MISSION REPORT
ON
THE INTEGRATED NUCLEAR INFRASTRUCTURE REVIEW
(INIR)

Counterpart: Ministry of Economy

18 to 22 March 2013

Warsaw, Poland

CONTENTS

1. EXECUTIVE SUMMARY

In 2009, the Polish Council of Ministers approved the National Energy Policy to 2030, which included the introduction of nuclear power by 2023, and generation of up to 17% of the electricity by 2030. Poland identified the following reasons introducing nuclear power:

- Increasing security of fuel and energy supplies;
- Diversification of power generation sources;
- Limitation of energy sector's impact on environment.

The Government's Commissioner for Nuclear Power, established by the Ordinance of the Council of Ministers of 12 May 2009 is in charge of coordination and supervision of the measures for the preparation of the nuclear power programme.

A Committee for Nuclear Power was established in 2009 by Regulation 70 of the Prime Minister which includes participation at the undersecretary level by the Ministries of Economy (MoE), Internal Affairs, Administration and Digitization, Infrastructure, Finances, Treasury (MoST), National Education (MoNE), Science and Higher Education (MoSHE), Environment (MoEnv), Foreign Affairs, and Health, as well as Deputy Presidents or Department Directors of Consumer Protection and Competition Office, Power Regulation Office, National Atomic Energy Agency (PAA), Internal Security Agency (ISA)and Office for Technical Inspection (OTI).

The Government Resolution of 13 January 2009 designated the Polish Energy Group SA (hereafter referred to as PGE SA) as the owner-operator of the future NPP.

A Draft Polish Nuclear Power Program (PNPP) dated January 2011 was developed by the Ministry of Economy, outlining the national justification for introducing nuclear power as well as the scope, structure and assignment of responsibilities to ensure safe and effective operation of nuclear power including spent fuel and radioactive waste management and decommissioning. The draft PNPP has been made available on the MoE website and was used in public and trans boundary consultations conducted in 2011 and 2012. Extensive consultations were conducted with neighboring countries, including especially Slovakia, Austria, Germany and Denmark. It is expected that the draft PNPP will be updated with the results of the consultation. Approval by the Council of Ministers of the draft PNPP is expected in mid-2013.

The Atomic Law of 29 November 2000, as amended in 2011, provides the basic legislative framework to support the development of the nuclear power programme. It identifies the President of the PAA as the main nuclear regulatory body. INIR mission team noted that many implementing regulations have been issued in 2011-2013.

Current planning builds on experience from the early 1980s when Poland started construction of a nuclear power plant at Żarnowiec, about 50 km from Gdansk. The project was stopped due to significant changes in the political and economic situation in 1989, and a loss of public support in the aftermath of the Chernobyl Accident. Poland has a significant level of nuclear infrastructure including research institutes and a 30 MW research reactor. Polish companies are also participating in nuclear projects in other countries.

Poland initially requested the IAEA to conduct an INIR mission in December 2009. The dates for conducting the INIR mission in March 2013 for Phase 1 were agreed finally in September 2012.

A pre-INIR meeting was conducted from 6 to 7 February 2013 in Warsaw between the IAEA and the main counterparts from Poland, including the Government Commissioner for Polish Nuclear Power and the key counterparts. During this meeting the terms of reference and agenda for the INIR mission were agreed for an INIR using Phase 1 conditions which are related to building awareness and decision-making centered in the Government. Further, it was agreed that, where appropriate, the INIR mission would also give an indication regarding Phase 2 conditions, which are centered in the main implementing organisations related to capacity building and preparations of the bid. The INIR mission was conducted from 18 to 22 March 2013 in Warsaw. This mission was conducted in a cooperative and open manner with the Polish counterpart organisations.

The results of the mission are summarized in Section 6 and presented, in tabular form in Section 8 for each of the 19 Infrastructure issues in Phase 1. Attachment 1 provides the evaluation results for each issue.

Poland has made progress toward introducing nuclear power. In order to assist Poland in making further progress in this regard, INIR mission team made five recommendations and six suggestions. The INIR team also identified six good practices. Based on these recommendations, the key areas for further actions regarding national decision-making (Phase 1 conditions) are the following:

Strengthen Government Commitment and Involvement. In order to progress further, the Government is strongly encouraged to strengthen its role, as for example by:

- Approving the updated national policy and strategy (PNPP) for the introduction of the new nuclear power programme. This document should be the reference for the further implementation of the program.
- Ensuring strong institutions and funding of the nuclear infrastructure, particularly the regulatory body.
- Providing strong coordination among the different players of the national nuclear power programme.

Strengthen the Regulatory Framework. This requires a clear strategy, planning and adequate resources in order to:

- Ensure there is a complete regularly updated set of regulations for safety, security and safeguards and on this basis PAA should consider strengthening its pre-licensing interactions with prospective NPP applicants to support a shared understanding of regulatory expectations.
- Establish within the national regulatory authorities, particularly in the areas of security and safeguards, a clear definition of roles and responsibilities including interactions with other advisory agencies.

Develop an Integrated Human Resource Development (HRD) Plan

- Develop an integrated HRD plan based on the needs of the main organisations, and the current capabilities of educational and training establishments.

Looking ahead

As Poland is already engaged in activities related to preparation of infrastructure needed to support the bidding process (Phase 2), the INIR mission team also reflected on Polish progress beyond Phase 1 (See Chapter 7). It should be noted that the views expressed are based on limited information provided during interviews and should be considered to be only initial observations. Looking ahead, the INIR mission team identified areas where Poland should pay close attention for PGE and the Government.

The INIR mission team wishes to thank the Polish counterparts for their insight and cooperation.

2. INTRODUCTION

Current planning builds on experience from the early 1980s when Poland started construction of a nuclear power plant at Żarnowiec, about 50 km from Gdansk. The project was stopped due to significant changes in the political and economic situation in 1989, and a loss of public support in the aftermath of the Chernobyl Accident. Poland has a significant level of nuclear infrastructure including research institutes and a 30 MW research reactor. Polish companies are also participating in nuclear projects in other countries.

In 2009, the Polish Council of Ministers approved the National Energy Policy to 2030, which included the introduction of nuclear power by 2023, and nuclear electricity generation of up to 17% of the electricity by 2030. Currently, more than 90% of the electricity in Poland comes from coal; the rest from oil and gas. Renewable energy sources generate less than 3% of electricity. According to the national energy policy, diversification of energy sources and energy security are policy goals. Poland identified the following reasons for introducing nuclear power:

- Increasing security of fuel and energy supplies;
- Diversification of power generation sources;
- Limitation of energy sector's impact on environment.

The Government Commissioner for Polish Nuclear Power, established by the Ordinance of the Council of Ministers of 12 May 2009, is in charge of coordination and supervision of the measures for the preparation of a nuclear power programme. To support the Commissioner, the Nuclear Energy Department was established in the MoE.

A Committee for Nuclear Power was established in 2009 by Regulation 70 of the Prime Minister which includes participation at the undersecretary level by the Ministries of Economy (MoE), Internal Affairs, Administration and Digitization, Infrastructure, Finances, Treasury (MoST), National Education (MoNE), Science and Higher Education (MoSHE), Environment (MoEnv), Foreign Affairs, and Health, as well as Deputy Presidents or Department Directors of Consumer Protection and Competition Office, Power Regulation Office, National Atomic Energy Agency (PAA), Internal Security Agency (ISA)and Office for Technical Inspection (OTI). Order Number 20 of the Minister of Economy also established in 2009 a Social Commission of Advisers as a group of distinguished scientists and academics, who provided advice to the Commissioner for Nuclear Power.

The Government resolution of 13 January 2009 designated the PGE SA as the owner-operator of the future NPP.

A Draft PNPP dated January 2011 was developed by the MoE, outlining the national justification for introducing nuclear power as well as the scope, structure and assignment of responsibilities to ensure safe and effective operation of nuclear power including spent fuel and radioactive waste management and decommissioning. The draft PNPP has been made available on the MoE website and was used in public and trans boundary consultations conducted in 2011 and 2012. Extensive consultations were conducted with neighboring countries, including especially Slovakia, Austria, Germany and Denmark. It is expected that the draft PNPP will be updated with the results of the consultations. Approval by the Council of Ministers of the draft PNPP is expected in mid-2013.

The Atomic Law of 29 November 2000, as amended in 2011, provides the basic legislative framework to support the development of the nuclear power programme. It identifies the PAA as the main nuclear regulatory body. INIR mission team noted that many implementing regulations have been issued in 2011-2013.

