifications and supplements arising from the construction phase, including information about system, structures and components as-built and every other change as important to nuclear safety and radiation protection;
- commissioning programme and procedures;
- nuclear fuel reloading programme, supported by appropriate neutronic and thermal-hydraulic calculations for the first fuel cycle;
- operational procedures;
- list of planned pre-operational tests;
- training programme for NPP staff;
- updated nuclear facility decommissioning programme;
- description of the structure and activities of separated divisions or teams responsible for maintaining knowledge about the plant's project and design throughout the plant's lifetime.

The most important additional documents required at the operation stage include:

- Final Safety Analysis Report;
- commissioning report, with pre-operational test results;
- statement of the adequacy of human resources to perform activities important for nuclear safety and radiation protection;
- operation programme, including electricity production programme and plan of repairs for at least ten years.

Section 1 of Article 37a of The Atomic Law Act states that a "nuclear facility shall be commissioned and operated in a manner that will ensure nuclear safety and radiation protection of personnel and the general public, in accordance with the licence issued by the President of PAA and the implemented integrated management system." Section 2 of Article 37a requires the licensee to submit the commissioning programme to PAA's President for approval. The programme shall list all pre-commissioning tests of nuclear facility systems, structures and components to be completed, and in particular:

- fuel load and sub-criticality tests;
- preliminary criticality tests and low power output tests;
- power output tests (at power levels specified in the *Commissioning and Operation Regulation*).

Results of nuclear facility commissioning tests need to be submitted at every stage to the President of PAA. The President of PAA may suspend the nuclear facility commissioning if the results of commissioning tests indicate any risks for nuclear safety or non-compliance with the nuclear safety requirements. Further requirements are provided by the *Commissioning and Operation Regulation*.

During the construction, commissioning and operation phase, regulatory inspectors are authorized to inspect producers and suppliers of nuclear facility systems, structures and components, as well as contractors for systems, components and works important for the nuclear safety and safe operation of the facility (Article 37 Section 1. of Atomic Law Act). If the results of the inspection indicate that the inspected systems, structures and components or services could have a negative impact on nuclear safety or radiological protection, the President of the PAA prohibits their use in a nuclear installation (Article 37 Sections 5 and 6 of Atomic Law Act).

19.2. Operational limits and conditions

Every licence specifies the conditions of activities covered by the licence, including operating limits and conditions (Article 39g). Requirements for operating limits and conditions for commissioning and operation of nuclear facilities are provided by the *Commissioning and Operation Regulation.*

The licensee presents proposed operational limits and conditions with the application for commissioning. The President of PAA has the right to modify them, taking into account operational experience or modifications of systems, structures or components, the results of new safety analyses, as well as scientific and technological developments. Operational limits and conditions are subject to review during the commissioning and operation of the nuclear facility.

Operational limits and conditions shall include at least (Paragraph 3 Section 1 of the *Commissioning and Operation Regulation)*

- safety limits – defined as “values of these physical and technological parameters which must not be exceeded and which directly impact the condition of protective barriers”;
- limiting settings for safety systems, where safety system settings are defined as “parameter values at which protective devices are automatically actuated in the event of anticipated operational occurrences or accident conditions to prevent safety limits from being exceeded”;
- limits and conditions for normal operation;
- requirements concerning inspection and surveillance over the systems, structures and components of the nuclear facility important for ensuring nuclear safety and radiation protection;
- minimum required staffing of operational personnel, including the control room operators.

Safety limits shall be established based on a conservative approach considering uncertainties of safety analyses. In the case of exceeding safety limits during the commissioning or operation of the nuclear power plant or research reactor, the reactor shall be immediately shut down.

Limits and conditions for normal operation shall determine conditions for the safe operation of the nuclear facility in all the modes of its normal operation. They shall include in particular:

- ranges and rates of permissible changes of physical and process parameters of the nuclear facility;
- requirements for functional availability and effectiveness of the systems, structures and components (SSCs) of the nuclear facility important for ensuring nuclear safety and radiation protection so that they could fulfil safety functions in particular conditions;
- measures that should be taken when the requirements for functional availability and effectiveness of SSCs are not met and the identification of the period in which these measures should be taken.

Paragraph 30 Section 2 of the *Commissioning and Operation Regulation* provides that at the end of the commissioning of the nuclear power unit or research reactor, an assessment of the results obtained shall be conducted in order to confirm whether operational limits and conditions are proper and practically applicable and to specify possible limitations for the operation which must be implemented as demonstrated by the results of commissioning tests and measurements.

Description of operational limits and conditions shall be made available to the operators of the nuclear facility's control room in a separate document (technical specification for commissioning and operation, respectively). Furthermore, the Regulation of the Council of Ministers of 10 August 2012 on Activities Important to Nuclear Safety and Radiation Protection in an Organizational Unit Conducting Activity which Consists of Commissioning, Operations or Decommissioning of a Nuclear Power Plant states that theoretical training for the position of the operator should include inter alia "limits and operating conditions and nuclear regulatory authority's requirements".

19.3. Procedures for operation, maintenance, inspection and testing

Requirements for appropriate procedures are provided by the *Commissioning and Operation Regulation* and the *Documents Regulation.*

Paragraph 33 of the *Commissioning and Operation Regulation* provides basic requirements for operational procedures. Operation of the nuclear facility shall be conducted in accordance with operating procedures developed, verified, approved, modified and revoked according to the principles set out in the integrated management system. Operating procedures of the nuclear facility shall be developed based on the design documentation, in particular, the safety analysis report, also on the basis of operational limits and conditions and the results of nuclear facility commissioning. Operating procedures of the nuclear facility shall be developed for particular states of the nuclear facility. Operating procedures of the nuclear facility shall be made available to employees of the nuclear facility on a permanent basis and to the nuclear regulatory bodies – on demand. The President of PAA may order introducing changes in the operating procedures if maintaining nuclear safety or radiation protection so requires.

The regulation also obliges the licensee to establish a programme of maintenance, testing, surveillance and inspection of the systems, structures and components of the nuclear facility important to nuclear safety and radiation protection with relevant procedures. This programme

must include systematic assessments to confirm that the systems, structures and components can perform their functions in the operational states and in accident conditions and management of aging processes. It is subject to periodic reviews based on operating experience. A specific scope of the programme and implementing procedures shall be prepared by the licensee during the commissioning phase. Design, assessment, inspection and implementation of any modernizations and modifications introduced in the nuclear facility during its operation shall be made in accordance with the procedure constituting an element of the integrated management system.

The *Documents Regulation* provides that in addition to commissioning and operational procedures, there should be a procedure established for preparation, acceptance and implementation of procedures, as well as a procedure for implementing modifications in other procedures.

19.4. Procedures for responding to operational occurrences and accidents

Operating procedures of the nuclear facility shall be developed for particular states of the nuclear facility. That means that both at commissioning and operation phases, the licensee needs to have procedures for normal operation, and procedures for accidents and emergency procedures, including severe accident management guidelines. PAA may further develop more specific guides on the establishment of specific procedures.