The expected schedule for development of the nuclear power programme is:

2013 June	Council of Ministers to approve the PNPP
2013 – 2014	site selection and signing of the contract for the construction of the first unit of the first nuclear power plant;
2015 – 2017	elaboration of the technical engineering documentation and obtaining the licences required by the law;
2018 – 2022	licence to construct and construction of the first unit of the first NPP;
2023 – 2025	completion of the first NPP and starting the construction of the next NPPs (to be operational in 2029).
2030	Up to 6,000 MW in operation comprising 17% of electricity production

INIR mission

Poland initially requested the IAEA to conduct an INIR mission in December 2009. The dates for conducting the INIR mission in March 2013 for Phase 1 were agreed finally in September 2012.

Poland initiated the self-evaluation process for Phase 1 as early as 2009. An IAEA team was dispatched to Poland in April 2010 to support the development of a Self-Evaluation Report. Two versions of the Self-Evaluation Report were successively provided to the IAEA in November and December 2012 and some additional tables were sent in January 2013. Further documentation, including laws and the draft PNPP were provided to the INIR mission team in advance of the mission. Finally, the Polish counterparts provided the latest information during the mission. A pre-INIR meeting was conducted from 6 to 7 February 2013 in Warsaw between the IAEA and the main counterparts from Poland, including the Government Commissioner for Polish Nuclear Power and the key counterparts. During this meeting the terms of reference and agenda for the INIR mission were agreed for an INIR using Phase 1 conditions. It was agreed that, where appropriate, the INIR mission would also give an indication regarding Phase 2. Because Poland did not prepare a Self-Evaluation Report using Phase 2 criteria, some further information was provided during the interviews.

The INIR mission was conducted from 18 to 22 March 2013 in Warsaw. The mission represents an evaluation of the development status of the infrastructure issues described in NE Series guide "*Milestones in the Development of a National Infrastructure for Nuclear Power*" (NG-G-3.1) applying the holistic approach described in NE Series technical report "*Evaluation of the Status of National Infrastructure Development*" (NG-T-3.2) and its draft addendum prepared in January 2013.

The INIR mission team was led by the Director of the Division of Nuclear Fuel Cycle and Waste Technology, IAEA, and consisted of IAEA staff from the departments of Nuclear Energy, Nuclear Safety and Security, Safeguards and Technical Cooperation, the Office of Legal Affairs and international experts recruited by the IAEA in consultation with Poland. The list of INIR team members is provided in Attachment 2.

The INIR mission was conducted under Technical Cooperation Project POL2016, "*Supporting Nuclear Energy Infrastructure Development*".

3. OBJECTIVES OF THE MISSION

The main objectives of the INIR missions are:

- Evaluation of the development status of the infrastructure issues described in the *Milestones in the Development of a National Infrastructure for Nuclear Power*, IAEA Nuclear Energy Series No. NG-G-3.1, applying the holistic approach described in the *Evaluation of the Status of National Infrastructure Development*, IAEA Nuclear Energy Series No. NG-T-3.2. Addendum 1, draft 25 Jan 2013;
- Identification of the areas needing further attention during the development of the national nuclear infrastructure in Poland.

4. SCOPE OF THE MISSION

The INIR mission focused on the status of the infrastructure conditions in Poland covering all of the 19 issues identified in the IAEA Milestones publication in a comprehensive and holistic way. More specifically it included:

- A review of the current status of infrastructure development against conditions of Phase I;
- Recommendations and suggestions to assist Poland in further development of the nuclear power infrastructure.

The INIR mission utilized the following techniques:

a) Review of documents both prior to the mission as part of preparation and during the mission. The review concentrated on the process to introduce nuclear power and did not go into great depth to evaluate the quality of the planning and infrastructure

activities. (*see Attachment 3: References*) It should be noted that an in depth assessment of a specific infrastructure issue would require targeted missions.

b) Discussions with representatives of the appropriate individuals and organisations in Poland (*see Attachment 2: List of the INIR team and counterparts*).

5. WORK DONE

Prior to the mission, the INIR team reviewed the Self-Evaluation Report and evaluation forms for all the 19 infrastructure issues (hereafter referred to as the SER), and supporting information that included relevant national laws, regulations, reports and presentations. The INIR mission team sought input from IAEA staff members with relevant expertise working with Poland's nuclear power programme. The results of prior relevant IAEA missions were reviewed. Several INIR mission team meetings were conducted prior to the mission, including team meetings in Vienna on 15 March 2013 and Warsaw on 17 March 2013, to discuss the INIR team's initial views on the infrastructure status.

The INIR mission was conducted from 18 to 22 March 2013. It was coordinated for Poland by the MoE. The meetings were held at the MoE offices in Warsaw. The main interviews were conducted over three days with one additional day for meetings between counterparts related to specific issues and development of the report. During the interviews, the Polish counterparts provided an update on the current status of issues where progress had been made since the SER was finalized.

The preliminary draft report was prepared by the INIR mission team and discussed with the counterparts. The main mission results were presented to the Government Commissioner for Polish Nuclear Power and senior officials in an exit meeting on 22 March 2013. The preliminary draft report was delivered to the counterpart during the exit meeting.

The results of the INIR mission are summarized in Section 6 and presented, in tabular form in Section 8 for each of the 19 Infrastructure issues in Phase 1. Attachment 1 provides the evaluation results for each issue. The INIR team made observations based on the evaluation for each condition to determine the progress towards Milestone 1. The INIR team identified areas where significant or minor actions are needed and made recommendations and suggestions, as well as good practices.

The INIR team also reflected on Polish progress beyond Phase 1. This is summarized in Section 7. It should be noted that progress toward Milestone 2 was not evaluated, and that the views expressed are based on limited information provided during interviews. Any suggestions made regarding Phase 2 should be considered to be only an initial indication of whether the current course of Polish activities is in line with the goals of the programme. The INIR team advises Poland to request a Phase 2 INIR mission at an appropriate time.

6. MAIN CONCLUSIONS

The INIR mission was conducted in a cooperative and open atmosphere with participation from the main organisations in Poland responsible for the nuclear power programme.

The INIR team concluded that Poland has made significant progress in the necessary infrastructure for the development of its National Nuclear Power Programme. For many infrastructure issues Poland is working in both Phase 1 and Phase 2 activities. In order to assist Poland in making further progress in this regard, the INIR team made 5 recommendations and 6 suggestions. The INIR team also identified 6 good practices. Based on these recommendations, the key areas for further action in Phase 1 are summarized below:

Strengthen Government Commitment and Involvement. In order to progress further, the Government is strongly encouraged to strengthen its role, as for example by:

- Approving the updated national policy and strategy (PNPP) for the introduction of the new nuclear power programme. This document should be the reference for the further implementation of the program.
- Ensuring strong institutions and funding of the nuclear infrastructure, particularly the regulatory body.
- Providing strong coordination among the different players of the national nuclear power programme.

Strengthen the Regulatory Framework. This will require a clear strategy, planning and adequate resources in order to:

- Develop a clear set of regulatory expectations for the future owner-operator prior to the key stages of licensing.
- Ensure there is a complete regularly updated set of regulations for safety, security and safeguards and on this basis PAA should consider strengthening its pre-licensing interactions with prospective NPP applicants to support a shared understanding of regulatory expectations.
- Establish within the national regulatory authorities, particularly in the areas of security and safeguards, a clear definition of interactions, including with other advisory agencies.

Develop an Integrated HRD Plan. In order to progress further, the Government is strongly encouraged to:

- Develop an integrated HRD plan based on the needs of the main organisations, and the current capabilities of educational and training establishments.

The INIR mission team also recognized good practices in the Polish programme, which are worthy of note by others as a model in the drive for excellence in infrastructure development. These are:

- Recognition of the need for a Periodic Safety Review demonstrating a positive attitude to nuclear safety;

- Planning by PGE EJ 1 Ltd.(a PGE's daughter company dedicated to the first NPP Project) to incorporate safety culture criteria in regular staff performance reviews;
- Utilization of draft PNPP as a means for consultation at local, national and trans boundary levels;
- Organisation of a series of topical meetings (e.g. tourism, agriculture) with a wide range of local community entities to identify local concerns;
- Inclusion of the requirement to implement an Integrated Management System (GS-R-Part 3), specifically including occupational health and safety and Environment Management (ISO14001) in the specifications for site characterization contract;
- Planning to create an Independent Advisory Board of the NPP Owner (PGE EJ 1 Ltd.) to support the key decision on the "integrated procurement" process of NPP technology, support for NPP Operation& Maintenance and NPP financing.

Recommendations

R-1.3.1 Poland should complete its planned update of the draft Polish Nuclear Power Programme to reflect the latest considerations and proposed national policies, as well as Poland's commitment to nuclear safety, security and non-proliferation prior to its submission to the Council of Ministers for approval.