19.5. Engineering and technical support

As explained in response to compliance with Article 11.2 of the Convention, in order to ensure a proper level of nuclear safety and radiation protection at the stage of commissioning and at the stage of operation of a nuclear facility, in the organizational unit which possesses a licence for commissioning or operation of the nuclear facility sufficient workforce possessing qualifications and professional experience adequate to the performed tasks shall be guaranteed.

19.6. Reporting of incidents significant to safety

The Atomic Law Act states that “the licensee conducting activities involving exposure and consisting in commissioning, operation or decommissioning of nuclear facilities shall immediately notify the PAA President, the regional governor, district or municipal authorities competent for the area where the facility is located, as well as municipal authorities of the adjacent areas on all emergencies related to actual or potential nuclear hazards”. The licensee shall also publish or update information concerning hazardous nuclear emergencies within the last 12 months on the facility’s official website and shall forward it to the President of PAA (Article 35a).

In the event of a radiation emergency, the licensee shall secure the emergency site and notify the President of PAA immediately. In justified cases, the licensee shall also notify other organizations and services in accordance with the on-site emergency plan.

The licence for the operation of a nuclear facility specifies the conditions concerning anticipated operational occurrences, accidents and emergency conditions that are required to be reported to the nuclear regulatory body. Such provisions were introduced in the licence granted for the operation of research reactor MARIA in 2015 and currently in 2025.

19.7. Operational experience feedback

According to Article 37c of the Atomic Law Act the licensee operating NPP will keep records on the day-to-day operation of the nuclear facility and introduce technical and organizational solutions to be able to collect and analyse on an ongoing basis the nuclear facility operating parameters which are important to the nuclear safety and radiation protection, as well as the operating experience so far. The licensee is also obliged to regularly transmit the nuclear facility operating parameters important to nuclear safety and radiation protection to the PAA's President**.**

The *Documents Regulation* obliges the licensee to include in the Safety Analysis Report information about the programme of operational experience feedback based on operating experience of the plant and other nuclear facilities, especially those of similar type.

The specifics of this programme are provided by the *Commissioning and Operation Regulation*, which also provides several further requirements. In order to ensure a proper level of nuclear safety and radiation protection at the stage of commissioning and at the stage of operation of a nuclear facility, systematic analyses shall be conducted with regard to operating experience, development of international safety requirements, technological developments and new knowledge, and conclusions from these analyses shall be used to improve the safety state of the nuclear facility (Paragraph 8 Section 7). During commissioning and operation of the nuclear facility, it shall be verified that the integrated management system has been implemented correctly within the scope of radiation protection and it shall be assessed whether this system meets the set objectives and, if necessary, suitable corrective and updating measures shall be taken to ensure its implementation in the light of operating experience (paragraph 9.3). The programme of maintenance, testing, surveillance and inspection of the systems, structures and components of the nuclear facility is subject to periodic reviews on the basis of operating experience (Paragraph 37 Section 3). During maintenance, modernization or modification outages of the nuclear facility, the performance of comprehensive assessments should be made to draw conclusions and lessons learned to be used for future maintenance, modernizations and modifications (Paragraph 45 Section 2 Item 4).

Experience from the nuclear facility operation shall be subject to systematic assessment. It shall refer in particular to extraordinary events in the nuclear facility in order to identify their causes. Information resulting from the examination of events important from the viewpoint of nuclear safety or radiation protection and conclusions drawn from this examination shall be submitted to the employees of the nuclear facility. In order to draw conclusions regarding the operation of the nuclear facility, the information shall be obtained and assessed with regard to the operating experience of other domestic and foreign nuclear facilities, especially those of a similar type. In order to detect states, situations or deficiencies which could potentially lead to deviations from the normal operation, assigned employees of the nuclear facility shall conduct appropriate analyses of operating experience so that it shall be possible to take necessary countermeasures to prevent such events. Internal procedures which are applicable in the nuclear facility shall oblige the nuclear facility's employees to notify the licensee about any events related to nuclear safety or radiation protection and shall also encourage employees to inform about the events which potentially could lead to adverse effects from the viewpoint of nuclear safety or radiation protection. Data on operating experience shall be collected, documented and kept in a manner enabling their easy retrieval and obtaining and performing the evaluation by authorized nuclear facility employees (paragraph 44).

During the 2013 IRRS mission, one of the suggestions was that “The regulatory body PAA should establish an internal process for using the feedback from operating experience, incidents and accidents in Poland as well as in other countries”.

Since the end of 2013, PAA has gained access to 3 databases consisting of records and information about operational experience in various countries. Those are CONEX, CLEARINGHOUSE, EGOE and IRS databases. Currently, only the IRS base is used as the CONEX database has been merged into IRS. Based on the information provided in the IRS database, a dedicated team in PAA is preparing “quarterly reports on operational experience in NPPs” that are intended mainly for the employees of PAA’s Nuclear Safety and Security Department as an opportunity to learn about problems, occurrences, and events at NPPs in different phases of the lifetime, and the regulatory approach in other countries. Every operational experience that was chosen to be described in the quarterly report is explained and followed by conclusions ranked in different categories: relating to law changes, regulatory actions, inspections, safety analysis and calculations, regulatory procedures and general observations. The IRRS follow-up mission in 2017 closed the suggestion based on reported progress. Since 2017 the process has been further improved.

As Poland is still at the stage before the submission of an application for the construction licence by a potential licensee, the most important events that are analyzed are those arising during the stage of construction. PAA has found the usage of operational experience databases as a great tool to prepare for upcoming challenges during the Polish Nuclear Power Programme as it allows to learn about problems that may arise, as well as what to consider during inspections and assessments, and how vendors, contractors and regulatory bodies respond to problems or events. It also gives the opportunity to attend annual meetings of database users, which helps to improve international cooperation in the matter of sharing operational experience. In the future, PAA will urge the licensee to participate in international cooperation on sharing operational experience and invite universities and technical support organizations to use the databases. The technology chosen for the first nuclear power reactor to be built in Poland is AP1000 by Westinghouse. PAA is preparing for licensing by analyzing documentation from AP1000 projects in different countries – especially in the United States of America. PAA employees are in contact with counterparts in foreign nuclear regulatory bodies. Some of them completed On-the-job Training with the US NRC. There are workshops and technical meetings organized with representatives of different regulatory bodies and representatives of the potential licensee.

19.8 Management of spent fuel and radioactive waste on the site

Article 50 of the Atomic Law Act states that radioactive waste and spent nuclear fuel shall be stored in conditions allowing their segregation and ensuring the protection of humans and the environment. Spent nuclear fuel, after the cooling period in the reactor pool, shall be stored in a wet storage facility (in an aqueous environment) or in a dry storage facility (in an inert gas atmosphere), under conditions ensuring that on the spent nuclear fuel element’s surface the temperature permissible for a given type of nuclear fuel shall not be exceeded, and preventing the occurrence of self-sustaining nuclear fission reaction (preservation of sub-criticality). Furthermore, the *Commissioning and Operation Regulation* states that the collection, segregation, processing, movement and storage on the facility site and preparation for transport outside the nuclear facility site of radioactive waste and spent nuclear fuel during the commissioning or operation of the nuclear facility shall be in accordance with the radioactive waste and spent nuclear fuel safe management programme.

Specific requirements for the on-site handling of spent fuel and radioactive waste are listed in the Regulation of the Council of Ministers of 14 December 2015 on Radioactive Waste and Spent Nuclear Fuel.

4. Annexes

Annex no. 1. Nuclear Installations

Installations other than defined in the Article 2(i) of the Convention on Nuclear Safety

Research reactors

The only Polish **operational research reactor MARIA** is a high flux **channel-pool type** reactor, of nominal thermal power of **30 MW** (**first criticality on 18 December 1974**), at present operating at about 20 MW thermal power and mainly used for isotopes production, silicon doping and physical experiments. MARIA was operating at the time when the Convention entered into force, after an extensive modernization process. In the years 1999-2002, a process of conversion from 80% to 36% enriched fuel was completed. Another conversion from HEU to LEU took place between 2012 and 2015. At this moment, there are only LEU fuel assemblies in the core. The reactor core conversion necessitated the modernization of the fuel channels' cooling systems, which took place in 2013. The main point of this modernization was the replacement of pumps.

The facility, **operated by the National Centre for Nuclear Research (NCBJ)** was granted a new licence for operation on 31 July 2025. The new licence is valid indefinitely. The reactor is subject to a process of constant upgrading and accommodation to actual tasks. All principles enumerated in Article 19 concerning its operation are observed. The exchange of experience (Article 9 (vii)) is naturally limited as the reactor's design is very specific. The spent fuel from this reactor is stored in a technological pool connected to the reactor pool inside the reactor building (AR, wet type of storage).

The first research **reactor "EWA"** (pool type) 10 MW_{th} (first criticality on **14 June 1958**), used for isotope production and physical experiments in horizontal channels, was shut down and unloaded of fuel in 1995. Its **decommissioning** process authorized under a general licence issued to its **operator at the time (IEA)** is continued. The spent fuel unloading, decontamination and the majority of dismantling works were performed by IEA before 2002, when the facility was handed over along with spent fuel facilities to the newly created State-owned public utility enterprise Radioactive Waste Management Plant (ZUOP). Since the beginning of the 2002 ZUOP has been continuing EWA decommissioning works and operating two separate wet storage facilities that used to contain all spent fuel coming from the EWA reactor, before their repatriation to the Russian Federation within the GTRI initiative (see more information below). **Currently, no spent fuel is stored at the Świerk site besides the one placed in the technical pool of the MARIA reactor.**

The former **critical assembly ANNA** (first criticality **12 January 1963**), **zero-power reactor AGATA** (pool type, first criticality **05 May 1973**) and **small power (100 kW_{th}) reactor MARYLA** (pool type, first criticality **29 December 1963**) have been **permanently shut-down**, unloaded of fuel and **dismantled** long ago.

The MARIA and EWA reactors and the spent fuel storage are sited at the nuclear research center in Świerk, where waste treatment and storage facilities for ILW and LLW are also located. High activity spent sealed sources are also temporarily stored at Świerk.

Spent fuel facilities and GTRI

Before 2009 spent fuel elements from the MARIA reactor were stored in the MARIA reactor wet storage operated by IEA and spent fuel storage facility operated by ZUOP. Spent fuel from

the EWA reactor (HEU and LEU fuel) was stored in two spent fuel storages operated by ZUOP. Within the framework of GTRI Poland implemented the Russian Research Reactor Fuel Return Programme (RRRFR Programme). In the years 2009-2016 eight spent fuel shipments were performed and all HEU spent fuel from both EWA and MARIA reactors were shipped back to the Russian Federation. At this moment, there is no HEU spent fuel stored in Poland.

Radioactive waste facilities

Radioactive waste of low and intermediate activity produced in Poland is collected, processed, solidified and prepared for disposal by the State-owned public utility ZUOP. ZUOP operates the following installations and facilities at the Świerk site:

- Low- and Intermediate-Level Waste (LILW) storage tanks for liquid waste,
- treatment station for LILW liquid and solid waste: evaporator and reverse osmosis unit, chemical treatment station (liquid waste), cementation unit, hydraulic press (12 ton),
- temporary storage facility.

ZUOP operates a surface-type repository at the Różan site, which was initially a military fort, and was converted to a repository in 1961. This repository serves for the disposal of low- and intermediate-level waste containing short-lived beta and gamma isotopes, SSRS, as well as temporary storage for long-lived waste. In the first decade of the repository's operation, the concrete facilities No. 2, 3 and partially No.1 were filled with not segregated, only partially conditioned waste. Since 1968, short-lived low- and medium-level waste has been disposed of in a part of the dry moat area (facility no. 8), and alpha-bearing waste is being placed in temporary storage in facility no. 1 with the intention of retrieval. In the frame of the PHARE Project performed in the years 2003 and 2004, the safety analysis reports related to respectively the operation, closure and post-closure phase of the Różan facility were also prepared. This project also considered the decommissioning options regarding facilities nos. 2 and 3 at the site, including waste retrieval, repackaging and re-disposal.

The Różan repository is currently the only radioactive disposal site available in Poland. In line with "The National Plan for the Management of Spent Fuel and Radioactive Waste" document, it is expected that a new national radioactive waste repository will start operation in 2033 after the current one is full. Another site for a national repository for future waste will have to be found. The National Plan for the Management of Spent Fuel and Radioactive Waste was adopted in 2015 and fulfilled the obligation imposed by the Council Directive 2011/70/EURATOM. The National Plan was prepared by the Ministry of Economy (now the Ministry of Climate and Environment) and approved by the Council of Ministers. It establishes actions in the scope of responsible and safe management of radioactive waste and spent fuel and ensures effective and safe management of radioactive waste and spent nuclear fuel in Poland. The document covers such issues as:

- siting and construction of a new national radioactive waste repository for low and intermediate-level waste (to be put in operation after the closure of the Różan repository).
- continuation of research and development on deep geological repository undertaken in the late 90s of the last century,
- continuation of works connected with the closure of the Różan repository,
- aspects related to radioactive waste coming from nuclear power plants.