R-6.2.1 As the number of entities having to provide Safeguards relevant information may increase with the NPP programme, Poland should enhance existing mechanisms to ensure that all entities having to provide the Regulatory Body (PAA) with Safeguards relevant information are aware of their obligation.

R-7.1.1 While conducting regular reviews, as required in the Atomic Law, Poland should specifically review existing regulations in the area of nuclear security and safeguards for completeness and develop a plan to address any gaps identified.

R-10.1.1 Poland should develop and approve an integrated Human Resources Development Plan based on the inputs of the main organisations and the current capabilities of educational and training establishments.

R-15.1.1 The Government Commissioner for Polish Nuclear Power should, in consultation with relevant agencies involved in nuclear security, such as the Regulatory Body (PAA) and the Internal Security Agency (ISA), review the draft PNPP to ensure that all issues related to nuclear security are adequately addressed. See also R-1.3.1.

Suggestions

S-1.2.1 Poland should take steps to strengthen coordination, especially between the MoE NED, the Regulatory Body (PAA) and the future owner operator (PGE SA), with due respect to the Regulatory Body independence.

S-4.1.1 Poland should include estimates of the funding requirements for enhancements to emergency preparedness needed by the introduction of nuclear power in the updated Polish

Nuclear Power Programme in order to have a full picture of the funding requirements for the national nuclear infrastructure development.

S-7.1.1 The Regulatory Body (PAA) should consider preparation of a specific plan for the development of regulatory guides for nuclear and radiation safety, security and safeguards.

S-8.1.1 Poland should consider including in the PNPP a clear commitment to assess the existing radiation protection technical and organizational infrastructure to identify how it needs to be enhanced to address hazards arising from the implementation of PNPP and how the required enhancements will be delivered.

S-14.1.1 Poland should consider completing its survey on how the existing framework of emergency preparedness and response should be expanded to cover the needs arising from the PNPP, including an evaluation of additional resources required.

S-16.1.1 Poland should consider including in the final version of the PNPP the conclusion of its analysis on fuel cycle options.

Good Practices

GP-2.1.1 The early recognition of the need for a Periodic Safety Review and the Mandatory International Peer Review of the Regulatory Body demonstrates a positive attitude to nuclear safety (in line with the European Council Directive 2009/71/Euratom).

GP-3.1.1 PGE EJ 1 Ltd. plans to implement in its organisation a regular performance review of the staff and one of the criteria for evaluation is related to safety culture.

GP-11.1.1 Defining the draft PNPP, and using it to consult at local, national and trans boundary levels is a means for building confidence in the programme.

GP-11.1.2 The organisation of a series of topical meetings (e.g. tourism, agriculture) by PGE SA with a wide range of local community entities to identify local concerns, capture them in a database and commit to responding within six months.

GP-12.1.1 The inclusion in the specification for the site characterization a requirement by the contractor to implement an Integrated Management System (GS-R-Part 3) by PGE EJ 1. This specifically includes occupational health and safety and Environment Management (ISO14001).

GP-19.1.1 The plan to create an Independent Advisory Board of the NPP Owner (PGE EJ 1 Ltd.) to support the key decision on the "integrated procurement" process of NPP technology, support for NPP Operation& Maintenance and NPP financing.

7. LOOKING FORWARD – PHASE 2

As Poland is already engaged in activities related to preparation of infrastructure needed to support the bidding process (Phase 2), the INIR team also reflected on Polish progress beyond Phase 1 (*see Section 7*). It should be noted that the views expressed herein are based on limited information provided during interviews and should be considered to be only initial observations.

Whereas Phase 1 is mostly about building awareness and decision-making, centered in the NEPIO, Phase 2 is centered in the main implementing organisations with strong support from the Government in key areas. Phase 2 activities are about capacity building and development of specific plans and processes to meet the needs of the project schedule heading into bidding process. This is particularly true for the regulatory body which needs to have defined the licensing requirements and have the competence to evaluate the licensing applications by the end of Phase 2.

Whilst NED has been focused on completing consultations on the PNPP and securing approval by the Council of Ministers, PGE has been actively progressing the required Phase 2 activities. The government should be careful to ensure that the infrastructure development is consistent with the project implementation.

The INIR mission team noted that there are several areas where Phase 2 activities are well underway. Some examples include:

- The Government has already established international agreements with potential vendor countries.
- There is a clear designation of the future owner-operator.
- PGE is implementing an integrated management system and has established a procurement team which has already issued bids for site characterization and Owners Engineer.

Looking ahead, the INIR mission team identified the following areas where Poland should pay close attention to future developments.

For PGE:

- PGE EJ 1 should identify a "core group" of the future Project Management Team, which will be involved in the BIS preparation and evaluation as this will provide an opportunity for gaining experience that will be valuable in Phase 3. NPPs in operation or under construction ("reference plant") similar to those being considered by PGE EJ 1 Ltd. should be visited.
- PGE EJ 1 should work with PAA to strengthen interfaces and pre-licensing interactions in advance of the start of the bidding process for the first NPP.
- The financial model of the first NPP in Poland should be prepared, including, if required, sovereign guarantees. The document should contain also the risk management plan. This is important for the Government to understand its role in this key area.

For the Government:

- The Atomic Law may need further revision to fully comply with the international legal instruments and standards. In particular, Poland may consider enhancing the provisions of the Atomic Law for nuclear security and physical protection of nuclear material and facilities as well as the provisions on civil liability for nuclear damage.

- In addition, consideration should be given to the fact that the Atomic Law also contains a significant amount of very detailed provisions of a technical and procedural nature. Such provisions are usually found in the implementing regulations – which are subject to regular modifications - rather than in the legislative framework which aims to reflect the main principles and general requirements, and ensure legal certainty.
- Because a number of organisations are involved in nuclear security, Poland should consider strengthening coordination among competent authorities involved in nuclear security.
- Poland should consider strengthening its involvement in bilateral, multilateral and international cooperation and assistance in order to improve understanding in areas of nuclear security such as Design Basis Threat (DBT), nuclear security regulations and nuclear security culture.
- A report with the information about potential local suppliers of the goods and services should be prepared by MoE and the government should evaluate the possible extent of national industrial involvement in the programme. This MoE report should be used for the promotion of the local industry in the relationships with potential NPP Vendors or engineering, procurement and construction (EPC) Contractors for the first NPP in Poland and be considered when reviewing proposals from consortia.
- New regulations should be developed for emergency preparedness and response related to an NPP. These should introduce the internationally accepted categorization of hazards of facilities and practices in order to apply graded approach for development of emergency arrangement and capabilities.
- Enhancements to the grid system are a pre-requisite to introducing nuclear power. The Government should ensure that the required enhancements to the grid are progressed on a timescale consistent with the NPP schedule.

8. EVALUATION RESULTS FOR PHASE 1

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

Significant actions needed:

The "Review observations" indicates that there is considerable effort still needed to realize the stated "Condition", and that achievement of this "Condition" is needed in order to be able to sustain overall progress in developing an effective national nuclear power infrastructure.

Minor actions needed:

The "Review observations" indicates that there is some effort still needed to realize the stated "Condition". However, the current status, supported by the on-going activities, mostly achieves the desired "Condition".

No actions needed:

The available evidence indicates that the intention underlying this "Condition" has been achieved. However, as work continues on the infrastructure knowledge and implementation, care has to be taken to ensure that this status remains valid.

Recommendations:

Recommendations are proposed when aspects related to fulfilment of conditions of nuclear infrastructure development are discrepant, incomplete or inadequately implemented. Recommendations are specific, realistic and designed to result in tangible improvement. Recommendations are based on the *Milestones Approach* and, as applicable, state the relation with the specific issue. The recommendations are formulated so they are succinct and self-explanatory.

Suggestions:

Suggestions may indicate areas where concrete plans exist and are being executed, or for useful improvement of existing programmes and to point out possible better alternatives to current work. In general, suggestions stimulate the management and staff to consider new or different approaches to develop infrastructure and enhance performance. Suggestions are formulated so they are succinct and self-explanatory.

Good practices:

A good practice is identified in recognition of an outstanding organisation, arrangement, programme or performance, superior to those generally observed elsewhere. A good practice is more than just the fulfilment of the conditions or expectations. It is worthy of the attention of other countries involved in the development of nuclear infrastructure as a model in the drive for excellence. Good practices also reference the bases (similar to suggestions) and are clearly documented in the mission report.