Concerning the siting activities for the near-surface repository for low- and intermediate-level waste, the Ministry of Climate and Environment, in cooperation with the National

Environmental Found, has prepared a special project covering such issues as gathering, analysis, verification and evaluation of available archival materials collected as a result of a three-year Strategic Governmental Programme undertaken in 1999, as well as conducting additional research being necessary to enable the selection of the optimal location of LLW/ILW-SL radioactive waste repository. With respect to the closure of the Różan repository, a new safety analysis report related to the closure and post-closure phase will be prepared

Uranium mining

Most mining activities took place in the Southwest of the country. Mining of ore ended in 1968, and processing was terminated in 1973. There are some 100 dumps, mostly abandoned, of waste rock and ore totalling approximately 1.4 x 10^6 $m^{3,}$ as well as one tailing pond, whose remediation project (partly funded by the EC) was finished in 2004.

Annex no. 2. Implementation of the Polish Nuclear Power Programme

Information on the implementation of the nuclear power in Poland

1. Current status of the Polish Nuclear Power Programme

As of the submission of the report, the government of Poland is updateding the Polish Nuclear Power Programme. The previous updated document was approved on 2 October 2 2020 and it envisaged the construction of 6 units with 6-9 GWe of capacity based on proven, generation III(+) large-scale pressurized water reactors (PWR), operational by 2043. The first nuclear reactor with a capacity of approximately 1-1.5 GWe was to be launched by 2033, and the next five every two years until 2043.

The Polish government has also approved the Energy Policy of Poland until 2040 (EPP2040), which sets the framework for the energy transformation in the country. It presents solutions to meet the EU climate and energy goals, such as the commissioning of the first nuclear power plant in the country planned for 2033. The Energy Policy of Poland until 2040 reiterates nuclear power will be a vital part of the Polish energy mix as a reliable source of electricity generation. In accordance with the recently approved – in March 2022 – Principles for the update of the EPP2040, nuclear power generation based primarily on large-scale nuclear reactors (above 1000 MW) will be consistently implemented due to its low sensitivity to fuel supply interruptions and its ability to ensure the supplies of stable and clean energy.

Currently, the Ministry of Energy is working on the update of the Polish Nuclear Power Programme (PNPP). Its main assumptions were announced on 13 March 2025. Public consultations started in June 2025. The new document will maintain the objective of construction of two nuclear power plants with a total capacity of 6 to 9 gigawatts, based on proven Generation III+ water reactors. Poland's first nuclear power plant will be built in the Choczewo municipality. Construction work (the pouring of the so-called first nuclear concrete) is expected to begin in 2028, with commercial operation of the first unit scheduled to begin in 2036, and the next two units in 2037 and 2038. The preferred locations for the second nuclear power plant are Bełchatów and Konin, while the other sites under consideration are Kozienice and Połaniec. Largescale coal-fired power plants are currently operated at these sites .

According to the adopted timetable, construction of the second nuclear power plant is to begin in 2032. Completion of the first unit with commissioning is scheduled for 2040, and the next two units for 2041 and 2042. The updated PNPP addresses to a greater extent than before the governmental second nuclear power plant project as well as nongovernmental investments, including SMR projects. Regarding the second nuclear power plant, the new document will recommend, among other things:

- equity participation by the technology provider or general contractor, at least during the construction phase. This will be a motivating factor for these entities to carry out the work in accordance with the original schedule and cost estimates;
- selection of technology and general contractor in a competitive mode, which will allow to obtain relatively attractive price and nonprice conditions for the implementation of the project;
- significant participation of Polish contractors in the project (so-called local content), which will not only increase the economic benefits of the investment but will also enable the transfer of technology and know-how to Polish companies. This will increase their export opportunities and reduce the cost of building more nuclear power plants in Poland.

In addition to investments in large nuclear units, Polish companies, especially from energy-intensive industries, are interested in implementing projects for the construction of small modular nuclear power plants (SMR) in various technologies. The deployment of SMRs in the future, once the technology is commercialized, can complement large scale reactors in decarbonizing energy systems. The decarbonization and electrification of the economy provides sufficient demand for both nuclear technologies.

Polish regulations are technologically neutral and thus allow for the implementation of SMRs projects.

Work is also underway at the Ministry of Energy on a roadmap for SMRs, which is expected by the end of the year. This will be a set of guidelines and good practices for potential investors who might be interested in SMRs development. The SMR Roadmap will facilitate better coordination and proper implementation of these new projects.

2. Project implementation schedule

Key dates in the history of the NPP1 Program prior to 2022:

2014 – Polish Nuclear Power Programme (PNPP) adopted – The Council of Ministers adopted a multiannual program titled “Polish Nuclear Power Programme” (PNPP), affirming the intention to build Poland’s first nuclear power plant and appointing PGE S.A as the investor in the project.

2017-2021 – Preparation of the Environmental Impact Assessment Report (EIA Report, EIAR).

2020 – PNPP update – The updated PNPP provides for the construction of 6-9 GW capacity “on the basis of large, proven PWR reactors” in two power plants built six years apart.

2021 – Polish-U.S. intergovernmental agreement on cooperation in the execution of the PNPP – The agreement came into effect in 2021 and specified how the U.S. side prepared the offer to the Polish Government.

The agreement was notified to the European Atomic Energy Community (Euratom). After 18 months, the American partners presented a Concept and Execution Report (CER) comprising the results of the Front-End Engineering and Program Development Document (FEED) and potential financing to inform the decision of the Polish partners regarding further cooperation and execution of the PNPP.

2021 – Acquisition of 100% of PGE EJ 1 shares by the State Treasury and change of name to Polskie Elektrownie Jądrowe – PGE EJ 1 changed its name to Polskie Elektrownie Jądrowe and the Government Plenipotentiary for Strategic Energy Infrastructure assumed oversight on behalf of the Owner.

Key milestones 2022-2025.

Current status: Under the Engineering Development Agreement (EDA) agreement, the Westinghouse (WEC) - Bechtel (BEC) consortium and PEJ continue its design work and preparations for the EPC phase. PEJ is working intensely on the development of permitting and licensing documentation. In addition, PEJ carries out oversight activities on the implementation of works related to the construction of NPP1 associated infrastructure.

Milestones achieved:

2022-2024:

• Signing the Cooperation Agreement with WEC.

• Obtaining funds from capital injection into the Company for 2023-2024.

• Obtaining the Decision in Principle.

• Signing the Engineering Services Contract with WEC and BEC consortium – WBC(contract executed in years 2023-2025).

• Obtaining an Decision on Environmental Conditions.

• Obtaining a location decision from Voivode (regional governor).

• Commencement of geotechnical surveys.

• Obtaining an opening decision from the European Commission regarding state aid.

2025:

• Submission of the Preliminary Site Evaluation Report (WRL) to the PAA President for an opinion.

• Signing the EDA with WBC.

Plans for 2025:

• Start of preparatory works.

• Opinion of the PAA President to the Preliminary Site Evaluation Report

• Completion of the first stage of geotechnical surveys (for main NPP1 buildings) for design purposes.

• Obtaining EC approval of state aid.