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

1. National Position	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
1.1. Safety, security and non-proliferation needs recognized			**X**
1.2. NEPIO established and staffed		**X**	
1.3. National strategy defined	**X**		
2. Nuclear Safety	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
2.1. Key elements of nuclear safety understood			**X**
2.2. Support through international cooperation intended			**X**
3. Management	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
3.1. Commitment to management systems that promote and support a strong safety culture evident			**X**
4. Funding and Financing	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
4.1 Strategies established for funding and financing		**X**	
5. Legislative Framework	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
5.1. Adherence to all relevant international legal instruments planned			**X**

5.2. Plans for national nuclear legislation in place			**X**
5.3. Consultation with national stakeholders about the legislative framework			**X**
6. Safeguards	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
6.1. Terms of international safeguards agreement in place			**X**
6.2. Development, implementation and enforcement of safeguards framework, including SSAC establishment, planned	**X**		
6.3. International requirements for any existing nuclear facilities or locations outside facilities met			**X**
7. Regulatory Framework	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
7.1. Development of an adequate regulatory framework planned	**X**		
8. Radiation Protection	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
8.1. Hazards presented by NPP operation recognized and enhancements to national regulations and infrastructures planned		X	
9. Electrical Grid	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
9.1. Electrical grid requirements considered			**X**

10. Human Resources	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
10.1. Necessary knowledge and skills identified and develop and maintenance of human resource base planned	**X**		
11. Stakeholder Involvement	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
11.1. Open and transparent stakeholder involvement programme initiated			**X**
12. Site and supporting facilities	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
12.1. General survey of potential sites, conducted and candidate sites identified			**X**
13. Environmental Protection	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
13.1. Environmental framework and key issues for nuclear power outlined and environmental studies production and communication recognized			**X**
14. Emergency Planning	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
14.1. Appreciation of the need for emergency planning, developed and communication with and involvement of local and national government taken into account		**X**	
14.2. Emergency planning for existing radiation facilities and practices in place			**X**

15. Security	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
15.1. Conditions for nuclear security acknowledged and necessary regulation identified	**X**		
15.2. Nuclear security arrangements for existing radiation facilities and practices in place			**X**
16. Nuclear Fuel Cycle	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
16.1. Knowledge of nuclear fuel cycle steps and approaches developed		**X**	
16.2. Need for site spent fuel storage recognized and away from reactor spent fuel storage considered			**X**
17. Radioactive Waste	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
17.1. The burdens of radioactive waste from nuclear power plants recognized and current capabilities for waste processing, storage and disposal reviewed			**X**
17.2. Options for ultimate disposal of all radioactive waste categories recognized			**X**
18. Industrial Involvement	**Phase 1**		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
18.1. National policy with respect to national and local industrial involvement considered			**X**
18.2. Need for strict application of quality programmes for nuclear equipment and services recognized and consistent policies for nuclear procurement in place			**X**

19. Procurement	Phase 1		
Condition	**Actions needed**		
	SIGNIFICANT	**MINOR**	**NO**
19.1. Unique criteria associated with purchasing nuclear equipment and services recognized			**X**

ATTACHMENT 1: REVIEW OBSERVATIONS, RECOMMENDATIONS AND SUGGESTIONS FOR PHASE 1

1. NATIONAL POSITION **Condition 1.1: Safety, security and non- proliferation needs recognized**		**Phase 1**
Summary of the condition to be demonstrated		Given its fundamental importance, there should be a clear statement that any development of nuclear power fully recognizes the importance of safety, security and non-proliferation as well as evidence in the on-going work programme. Even during Phase 1, when a decision may not have been made, the recognition of the importance of these aspects should be clear.
Review observations		Poland has experience with managing nuclear activities. Poland is a party to all relevant international instruments. The Atomic Law as amended addresses nuclear safety, security and non-proliferation. The draft PNPP also describes responsibilities for nuclear safety and physical protection. The INIR mission team concluded that because of Poland's experience, its engagement in international instruments, and its national laws, Poland recognizes the requirements for safety, security and non-proliferation. However, those commitments are not fully reflected in the draft PNPP. The INIR team found that the draft PNPP could be improved with a declarative statement of principle recognizing the need for nuclear safety, security and non-proliferation as part of a nuclear power programme.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		
Condition 1.2: The NEPIO established and staffed. **These also include 3 Management**		**Phase 1**
Summary of the condition to be demonstrated		It is essential that the Nuclear Energy Programme Implementing Organisation (NEPIO):

	• has clear terms of reference which call for a comprehensive review of all the issues relevant to making a decision to proceed with a nuclear programme • is recognized by all relevant ministries as having that role • reports to a senior minister • is staffed with appropriate resources(including budget for external support) and expertise • involves all relevant stakeholders, including the regulatory authority for radiation protection and future operators if already identified. • has developed or is considering bilateral agreements as appropriate
Review observations	The Prime Minister established a Government Commissioner for Polish Nuclear Power, who is the Undersecretary of State in the Ministry of Economy and charged with among others elaborating the NPP programme. A Committee for Nuclear Power was established in 2009 which is composed of undersecretaries of state of Internal Affairs Administration and Digitization, Infrastructure, Finances, Treasury, National Education, Science and Higher Education, Environment, Foreign Affairs and Health, as well as Deputy Presidents or Department Directors of Consumer Protection and Competition Office, Power Regulation Office, PAA, ISA and OTI. The INIR mission team was informed that the Committee met regularly during the development of the draft PNPP. The INIR mission team was informed that there is also bilateral coordination among ministries with more active role in the PNPP - the MoE (overseeing public communication), MoEnv (overseeing the regulatory body PAA), and the MoST (ownership role for the owner/investor PGE SA). The INIR team was informed that the full Committee will review the updated draft PNPP before it is submitted to the Council of Ministers in the second quarter of 2013. A social commission composed of leading academics and scientists was established in 2009 to advise the Commissioner and was active during the development of the PNPP. The Commissioner is supported by a NED in the MoE. The NED consists of 25 staff with expertise primarily in public administration. The INIR mission team was informed that NED coordinates different aspects of the nuclear power infrastructure. The INIR mission team concluded that the coordination functions of the NEPIO are led the Commissioner, supported by the NED, and the Committee for Nuclear Power. The INIR mission team understood that bilateral coordination with the key stakeholders can be efficient once responsibilities and actions have been agreed, and the full Committee

		plays an important role in developing and maintaining consensus among the stakeholders. As the programme moves into Phase 2, more direct coordination among the regulatory body, the future owner operator and the promoting organisation may be useful for ensuring a common schedule and national level plans such as workforce planning and stakeholder involvement. This may also necessitate a review of the resources in NED as the programme development moves into a more technically demanding phase.
Areas for further action	**Significant**	No
	Minor	Coordination mechanisms among key stakeholders
RECOMMENDATIONS		
None		
SUGGESTIONS		
S-1.2.1 **Poland should take steps to strengthen coordination, especially between the MoE NED, the Regulatory Body (PAA) and the future owner operator (PGE SA), with due respect to the Regulatory Body independence.**		
GOOD PRACTICES		
None		
Condition 1.3: National strategy defined These also include 3 Management		**Phase 1**
Summary of the condition to be demonstrated		The output for milestone 1 is a comprehensive report, defining and justifying the national strategy for nuclear power. This should include: • analysis of energy demand, economics, justification and compatibility of nuclear power (justification is Basic Safety Principle 4); • benefits of nuclear energy in the national energy policy (economic, environmental, diversity of supply...); • review of technologies to identify those that are consistent with the national requirements; • consideration of ownership options and operator responsibilities; • consideration of long term liabilities relating to spent fuel, radioactive waste and decommissioning; • consideration of the need for technical support organisations

		for the regulator and operator; • recognition that there remain a non-zero possibility of a severe accident and the need to deal with the consequences of such an accident will need to be addressed consideration of the demands of each of the infrastructure issues, including those for safety, security and non-proliferation, and a plan for how they will be met in the next phase of development.
Review observations		The PNPP, once approved by the Council of Ministers, will constitute the national decision. The PNPP has been an important element of public consultation and the INIR mission team was informed that it has been made available on the website of the MoE, and has been discussed with stakeholders including NGOs. The INIR mission team was informed that the NED plans to update the PNPP and add the results of the trans boundary consultations prior to submittal to the Council of Ministers for approval in June 2013. The INIR mission team found that the draft PNPP has not been updated since 2011, and many aspects are now out of date and should be reviewed and updated. References to the establishment of the nuclear power agency and other aspects that are now obsolete should be deleted. The draft PNPP contains a justification for nuclear power based on future energy demand. It assigns responsibilities for implementation of main elements of the program to the Commissioner (public information), the President of PAA (nuclear safety), and PGE (main investor/owner). The INIR mission team found that the draft PNPP in some areas such as technology and human resources provides a general description without a proposal for how the issue would be addressed in Poland. The INIR mission team understood that the PNPP would become a national reference for the nuclear power programme, and that it could be improved by adding policy proposals for approval by the Council of Ministers. In the area of technology, for example, outlining the national views would assist PGE SA in formulating its criteria for technology selection.
Areas for further action	**Significant**	PNPP update
	Minor	No
RECOMMENDATIONS		
R-1.3.1 **Poland should complete its planned update of the draft PNPP to reflect the latest considerations and proposed national policies, as well as Poland's commitment to nuclear safety, security and non-proliferation prior to its submission to the Council of Ministers for approval.**		

SUGGESTIONS
None
GOOD PRACTICES
None

2. NUCLEAR SAFETY **Condition 2.1: Key elements of nuclear safety understood**	**Phase 1**
Summary of the condition to be demonstrated	The key requirements for nuclear safety, specified in international standards must be understood by the NEPIO and other relevant stakeholders, and their implications recognized.
Review observations	The NEPIO and other governmental institutions are aware of and understand the safety objective and principles described in the IAEA Fundamental Safety Principles. This is demonstrated by relevant references in: • The PNPP – draft version Chapter 6, *Ensuring conditions for safe use of nuclear power*. • The Atomic Law of 29 November 2000 (OJ 2012, item 264 and 908 as amended). Prime responsibility for safety of the operator is recognized and stated in the Atomic Law. The draft PNPP and the detailed provisions of the Atomic Law reflect the recognition of the need to develop adequate capability and skills in nuclear safety. The INIR mission team was informed that the key institutions ensure appointment of leaders with appropriate training and experience for the leadership and management of safety. The NEPIO, Operator and Regulator are responsible for implementing their strategies for the safety culture. The organisations are aware of the importance of safety culture for effective management. The INIR team concluded, following the interviews, that the key players were familiar with the IAEA safety standards and other states practices, and recognition of the need for and commitment to the development of national safety standards. The content of the SER reflected a good understanding of the need to

		establish an independent regulatory body.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
GP-2.1.1 **The early recognition of the need for a Periodic Safety Review and the Mandatory International Peer Review of the Regulatory Body demonstrates a healthy attitude to nuclear safety (in line with the European Council Directive 2009/71/Euratom).**		

Condition 2.2: Support through international cooperation intended	**Phase 1**

Summary of the condition to be demonstrated		International co-operation and open exchange of information related to safety is an essential element of the Global Nuclear Safety Network. It needs to be demonstrated from the beginning.
Review observations		Poland is already a party of the Convention on Nuclear Safety. Poland has a number of bilateral cooperation agreements (e.g. PAA and ASN-France). Also PAA cooperates and is active in many international regulators' organisations. PGE SA signed an agreement with WANO in 2011. Poland has full Membership to NEA/OECD – since November 2010. PAA experts participate to IAEA Safety Standards Committees: NUSSC, RASSC, TRANSSC and WASSC.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		

GOOD PRACTICES
None

3. MANAGEMENT Condition 3.1: Commitment to management systems that promote and support a strong safety culture, evident	Phase 1
Summary of the condition to be demonstrated	Recognition of and commitment to leadership and management systems that will promote a strong safety culture.
Review observations	Poland already has in place the principal organisations needed for implementation and operation of a nuclear power programme. The most important players in the process – especially in the Phase 2 and 3 – are the regulator and the operator. Both have changed their organisations to better reflect the needs of NPP implementation. Description of the new organisation of PAA that was implemented in November 2011 is included in the SER. For the NPP Operator, PGE Energia Jądrowa S.A. (PGE Nuclear Energy SA) was established by PGE SA in December 2009. This company is responsible for the development and implementation of a comprehensive plan for the construction of the NPP. Following this a special purpose company PGE EJ 1 Ltd was established in September 2010. It is directly responsible for preparation of the investment process, conduction of site analyses and obtaining all the permits that are necessary for construction and operation of the power plants. The Company is also responsible for selection of the partner, with whom it will create a consortium to build the first power plant in Poland. The MoE in all organizational units (including the Commissioner and the NED) have implemented quality management systems in accordance with the requirements of PN-EN ISO 9001:2009. Both PAA and PGE EJ 1 Ltd declared their commitment to the leadership and management system that will promote the strong safety culture. PAA already organized in 2012 a specific IAEA Workshop on the Management System and has a plan to implement the Integrated Management System by 2015. This plan for the implementation of the Integrated Management System is included also in the PAA SER for the IRRS mission. PGE EJ 1 Ltd. developed in 2011 a preliminary strategy for the

		Integrated Management System, which contains a very preliminary description of the system. Currently PGE EJ 1 Ltd. started the work for the implementation of the Integrated Management System in the organisation, using external expertise and additional staff dedicated to this activity. The IAEA standards and guides on Management Systems are the references for the PGE EJ 1 Ltd. Integrated Management System. By the end of 2013 a detail plan of the implementation of the full Integrated Management System should be ready. In this plan support of the future Owner Engineering organisation (currently under selection) will be provided. For the on-going activities (NPP site characterization, Owner Engineering organisation selection and preparatory activities for the NNPP Vendor selection, etc.), PGE EJ 1 Ltd. specified requirements for the Management System of the subcontractors and for its own activities developed specific procedures and instructions. (Example: Quality Management Plan of one subcontractor for NPP site characterizations was already assessed and verified by PGE EJ 1 Ltd.). PGE EJ 1 Ltd. implemented in its organisation a regular performance review of the staff and one of the criteria for evaluation is related to safety culture.
Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS

None

SUGGESTIONS

None

GOOD PRACTICES

GP-3.1.1

PGE EJ 1 Ltd. plans to implement in its organisation a regular performance review of the staff and one of the criteria for evaluation is related to safety culture.

4. FUNDING AND FINANCING Condition 4.1: Strategies for funding and financing established	Phase 1
Summary of the condition to be demonstrated	Establish how a range of key activities that are specific to a NPP (including items that may not be the fiscal responsibility of the owner/ operator) will be funded, taking into consideration the various possible sources of funding. They include: a) the regulatory body for safety and security; b) safeguards arrangements; c) education, training and research; d) emergency preparedness; e) storage and disposal of radioactive waste; f) management of spent fuel including spent fuel/high level waste disposal; g) decommissioning. Identify financial and strategic planning measures and risk management strategies, which together create sufficient confidence for investors to support an NPP project and ensure the long term viability of the operating organisation to effectively fulfil all its responsibilities with strong capabilities, skilled and trained staff. A large part of government's role in nuclear power financing, if the government is not directly a sponsor of the project, revolves around risk reduction.
Review observations	**Funding:** The funding requirements for implementation of nuclear power in Poland in the short and long term were estimated in the PNPP in Chapter 7 "Costs of implementation and sources of financing for the Polish Nuclear Power Program" and Appendix 3 "Expected expenditures in the years 2011-2020 related to the implementation of nuclear power in Poland". The Appendix 3 of the PNPP does not contain the overall costs or proposals for allocation on an annual basis for expansion of emergency preparedness arrangements. The INIR team was informed that the required funding for the above mentioned aspects are included in the estimation of the appropriate national authorities (Ministry of Internal Affairs, etc.). **Financing:** NEPIO has organized some seminars concerning the financing

		options for the first NPPs in Poland. In order to prepare itself for the financing of the NPP in Poland PGE EJ1 Ltd. has commissioned several reports and analysis on the subject, which are listed in the Self-Evaluation Report. PGE EJ 1 Ltd. developed a pre-Feasibility Study for the first NPP which includes preliminary financial models for the different alternatives and also a financial strategy of the first NPP in Poland. Very preliminary risk management assessments were performed by PGE EJ 1 Ltd. on the different alternatives for the financial model for the first NPP. The preliminary financial model is regularly updated and will be improved by PGE EJ 1 Ltd. taking into account the different constraints, including the Poland electricity market requirements and the potential investor's position. A new development in the area of the financing model for the first NPP in Poland is the letter of intent of the four big majority state-owned companies in Poland to participate in the construction and operation of Poland's first NPP. A formal agreement may be signed by the end of the year, spreading the load from the main proponent PGE SA to include utilities Tauron Polska Energia and Enea, together with copper miner KGHM Polska Miedź SA. These will acquire up to 49% of the shares in the project company PGE EJ 1 Ltd., which will be future operator and licensee. PGE EJ 1 Ltd. intends to attract more investors (equity providers for the first NPP) in the future using the results of the financial studies. Results of financial analyses of the first NPP project, including the financial model, will be updated as part of the final Feasibility Study for the project. The study is planned in Phase 2 of the program and scheduled to be finalized in 2015. PGE EJ 1 Ltd. intend to apply an "integrated approach" for the Bid Invitation Specification for the first NPP in Poland, requesting strategic support, including the financing (equity and loans) in addition to supplying a nuclear technology and EPC services. The final financing model should be established after the bids for the first NPP have been received together with all the previous work with potential investors.
Areas for further action	**Significant**	No
	Minor	**Funding:** Evaluations of the funds for emergency preparedness at the national level