Key activities after 2026 (The proposed dates are set by PEJ and differ from the dates in the PNPP. PNPP is being updated, also in the scope of dates of activities regarding construction of NPP)

2026 – Conclusion of the EPC Contract, Continuation of preparatory works and application for Construction Licence.

2027 – Application for Construction Permit.

2028 – First Nuclear Concrete (Unit 1).

2029 – First Nuclear Concrete (Unit 2).

2030 – First Nuclear Concrete (Unit 3).

2031-2032 – Continuation of construction works and installation of major modules.

2033 – Initial energization (Unit 1).

2034 – 400 kV power substation ready & initial energization (Unit 2).

2035 – End of construction phase, startup and commissioning (Unit 1), Initial energization (Unit 3).

2036 – Operation phase (Unit 1).

2037 – Operation phase (Unit 2).

2038 – Operation phase (Unit 3).

3. Human resources development

The main goal of the PNPP in the area of human resources is the development of the staff that guarantees effective and safe construction and operation of the NPPs and, in a later perspective – their decommissioning.

Pursuant to Article 108a point 4 of the Atomic Law Act, the minister responsible for energy resources management undertakes activities to ensure the availability of competent human resources for nuclear power. Moreover, the PNPP includes activity no. 2.1. - Development of human resources for the purposes of nuclear power.

The demand for appropriately educated personnel will be present in all stakeholders of the nuclear programme, from the investor (and future operator of the power plant), to government administration bodies, including the nuclear regulator, and industrial, scientific and research and education sector entities. It should be emphasized that ensuring adequate competences to industrial entities is necessary to enable their broad participation in the investment, both at the stage of construction and subsequent operation of the power plant.

The Ministry of Energy monitors on an ongoing basis the fields of study that train specialists who may work in the future at the construction, commissioning and decommissioning of a nuclear power plant.

Given the interdisciplinary nature of the necessary competencies, it is necessary to create a coherent personnel training system for the nuclear programme that takes into account the diversity of needs of the PNPP stakeholders. Implementation of the personnel training programme will require securing financing for the training activities carried out, including with the involvement of appropriate budgetary resources. The scale of the programme to be implemented also makes it necessary to involve a number of government institutions, including the Ministry of Climate and Environment, the Ministry of Education and Science, or the Ministry of Development and Technology with their subordinate agencies.

The national "Human Resources Development Plan for the Nuclear Power Industry" (available in Polish) includes several recommendations in the area of human resources capacity building:

- training of nuclear power engineers: due to the relatively small number of specialists needed (about 30 per year), the redundant creation of nuclear power engineering majors at too many universities should be avoided.
- strengthening the scientific staff and investing in research and teaching facilities at selected universities.
- training of other specialists, both engineers and non-technical specialists, should be carried out at a wider number of universities. This is supported by the demand of about 300 people per year (including about 200 engineers). These individuals should then be trained in the field of nuclear engineering required for their work. This includes both university graduates and those already employed.
- postgraduate studies as a basic tool for providing nuclear specialization to experts. At the same time, separate programmes for engineers (about 200 people/year) and other specialists (about 100 people/year) should be created, differing in the content conveyed. In time, they can be divided into more specific specialties.
- the emergence of nuclear-related programmes already in the course of study through the student's completion of an appropriate number of subjects on nuclear power as elective subjects or additional subjects within the existing study programmes. After earning the required number of ECTS, the student could receive an additional certificate confirming the

passing of nuclear power-related content. This solution should be introduced first at technical universities teaching courses in nuclear energy.

- providing an inflow of personnel to universities and scientific research institutes to ensure generational exchange and expand their capacity to educate and conduct scientific research and serve as technical support organizations (TSOs).
- launching a dedicated research programme in the field of nuclear energy. An important element in the development of teaching and scientific staff is the conduct of scientific research. This programme should enable scientific development of cadres, expand research and teaching infrastructure, and support cooperation with industrial entities. The topics of such a research programme should coincide as closely as possible with building the competencies necessary for the nuclear programme.
- taking measures to stem the outflow of qualified personnel and limit the adverse effects of internal competition among nuclear entities. Research institutes and universities are particularly vulnerable here, as well as administrative bodies, including supervision.
- identification of schools in the vicinity of the location of future power plants that will train technical-level specialists. The base should be existing schools with related profiles (energy, electrical). The investor should be involved in activities in this area.
- carrying out, in cooperation with the Ministry of Education and Science, a pilot programme in a selected school, including the strengthening of personnel and teaching infrastructure and the introduction of “nuclear” curriculum content.
- identification, in cooperation with the Ministry of Education and Science, the necessary new nuclear professions (e.g., nucleonics technician) to be introduced and preparation of regulations necessary for their introduction. Preparation of changes to the curricula of existing professions (e.g., electrical technician, mechanical technician, energy technician) and development of a training system for teachers.
- continuous expansion of the offer of specialized training for companies on the basis of the existing programme.
- initiation and use of various forms of educational support in the framework of international cooperation.

The main activities scheduled by the Ministry of Energy for year 2025 in the field of human resource development include:

- development of a concept, preparation and implementation of a teaching programme and organization of student internships to increase the competence of students of selected technical majors in the field of nuclear energy fundamentals.
- updating the handbook for teachers entitled “I know how to teach about nuclear energy. Guidebook for teachers” with lesson plans to be carried out at school;
- organization of 6 nationwide on-line training courses devoted to teaching about energy and nuclear power for over 300 teachers, incl. physics, chemistry, biology, geography and education for safety and methodology advisers at primary and secondary schools entitled: "How to teach about nuclear energy?”;
- organizing a nationwide webinar for 40 primary and secondary school teachers on energy and nuclear power in distance learning;
- organizing and conducting over 300 demonstration lessons on energy and nuclear power at over 50 primary and secondary schools in 8 or more voivodeships;
- organizing of the 3rd edition of nationwide competitions of knowledge about nuclear energy for students at secondary schools, in a remote mode, entitled: "Nukleo";

- organizing 3rd editions of nationwide knowledge competitions about the environmental impact of power engineering for students at primary school grades 7-8, in a remote mode, entitled: "With Energy for the Climate";
- deepening international cooperation with institutions, enterprises, universities and experts from abroad in exchanging good practices in the area of human resources development for the needs of the Polish nuclear power (partially online);
- monitoring the implementation of the National Human Resource Development Plan for the needs of Nuclear Power by the institutions involved in the implementation of the PNPP and preparation of annual reports on the implementation of the plan;
- preparation for updating of the National Human Resource Development Plan for the needs of Nuclear Power, which was adopted in 2023.

In Poland, there exists an educational and scientific infrastructure that can be used to develop education and training for the needs of nuclear energy. Most of the nuclear sciences specialists are grouped in two large centres:

- Warsaw (Warsaw University of Technology, Warsaw University, National Centre for Nuclear Research, Institute of Nuclear Chemistry and Technology, The Institute of Plasma Physics and Laser Micro fusion or Central Laboratory for Radiation protection);
- Cracow (Jagiellonian University, AGH University of Science and Technology, Cracow University of Technology or The Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences).

Besides, it should be emphasized that several Polish technological schools and universities have opened and conducted various programmes and majors (undergraduate, graduate and doctoral studies) directly connected with nuclear power. There is also a well-developed scientific and research base in the nuclear field. Many Polish institutes conduct scientific work in the area of nuclear chemistry and physics. Additionally, the research nuclear reactor MARIA operated at the National Centre for Nuclear Research in Świerk plays an important role in training.

Local content

The goal of the Ministry of Energy is for the Polish industry to contribute a minimum of 40% to the total project value at the first NPP unit. The Ministry identified areas of the nuclear project that are expected to be subcontracted to the Polish industry; they are mostly related to the turbine island, balance of the plant, site preparation and grid connection. Some activities with regard to the nuclear island are also currently within reach for the domestic industry.

The Polish industry already has global experience working on nuclear projects in 44 countries.

Many activities for the Polish industry were funded by the Government, such as training activities including workshops, manuals and webinars. In 2021, a Programme of support for the Polish industry was adopted. The adopted document presents the most important actions which are aimed at increasing the competence of Polish enterprises in the context of inclusion in global supply chains.

Between 2022 and 2024, during a chain of training events called “Polish Industry for Nuclear Energy”, more than 1000 experts from about 400 Polish companies have been trained to work in the nuclear sector. In each training session forty to sixty hours of lectures were conducted (online and in-person). During trainings, representatives of leading nuclear companies

presented selected technical, quality requirements and business requirements to local industry. The training events are also planned to take place in 2025 and in coming years.

Currently, nearly 120 Polish companies have been identified that have worked with or supplied foreign NPPs in the last 10 years. Another 250 companies have sufficient competence to enter the supply chains of this sector within 3 to 5 years. As part of the efforts to support the Polish industry in the process of integrating into the global nuclear supply chains, a "Polish industry for nuclear energy" catalogue was developed. In 2023, activities related to updating the database of companies (the catalogue) were done and the updated catalogue is expected to be released in 2025.

In parallel to the aforementioned training activities, the Polish Government supports Polish companies on international nuclear markets by organizing specialized trade missions abroad or by organizing business meetings with foreign counterparts in Poland.

A well-developed local supply chain, with experienced companies, is a key to reliable and secured supply chains, which also addresses defined **Common issue 6 – Securing reliable supply chains.**

HRD activities by PEJ

The investment project undertaken by PEJ aims at providing the required generation capacity. However, this goal entails broadly committing to human resources development and in order to acquire the necessary skills for a successful execution of the Project and maintenance of corporate governance, human resources are to grow dynamically over time and demonstrate critical competences. The Capacity Building Project supports identifying and implementing the most important actions which should be undertaken by PEJ in order to ensure the optimal workforce level at each stage of the investment, starting from implementation of procurements, design, construction, and ending with operation of the NPP in Poland. In 2023 PEJ created its Human Resources Development Plan which was a key element of "Country Human Resources Development Plan". The Human Resources Development Plan is intended to define PEJ's strategy for acquiring and retaining human resources. It takes into account the overall resource needs, a tentative organisational structure, as well as timeframe for delivering the Project and operating the planned NPP. At this stage the crucial aspect is to effectively identify, recruit and develop the necessary staff to oversee the design and construction of the NPP. It is necessary to ensure that this task stays in line with the assumed numbers and competence requirements but stays flexible enough for potential changes in the implementation of the approach and the development of the Operation & Maintenance (O&M) model.

Currently, PEJ carries out advanced work to develop the Human Resources Development Strategy, which will provide a framework for the Project's key human resources processes. The scope of this work includes, among others, measures for the maintenance and development of human resources, as well as an approach towards cooperation with the education sector with the intention of securing the Project with competence needs in the long term. The strategies that are being created include: the Human Resources Development Strategy, the Recruitment Strategy, the Training Strategy, the Retention Strategy and the Cooperation with Education Sector Strategy.

In addition, as part of the preparation for applying for a construction licence, PEJ is working on creating a Staffing Plan and a General Training Plan for licenced positions to ensure that human resources are properly planned over time and according to the needs of the various phases of the Project. As part of the work on the Staffing Plan, competency matrices for key

functions are being developed with the purpose of defining qualification requirements for specific roles and positions. These matrices will serve as a resource for recruitment planning, training and assessing staffing readiness during each phase of the Project. The General Training Plan for licenced positions with descriptions and competency matrices for key areas, accompanied by the Training Strategy defining principles, directions and priorities of activities in the area of competence development of PEJ's employees are intended to ensure a systematic approach to training implementation. Their development implies laying the foundation for further work on designing and implementing a training programme for this group of personnel, in a consistent manner that will be in line with nuclear safety requirements and good international practices.

PEJ plans to have the human resources strategies, along with the Staffing Plan and General Training Plan accepted and implemented in the organisation by the end of 2025. The final documents will provide a framework for future workforce and organisational development based on the Project's needs and timeline. They will be drawn from the input of the whole organisation considering the estimated workload, identify crucial positions, as well as specify required competencies for various roles and support an expansion of human resources, both in terms of the number of employees and their professional qualifications. They will also focus on providing a competent and committed workforce to support the Project's development, adhering to the highest safety and quality standards, while promoting the nuclear industry as a workplace that offers stability and opportunities for career development. They will as well cover planning, recruitment, and competence development through training in accordance with international standards and requirements and take into account cooperation with education sector and aim to secure safety, efficiency and reliability by managing competences, systematically developing and maintaining the skills of the personnel, as well as ensuring that vital institutional knowledge and technical skills are preserved.

A key element of human resource planning in the context of an ongoing project is to ensure that the training process is highly effective. Achieving the required levels of professional competence and meeting the rigorous standards specific to the nuclear sector is the purpose behind the design of PEJ's personnel education and training system. It implies the need for a coherent national educational policy to enable the systematic development of nuclear expertise within technical and higher education and requires the development of academic and technical school educational programmes that are suited to the actual requirements of future nuclear investments, as well as close cooperation with the nuclear industry. PEJ understands that it should play an active role in defining the required qualifications, organising internships and apprenticeships, as well as establishing centres of competence.

In this regard, PEJ is taking steps to identify training demands and develop employee training plans and has already implemented a process for planning and identifying training needs, tailored to the requirements of the current phase and organisation, subject to annual updates. This approach allows flexible adjustments of development activities to meet changing Project conditions and provides a basis for preparing and developing the training system in subsequent phases of the Project. PEJ's 2025 Training Plan has been prepared, approved, implemented and is being carried out in accordance with current internal procedures. At the same time, within the framework of the existing agreements with the consortium, PEJ is carrying out a Nuclear Basic for Engineers" and a "AP1000 Plant Systems" training courses, provided by the technology vendor, is implementing an electronic training application workflow system, and plans to acquire an e-learning training and a competency and training management tools.