RECOMMENDATIONS
None
SUGGESTIONS
S-4.1.1 **Poland should include estimates of the funding requirements for enhancements to emergency preparedness needed by the introduction of nuclear power in the updated PNPP in order to have a full picture of the funding requirements for the national nuclear infrastructure development.**
None
GOOD PRACTICES
None

5. LEGISLATIVE FRAMEWORK **Condition 5.1: Adherence to all relevant international legal instruments planned**	**Phase 1**
Summary of the condition to be demonstrated	An understanding of the requirements of international legal instruments, the implications for the country and a commitment to adhere. As a minimum, the following instruments should be covered: a) Convention on Early Notification of a Nuclear Accident b) Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency c) Convention on Nuclear Safety d) Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste management e) Convention of Physical Protection of Nuclear Material and its Amendment f) Vienna Convention on Civil Liability for Nuclear Damage[1], Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage and the Convention on Supplementary

[1] Or an equivalent convention

		Compensation for Nuclear Damage g) Comprehensive Safeguards Agreement between the State and the IAEA h) Revised Supplementary Agreement concerning the provision of Technical Assistance by the IAEA.
Review observations		Poland is already a Party to the following international legal instruments governing nuclear activities concluded under the IAEA auspices: - Convention on Early Notification of a Nuclear Accident (ratified in 1988), - Convention on Assistance in the Case of a Nuclear Accident or a Radiological Emergency (ratified in 1988), - Convention on Nuclear Safety (ratified in 1995), - Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (ratified in 2000), - Convention on Physical Protection of Nuclear Material (ratified in 1983) and its amendment (ratified in 2007), - Vienna Convention on Civil Liability for Nuclear Damage (acceded in 1990) and the 1997 Protocol to Amend the Vienna Convention (ratified in 2010), - Agreement between the Non-Nuclear Weapon States of the European Atomic Energy Community(Euratom) and the Agency in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (INFCIRC/193) and the Protocol Additional thereto (INFCIRC/193Add.8) (entered into force for Poland on 1 march 2007), - Revised Supplementary Agreement Concerning the Provision of Technical Assistance by the IAEA (in force since 1981). Poland is also a Party to the Joint Protocol relating to the Application of the Vienna Convention and of the Paris Convention (acceded in 1990).
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		

GOOD PRACTICES	
None	
Condition 5.2: Plans for development of national nuclear legislation in place	**Phase 1**
Summary of the condition to be demonstrated	An understanding of what legislation needs to be established, the timescales for its development and approval, together with a commitment from government to achieve the stated plan which should cover: a) establishing an effectively independent regulatory body or bodies with clear functions b) identification of responsibilities for safety, emergency response, security and safeguards c) formulation of safety principles , policies and rules (nuclear installations, radioactive waste and spent fuel management, decommissioning, mining and milling, emergency preparedness, transport of radioactive material) d) formulation of nuclear security principles e) giving appropriate legal authority to and definition of the responsibilities of all competent authorities establishing a regulatory control system (authorization, inspection and enforcement, review and assessment, and development of regulations and guides) f) implementing IAEA safeguards g) implementing import and export controls of nuclear and radioactive material and items h) establishing compensation mechanisms for nuclear damage. Further detail is available in the IAEA Handbook on Nuclear Law (2003 and 2010) The other legislation to be considered includes: a) environmental protection (air and water quality and wildlife protection) b) emergency preparedness and management for natural disasters c) occupational health and safety of workers d) protection of intellectual property e) local land use controls f) international trade and customs

	g) foreign investment h) taxation: tax of electricity tariff (e.g. for decommissioning funds),and incentives i) roles of national government, local government, j) stakeholders and public involvement k) international trade and customs l) financial guarantees and other required financial legislation m) research and development
Review observations	The draft document entitled PNPP 2011, which defines the national strategy for the development of a nuclear power programme, recognises the need for the adoption of adequate legislation governing these activities. In fact, one of the objectives of the PNPP is to "establish the legal framework for the development and operation of nuclear power and, in particular, to adjust the 2000 Atomic Law" (which is the main law governing nuclear activities in Poland). The PNPP identified different steps and set the schedule to reach that objective. The first step was completed by June 2011. The INIR team noted that Poland recognizes in the PNPP the need for an independent regulatory body with clear functions (identified as the President of the PAA). The PNPP mentions that the regulatory infrastructure should be composed of "an adequate regulatory authority which has sufficient technical base and trained staff consisting of an adequate number of people. It has to be independent of other governmental bodies, which are responsible for promoting and developing nuclear activities. The regulatory authority also has to be independent of users, permission holders (…)". The INIR team was informed that the President of the PAA is placed under the supervision of the Ministry of Environment. The budget of the regulatory body is established by its President and approved by the Parliament. The PNPP also identified some other key issues that were addressed in the 2011 amendment of the Atomic Law such as the responsibilities of the regulatory body, nuclear safety and the requirements relating to the design, construction, commissioning, operation and decommissioning of nuclear installations, radioactive waste management and civil liability for nuclear damage. As regards nuclear security and physical protection, the PNPP indicates that a further amendment "will establish a new structure for the nuclear supervision fully compliant with the requirements for assuring the nuclear security of nuclear power facilities in the country". However, the INIR team was informed that this further

		amendment is no longer envisaged. Some issues are not developed in the PNPP such as IAEA safeguards, the import and export controls of nuclear and radioactive material and items or the transport of radioactive material. However, the SER indicated that those elements are addressed in the Atomic Law as amended in 2011. The INIR team concluded that Poland has a general understanding of the need to establish a nuclear legislation to support the development of a nuclear power programme and has established a clear timescale for the implementation of this objective. The INIR team also acknowledges that some actions have already been undertaken by Poland. Indeed, as provided by the PNPP and indicated in the SER, the Act of Parliament of 29 November 2000 – Atomic Law has already been extensively amended by the Act of Parliament of 13 May 2011 (entered into force on 1st January 2012). The Atomic Law will soon be further amended to implement Council Directive 2011/70/Euratom. However, considering that the INIR team was informed that some of the plans initially included in the draft PNPP to introduce further amendments to the Atomic Law (in particular in the area of nuclear security and physical protection) have been abandoned, this raises issues that need to be reviewed in Phase 2. Poland also indicated in its SER that it has amended/adopted, inter alia, the following acts: - Law of 27 April 2001 on Environmental Protection, - Law of 3 October 2008 on the disclosure of information about the environment and its protection, public participation in environmental protection and environmental impact assessments, - Law of 29 June 2011 on preparation and realization of investments in nuclear facilities and accompanying investment, - Law of 27 March 2003 on spatial planning and land development, - Industrial Property Law of 30 June 2000.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		

None		
GOOD PRACTICES		
None		
Condition 5.3: Consultation with national stakeholders about the legislative framework taken place		**Phase 1**
Summary of the condition to be demonstrated		Effective stakeholder engagement and an on-going plan.
Review observations		Poland indicated in its SER that according to Resolution No. 49 of 19 March 2002 of the Council of Ministers there is a requirement to consult the public and all stakeholders who can be interested or affected by a draft piece of legislation. In addition, Act of 6 May 2005 on the Common Commission of Government and Local Government also requires that local governments are consulted on draft acts and amendments proposals. Finally, the Act of 7 July 2005 on lobbying in the legislative process provides another opportunity to stakeholders or any interested entity (including foreign entities) to provide their comments on drafts pieces of legislations. Poland further explained that draft amendments to the Atomic Law were circulated to approximately 150 entities.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

6. SAFEGUARDS **Condition 6.1: Terms of international safeguards agreement in place**		**Phase 1**
Summary of the condition to be demonstrated		The Comprehensive Safeguards Agreement with associated Subsidiary Arrangements is in force with the IAEA. If the State currently has a Small Quantity Protocol (SQP) in force, a plan for rescinding the protocol in a timely manner is in place. The State is aware of the obligations of the Additional Protocol (AP) and, if it intends to ratify and has not already done so, a plan is in place for timely ratification.
Review observations		The Agreement of 5 April 1973 between Belgium, Denmark, the Federal Republic of Germany, Ireland, Italy, Luxembourg, the Netherlands, the European Atomic Energy Community and the IAEA in implementation of Article III, (I) and (4) of the Treaty on the Non-Proliferation of Nuclear Weapons, and the Protocol Additional reproduced in document INFCIRC/193/Add.8, entered into force for Poland on 1 March 2007. As a result of the entry into force of the aforesaid Agreement for Poland, the application of safeguards under the Agreement reproduced in document INFCIRC/179 of 11 October 1972 between Poland and the for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons, and the Additional Protocol reproduced in document INFCIRC/179/Add.1, has been suspended.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		
Condition 6.2: Development, implementation and enforcement of safeguards framework, including SSAC establishment, planned		**Phase 1**
Summary of the condition to be demonstrated		The State System on Accounting for and Control of Nuclear Materials (SSAC) has been established as required under the Comprehensive Safeguards Agreement.

Review observations		The President of PAA performs the tasks resulting from the obligations of Poland concerning safeguards agreements (Chapter 13 of the Atomic Law), and, inter alia, maintains the national system for gathering and processing data related to the fulfilment of obligations of Poland concerning "nuclear material safeguards and nuclear technology control" (Chapter 5 of the Atomic Law). PAA has the authority required for safeguards implementation. There is no indication that PAA doesn't have the required resources for fulfilling its tasks concerning international safeguards. A training and qualification programme has been established for national inspectors. The Atomic Law contains some provisions regarding safeguards implementation. No regulations have been issued for the practical implementation of the Atomic Law regarding international safeguards. The draft PNPP contains very limited references to international safeguards and non-proliferation. Regarding collection of information for complete declarations or reports to the IAEA, no outreach activities have been planned by the SSAC or any other relevant organisation in order to make sure that every possible entity dealing with activities, equipment or material having to be reported under the Additional Protocol or the Comprehensive Safeguards Agreement is fully aware of its reporting obligations.
Areas for further action	**Significant**	Awareness among Polish entities of their possible reporting obligations under the Comprehensive Safeguards Agreement and the Additional Protocol.
	Minor	No
RECOMMENDATIONS		
R-6.2.1 **As the number of entities having to provide Safeguards relevant information may increase with the NPP programme, Poland should enhance existing mechanisms to ensure that all entities having to provide the Regulatory Body (PAA) with Safeguards relevant information are aware of their obligation.**		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

Condition 6.3: International requirements for any existing nuclear facilities or location outside facilities met		Phase 1
Summary of the condition to be demonstrated		It is clearly a requirement to meet existing safeguards obligations, independent of any decision to begin a nuclear power programme. However, if any reviews or audits have been undertaken of the existing safeguards provisions, there should be evidence that the actions resulting from it are being progressed (it is probably more appropriate to review this in detail during Phase 2).
Review observations		All required information has been provided. Declarations, reports and relevant updates are provided in a timely manner and there are no pending issues. Integrated Safeguards are implemented.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

7. REGULATORY FRAMEWORK Condition 7.1: Development of an adequate regulatory framework planned	Phase 1
Summary of the condition to be demonstrated	As work to establish the regulatory body will need to take place early in Phase 2, the prospective senior managers of the regulatory body should be identified in Phase 1. There should also be plans to develop a regulatory framework that matches the overall plan for the NPP, including: • establishment of an authorization process • development of regulations and guides covering nuclear

	and radiation safety and security • process and capability for technical review • regulation of safeguards requirements • regulation of spent fuel, radioactive waste management and decommissioning • inspection and enforcement capability • coordination with other national and international bodies • plans to identify and ensure the required technical support. There should be clarity of the terms of reference of the regulator and the roles of and interfaces with existing regulators. Recognition of the need for integrating radiation protection regulations and new safety regulations for nuclear power plants.
Review observations	The INIR mission team was informed that the regulatory body for nuclear Safety Security and Safeguards is the President of the PAA. The licensing process for nuclear activities and for the nuclear installations is included in the amended Atomic Law. The PAA President is responsible for drafting regulations. Nuclear regulations are issued by the Council of Ministers (see Legislative Framework, Issue 5). The PAA President is responsible for licensing nuclear activities, inspections and enforcement in the areas of nuclear safety, security and safeguards. The self-evaluation report notes that a number of regulations have been issued already, mostly in the area of nuclear safety. The INIR mission team was informed that there were no plans to develop additional regulations, and that legislative framework covering nuclear security and international safeguards was sufficient. The INIR mission team had the view that further consideration should be given to the need for additional regulations, especially regarding implementation of nuclear security and safeguards. Whilst it is the responsibility of the State to satisfy itself that it has a complete set of regulations related to all areas of nuclear security and safeguards the INIR team noted that there was only a limited set of regulations related to physical protection and other areas such as the assignment of responsibility for the development of the national threat assessment and DBT were not covered in regulations related to nuclear security. The INIR team was informed that PAA intends to develop guidelines to support implementation of the regulations. A detailed plan was not provided. PAA cooperates with several regulators in other countries with operating nuclear power plants, such as ASN and US NRC among

		others. Based on SER and interviews the INIR team understood there is an intention to develop national technical resources and also to use experience from abroad to support PAA in the licensing process.
Areas for further action	**Significant**	Plan for regulations on security and safeguards
	Minor	Development of regulatory guides
RECOMMENDATIONS		
R-7.1.1 **While conducting regular reviews, as required in the Atomic Law, Poland should specifically review existing regulations in the area of nuclear security and safeguards for completeness and develop a plan to address any gaps identified.**		
SUGGESTIONS		
S-7.1.1 **The Regulatory Body (PAA) should consider preparation of a specific plan for the development of regulatory guides for nuclear and radiation safety, security and safeguards.**		
GOOD PRACTICES		
None		

8. RADIATION PROTECTION **Condition 8.1: Hazards presented by NPP operation recognized** **Enhancements to national regulations and infrastructures planned**	**Phase 1**
Summary of the condition to be demonstrated	There is probably an existing radiation protection programme associated with radiation sources. The condition is to identify how the existing programme will need to be enhanced (both in scale and to cover new technical issues) to address hazards arising from NPP operation (including transport of radioactive materials and waste management) and to begin to consider how the required enhancements will be delivered (this latter point is more of an issue for Phase 2).
Review observations	Poland already has in place a legal framework for radiation protection issues. The Atomic Law and its implementing regulations have been amended in 2011 to consider the introduction of Nuclear Power (PNPP) including for radiation protection.

	• This Law and implementing regulation formulates rules governing radiation protection for public and workers as well as for patients. • Dose limits for workers and public are defined in the Law and some specific regulations, which apply to all kind of nuclear facilities. The Law provides for the development and application of dose criteria for land use restrictions around a nuclear facility. • The Atomic Law and implementing regulations endorse the EU Directive 96/29/Euratom, which is based on the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of the Radiation Sources, IAEA-SS 115 (1996). Poland has already accumulated experience in the application of this radiation protection legal framework to its current activities: research reactor, radioactive materials for industry and medicine, transport of radioactive materials and management of radioactive waste. The INIR team was aware of interaction by specialists with countries operating NPPs. Poland participates in a number of platforms of interaction within the EU radiation protection context (Euratom, HERCA etc.). Due to the recent update of the IBSS (GSR Part 3, IAEA-Interim. Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards) as well as the upcoming revision of the EU-BSS, Poland has plans to check and amend the current regulations on Radiation Protection in coming future (after the EU Directive was approved). As for the technical and organizational infrastructure related to radiation protection: • There is need for enlargement of the existing regulatory body and plans have been set for implementation. • During the interviews, the Polish counterparts provided additional information regarding the plans they have to analyse the current situation of the Radiation Protection infrastructure, and to define future needs for enhancing or expanding this infrastructure to allocate the new burdens that will arise with the introduction of the nuclear power programme, including securing multi-year funding. References were provided to two documents regarding the analysis of the needs to enhance the national monitoring system. The INIR team concluded that Poland has demonstrated its recognition of the radiological hazards resulting from the operation of a NPP, as well as from the transport of radioactive material, waste management

		and storage and decommissioning, through its existing legal framework and regulatory activities related to nuclear safety and radiation protection. Poland has experience in dealing with radiation protection issues, as its existing radiation protection programme already covers a wide range of practices, such as those related to research reactors, radioactive waste, transport of radioactive materials and the use of radioactive sources in industry and medicine.
Areas for further action	**Significant**	No
	Minor	Lack of formal commitment to assess the needs for enhancing the existing radiation protection technical and organizational infrastructure to address new hazards arising from PNPP.
RECOMMENDATIONS		
None		
SUGGESTIONS		
S-8.1.1 **Poland should consider including in the PNPP a clear commitment to assess the existing radiation protection technical and organizational infrastructure to identify how it needs to be enhanced to address hazards arising from the implementation of the PNPP and how the required enhancements will be delivered.**		
GOOD PRACTICES		
None		

9. ELECTRICAL GRID **Condition 9.1: Electrical grid requirements considered**	**Phase 1**
Summary of the condition to be demonstrated	There are a number of criteria related to the grid: • The grid needs to be able to withstand loss of the output • The grid needs to be reliable to take the output from the NPP as a base load • The grid needs to be reliable to minimise demand on on-site supplies The potential impacts of the reliability of the national power grid on the design requirements for the safety of the plant should be considered.