As far as collaboration between the education sector (including vocational and technical schools) and the country's leading academic centres is concerned, it plays a crucial role in supporting the development of PEJ in all stages of the Project. Therefore, PEJ has started a close collaboration with top Polish academic institutions that have nuclear energy specialties by signing initial agreements with inter alia the University of Warsaw, Warsaw University of Technology, Fahrenheit Universities (Medical University of Gdańsk, Gdańsk University of Technology and the University of Gdańsk), Łódź University of Technology, AGH University of Kraków and University of Maria Curie-Skłodowska. The purpose of the collaboration entails development of personnel in the nuclear power sector, enhancement of the development of students and graduates in the technician/engineering profession that enter the labour market, as well as the creation of a positive image of vocational education and promotion of modern materials and technologies used in the nuclear industry.

In preparation for a period of intensive employment growth, including the recruitment of nuclear professionals worldwide, PEJ is successively building recruitment competences within the organisation and preparing to purchase the services of recruitment agencies. Moreover, PEJ has recruited experienced managers for the position of Chief Nuclear Officer (CNO) and O&M Managers as key roles responsible for overseeing the strategies adopted for the programme/investment in terms of building the operator's organisation capacities.

At the same time, PEJ fully endorses the idea that it is necessary to develop the existing specialised staff by involving them in internship programmes (known as secondments) carried out by international organisations such as the World Association of Nuclear Operators (WANO) or the International Atomic Energy Agency (IAEA). This type of experience enables the transfer of the best operational practices and standards used around the world. In the context of cooperation with IAEA, PEJ hosted several IAEA human resources missions in the years 2024 and 2025. These missions focused on Staffing Plan and National Human Resources Development Plan, Knowledge Management and Safety Culture. The main objective of the Staffing Plan and National Human Resources Development Plan was to assess whether the staffing plan meets the needs of a future operating organisation. Another goal of this mission was to verify if the National Human Resources Development Plan is ready to support the deployment of Poland’s nuclear energy sector, as well as to identify potential areas for improvements that can be used in a future update of the document. The primary purpose of the Knowledge Management mission was to support PEJ in addressing all important aspects of knowledge management in the Project and to share international experiences and approaches for continuous improvement. Other objective of this mission was to identify potential areas of improvements and to support the preparation of a comprehensive action plan addressing the most important conclusions from organization diagnosis, that would set a baseline for future update and knowledge management development. The primary objective of the Safety Culture mission was to assess the status of safety culture as a baseline for further development of culture, while the secondary objective was to foster an in-house understanding and reflection regarding safety culture, and thus directly and indirectly contribute to the organisational development process.

In the context of preparing personnel for work at nuclear power facilities, the issue of licensing key operational positions is one of the fundamental elements of the system for ensuring nuclear safety and radiological protection. There is an ongoing cooperation with the regulator in the preparation of assumptions for a national licensing training system. This cooperation covers both issues related to the scope of competencies and the structure of training programmes, as well as formal conditions for the licensing process for key positions. Consistency with the

requirements of the international environment is also ensured in the training paths. The objective of these endeavours is to devise a model that will facilitate the implementation of the licensing process in accordance with the requirements of national law and international standards, while taking into account the particularities of the reactor technology and the planned training pathways implemented in collaboration with the technology provider.

Annex no. 3. Atomic Law Act

Summary of the Act of the Atomic Law Act

The Atomic Law Act, initially enacted by the Parliament of the Republic of Poland on 29 November 2000, was amended several times in the years 2001-2024. The last significant amendment took place in 2023..

The Act consists of 20 Chapters:

Chapter 1, entitled *"General provisions",* defines the subject and presents definitions of terms used in the text of the Law.

Chapter 2, entitled *"Licences addressing nuclear safety and radiation protection issues",* lists the activities which require licences or notifications from the point of view of nuclear or radiation safety and activities that are prohibited. It also sets up adequate procedures regarding the licensing and defines the authorities granting licences to perform activities.

Chapter 3, entitled *"Nuclear safety, radiation protection and health protection of workers",* places the responsibility for nuclear safety and radiation protection on the licensee pursuing the activities involving exposure and defines the scope of this responsibility, in particular in a case of ceasing activity. It formulates the requirement for justification of such activities, as well as a number of other requirements, such as supervision and inspection, the imperative to follow the "optimization principle" with regard to exposure, adequate training of workers, authorization of persons working on certain positions and performing certain activities important from the nuclear safety and radiation protection point of view, radiological safety of individuals in cases of medical exposures, occupational exposures and radiation protection of workers and external workers, as well as their rights. This chapter also specifies the conditions for carrying out actions aimed at the elimination of radiation emergency consequences, maintaining the central register of doses received by individuals, categorization of radiation workers (categories A and B) and requirements concerning dosimetric equipment. Finally, it introduces provisions regarding exposure to indoor radon and a system of subsidizing certain activities in the area of nuclear and radiation safety from the state budget.

Chapter 3a, entitled *"Medical application of ionizing radiation",* enumerates medical applications of ionizing radiation and formulates principles of carrying on activities that involve patient's exposure to ionizing radiation, in particular – mandatory justification of exposure and optimization of radiation protection. It places responsibilities for patient exposure on the authorized medical practitioner and relevant responsibilities and duties in the area of inspection and clinical audits - on medical institutions. It defines principles and requirements for quality management system in radio-diagnostics, invasive radiology, nuclear medicine and radiotherapy, including the reference radiological procedures for standard medical exposures, the terms of issuance of relevant permits and authorizations, and the authorities competent for granting them. Finally, it formulates the scope and terms of the creation of the National Radiation Protection Centre in Medicine and the central database for medical radiation facilities.

Chapter 4, entitled *"Nuclear facilities",* places the responsibility for assuring nuclear safety, radiation protection, physical protection and nuclear material safeguards on the licensee which holds the licence for construction, commissioning, operation or decommissioning of a nuclear facility. For the process of construction of a nuclear facility, the scope of these requirements is extended to other participants in the investment process, the obligations of the licensee

notwithstanding. This chapter also addresses the fundamental conditions that must be met by a nuclear facility design, the questions of licensing and regulatory review in the stages of construction, operation and decommissioning of nuclear facilities, the establishment of restricted areas around such facilities, the information duties of the licensee and the PAA President concerning nuclear safety and radiation protection issues, as well as formulate the right for the PAA President to curtail or suspend the operation of nuclear facility when nuclear safety may be endangered. The nuclear facility (at a stage of construction, commissioning, operation and decommissioning) is required to adopt an integrated management system that, among the others, must include a quality assurance programme. One of the most important licence prerequisites for the applicant is to possess the appropriate financial means required to ensure:

- fulfilment of the requirements of nuclear safety, radiation protection, physical protection and nuclear material safeguards during the respective stages of operation of a nuclear facility until decommissioning is completed; specifically, the operator of a nuclear power plant has to establish a special fund to cover the costs of the final management of radioactive waste and of the decommissioning costs;
- for the licence for construction – completion of the construction of a nuclear facility.

Chapter 4a, entitled “Public communication pertinent to nuclear power facilities”, contains provisions to establish Local Information Centres, Local Information Committees and Municipal Information Points, which are meant, among others, to provide information on a nuclear power facility and to monitor the activities of the operator.

Chapter 4b, entitled “Strategy and policy on the development of nuclear safety and radiation protection”, contains provisions to establish nuclear safety and radiation protection strategy, which determines, in particular: the purposes of the nuclear safety and radiation protection strategy, the description of the legal framework for nuclear safety and radiation protection and description of the current state of nuclear safety and radiation protection; the principles of nuclear safety and radiation protection; and the courses of actions aimed to develop nuclear safety and radiation protection. The first strategy was adopted by the Council of Ministers on 12 April 2022.

Chapter 5, entitled “Nuclear materials and technologies”, formulates requirements for adequate nuclear materials accountancy and their physical protection as well as for appropriate control of nuclear technologies (as required by appropriate international agreements and conventions). In particular, it includes a prohibition of the use of these materials and technologies to construct a nuclear weapon or nuclear explosives; any scientific research in this area is subject to notification to the PAA President prior to their commencement. It also defines other PAA President’s duties and responsibilities in this area, as well as the obligations of the heads of units performing activities with nuclear materials and of other users of lend or buildings where such an activity could be possible, in connection with inspections performed by PAA, IAEA or EURATOM inspectors. The chapter contains also provisions relating to physical protection and detailed provisions the development of the Design Basis Threat.

Chapter 6, entitled “Ionizing radiation sources”, formulates requirements for the accountancy and inspection regarding radioactive sources and equipment containing such sources or generating ionizing radiation. It also includes the requirement of appropriate protection of radioactive sources against damage, theft or possession by an unauthorized person.

Chapter 7, entitled “Radioactive waste and spent nuclear fuel”, classifies radioactive waste, states the responsibilities of the licensee which is handling waste, and addresses the questions of waste disposal, including provisions on siting of waste repositories and of the necessary protection of humans and the environment. The amended Atomic Law Act introduced provisions that the organizational unit which has generated the radioactive waste or the spent nuclear fuel is held responsible for ensuring that it is possible to manage the radioactive waste and the spent nuclear fuel from the moment of their generation until their disposal at the repository, including for financing of this procedure and coverage of the related disposal costs, altered the principles of classification, storage, disposal and keeping records of radioactive waste and spent nuclear fuel. With regard to the classification of radioactive waste, the notion of activity level or dose rate on the surface of waste material has been replaced by a criterion of radioactive concentration of radioisotopes the former contain.

Chapter 8, entitled “Transport of nuclear materials, ionizing radiation sources, radioactive wastes and spent nuclear fuel”, formulates requirements for safe transport of such materials and regulates the issues of their import, export and transit through the Polish territory, as well as on reporting of these activities to the PAA President.

Chapter 8a, entitled “Import, export and transit through the territory of Republic of Poland of radioactive waste and spent nuclear fuel”, establishes formal and organizational conditions connected with the procedure of licensing the above-mentioned activities.

Chapter 9, entitled “Control and inspection from the viewpoint of nuclear safety and radiation protection conditions”, allocates the oversight and inspection responsibilities to appropriate authorities, formulates these responsibilities as well as the rights of the regulatory authorities, introduces enforcement measures, and establishes qualification requirements with regard to nuclear regulatory inspectors.

Chapter 10, entitled “National radiation situation assessment”, obliges the PAA President to conduct systematic assessments of the national radiation situation and formulates requirements thereof, including the use for these purposes of a dedicated Radiation Emergency Centre established within the PAA and receiving appropriate data from “stations” and “units” serving for early detection of radioactive contamination (the list of such “stations” and “units” has been established by means of the Governmental regulation) and operates the International Contact Point for early warning and information exchange with IAEA, EU and other Countries in a case of a radiation emergency. It also obliges the PAA President to provide information to the general public, regional governors, Council of Ministers and/or to the chairman of the appropriate crisis management team at the national level.

Chapter 11, entitled “Radiation emergency management”, introduces the distinction between different types of radiation emergencies and lists the actions to be undertaken in case of such emergencies, as well as formulates the responsibilities on all levels. It refers to the national emergency preparedness plan established through a Governmental regulation and sets up rules for the implementation of specific intervention measures (including the issue of costs to be borne in such cases). It also formulates a requirement to conduct periodic exercises to test the national emergency preparedness plan and addresses the questions of protection against the use of food and feeding stuffs that exceed the permitted levels of radioactive substances contents, both produced within the Polish territory or imported.

Chapter 12, entitled “Civil liability for nuclear damage”, allocates the responsibility for nuclear damage caused to individuals, property and the environment to the operator and limits its

liability to 300 million SDR, allows the operator to establish a limited liability fund in a case when claims exceed this figure, obliges the operator to be insured (also in case of the transport of nuclear material from a nuclear facility), sets the minimal guaranteed amount of insurance and procedures for claiming the compensation, sets time limits for suing for the damage, and provides rules for the establishment of jurisdiction in the issues of nuclear damage.

Chapter 12a, entitled “Activities pertinent to the development of nuclear power”, describes the activities of the minister competent for energy resources management matters in the field of the use of atomic energy for the social and economic needs of the State, especially aimed at the development of a nuclear power programme. In particular, this chapter contains provisions for developing, approving and updating a long-term programme called “the Polish Nuclear Power Programme”.

Chapter 13, entitled “The President of the National Atomic Energy Agency”, states that the President of the PAA is the central organ of the governmental organization and is appointed for a term of five years by the Prime Minister to whom he reports directly, on request by the Minister competent for climate matters, who supervises PAA administratively. The President of PAA can only be removed from office by the Prime Minister before the end of the term for causes stipulated in the Atomic Law Act. The President executes his tasks (which are listed in Article 110 of the Atomic Law Act) through the National Atomic Energy Agency, the statute of which is issued by the minister competent for climate matters. In addition, this chapter introduces a PAA President’s consulting and advisory body, the Council for Nuclear Safety and Radiation, which is appointed by the minister competent for climate matters upon the opinion of the President of the PAA.

Chapter 14, entitled “State-owned public utility “Radioactive Waste Management Plant”, establishes the above-named plant as a legal personality while the supervision over the plant is placed under the responsibilities of the minister competent for energy resources management, which provides the plant with a statute. This chapter specifies, inter alia, that the utility receives a subsidy from the national budget for radioactive waste and spent fuel management.

Chapter 15, entitled “Penal regulations”, introduces financial penalties or other means of punishment for cases of violations of rules established by this Law.

Chapter 16, entitled “Transitional, adaptive and final provisions”, formulates detailed conditions for the enactment of this Law.