Review observations	Preliminary grid analyses for selected potential NPP sites were carried out. PSE S.A. (National Transmission System Operator) has entered into an agreement with the investor to acquire knowledge necessary to develop technical requirements for these plants from the viewpoint of cooperation with the national power system and to develop principles of connection of nuclear power plants to power grids. Assumed output of the first NPP (ca. 3000 MW) seems to be consistent with required grid performance and reliability. The National Power Transmission Network includes 220 and 400 kV lines. The 220 kV network is a well-developed and multi-loop closed system. The 400 kV network is relatively well developed in the south but in eastern and northern regions of Poland “radial” lines still can be found. These lines are particularly exposed to disruptions and long-term shutdowns. An adequately developed 400 kV grid in the area of NPP location is a prerequisite to the introduction of nuclear power plants into the national system. Simultaneously with the development of the nuclear power sector, activities must be taken to accelerate the development of the network infrastructure, including power substations and transmission lines. Connection and reliable power output from the first nuclear power plant will require expansion of the transmission network regardless of the locations considered. According to forecasts, heavy investments will be required in the electric power system. The quantitative scope of this expansion will depend on the choice of location, capacity of power units and the technology of the nuclear power plant. In fact significant expansion is planned to accommodate other non-nuclear power projects in the same area as the proposed NPP. Determination of "black start-up capability" requirements will be done in cooperation with the NPP investor. PSE S.A. makes periodic assessments of transmission grid operation in view of its reliability and stability. This information will be used in carrying out a complete analysis of the connection of nuclear power to the grid, taking into account the specific guidelines for the nuclear units achieved as a result of the analysis. Given the conditions of the electricity market including priority access of RES to the network in the current legislation and system requirements for operating of generation, relevant regulations covering conditions for safe operation of nuclear power plants in areas where wind farms are located will be introduced. PSE S.A. has experience of routinely creating development plans for transmission network changes which are agreed with the Energy Regulatory Office (ERO). The last update of the development plans was agreed in February 2013. PSE has noted the initial investment requirements associated with the development of nuclear energy in Poland in its development plans. PSE S.A. intends to submit the detailed proposals for grid

		enhancement early in Phase 2 and these need to be approved by ERO. Approval of the proposed enhancements will also ensure that the required work will be funded by the grid operator based on the tariff which is accepted by ERO taking into account investments needed.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

10. HUMAN RESOURCES **Condition 10.1: Necessary knowledge and skills identified** **Development and maintenance of human resource base planned**	**Phase 1**
Summary of the condition to be demonstrated	There needs to be an integrated approach to human resource (HR) development across all organisations. A national strategy needs to consider: • assessment of current national institutional and human resource capacity and education programmes including the additional education, competences and skills that will be required (gap analysis) • how appropriate staff will be attracted, trained and retained • what centres and programmes need to be established for education and training • what research capability needs to be developed • a senior leader's development programme. At this stage, this should be an integrated plan that can be developed, in a co-ordinated way, into plans for each organisation.

Review observations	PGE EJ 1 Ltd. with the help of CH2M Hill prepared a HR plan detailing competences required for each stage of the programme. The bulk of the expertise required are not nuclear specialists but engineers who have been trained in the nuclear specific aspects. PGE EJ 1 Ltd. looked across the whole PGE group and concluded that they can provide most of the resources required. For the future they also supported the development of nuclear engineering programmes with 2 universities and are recruiting staff from these universities each year. PGE EJ 1 Ltd. plans to repeat this assessment again in the next two years. It is also one of the tasks in the bid specification for the Owner Engineer. This work has established that there is a need for co-ordination of education establishments to provide enough future resources. PGE has also recognized that there is a need for some regulations on training requirements and programmes and a qualified institution that can evaluate and approve training programmes. There is also a need to encourage younger people to be attracted to the nuclear industry. Existing PAA staff has competency sufficient for the present scope of PAA regulatory responsibilities, but resources will need to be enhanced for the future challenges of nuclear programme development. This is recognized and plans are being developed to meet the future requirements. It is recognized that there is a short term need to increase competency and assure support for the siting and design stages of the licensing process, and subsequently for construction and commissioning. In 2011 there were ninety-two persons employed in the PAA (86 full-time positions), out of which 25 were nuclear regulatory inspectors. An amendment to the Atomic Law stipulates that another 39 full-time positions are to be created beginning from the year 2012. The regulatory body has also recognised that it will want significant support from technical support organisations. They have also established links with international regulators. The Institute of Atomic Energy POLATOM in Swierk merged with the Institute of Nuclear Studies in 2011 to give rise to National Center for Nuclear Research. The academic community has established two consortia. Universities have launched (and continue to launch) degree programs directly related to the nuclear sector. Poland has sent a number of people on the IAEA leadership programme. PGE has also enrolled a number of people on an ENELA programme, which is a 1 year leadership programme. The current leaders of PAA have experience based on their work for the previous nuclear programme and the regulation of other activities.

		PGE currently use "NCBJ" to provide nuclearization of staff from other industries. PGE is considering building a training centre dedicated to its nuclear power programme. It will probably be part of the vendor and consortia contracts. There is a general availability of craftsman in the wider market so there is no need for specific training centers for technician trainings. There will be requirements for certification etc. (*see Industrial Involvement*). Poland recognizes the importance of developing an integrated HR strategy but work on this is at an early stage. The following institutions are involved in the preparation and implementation of the national HRD plan: MoE, MoNE, MoSHE; PAA; Radioactive Waste Management Plant (RWMP); OTI; the Investor; academic and scientific communities. In terms of coordination, NED have had a number of bilateral meetings with the above organisations. An educational forum is planned in June 13. An inter-department expert team is planned to be established whose task will be to prepare the Plan of HRD for Nuclear Power. This plan will be adopted by the Government. Timescales for submission are still to be agreed but current plan is until end of 2014. Whilst the development of an integrated plan is at an early stage it is recognised that diversified methods of securing workforce will have be used: - development and training of national HR, - using international HR, - partnership with nuclear technology producers, - partnership with foreign regulatory bodies, nuclear industry organisations and educational entities, - partnership with universities and economic organisations. Poland recognized that it is essential for the government to support and encourage schools, universities and scientific institutes to start educational programs in the field of nuclear energy and provide training for nuclear specialists. One of the main objectives is to facilitate obtaining funds to cover the costs of laboratory equipment and to provide financial aid for the training of scientists and students. It is also necessary to fill the 'generation gap' among the teaching staff at universities. To this end, the MoE has launched a program to train the so-called "educators", which is implemented in cooperation with the French Atomic Energy Commission (CEA).
Areas for further action	**Significant**	Elaboration of the integrated HRD plan
	Minor	No

RECOMMENDATIONS
R-10.1.1 **Poland should develop and approve an integrated HRD Plan based on the inputs of the main organisations and the current capabilities of educational and training establishments.**
SUGGESTIONS
None
GOOD PRACTICES
None

11. STAKEHOLDER INVOLVEMENT **Condition 11.1: Open and transparent stakeholder involvement programme initiated**	**Phase 1**
Summary of the condition to be demonstrated	Stakeholder involvement plans should be developed by the NEPIO and implemented through the relevant organisations. The public and other relevant interested parties should be informed about nuclear technology and, in particular, nuclear power, its benefits and risks, including the 'non-zero' potential for severe accidents, to facilitate stakeholder involvement based on transparency and openness.
Review observations	The Atomic Law contains some provisions related to Stakeholder Involvement. The draft PNPP provides a strategy for public consultation and communication. MoE/NED is expected to elaborate every two years a report on the PNPP implementation, published in the Official Journal. The SER shows that the MoE/NED has implemented a strong stakeholder involvement plan, including public awareness and involving local and regional stakeholders. Other players of the PNPP, notably PGE, PAA, research and scientific institutes have contributed to public awareness. In particular PGE has engaged with local stakeholders, mayors, journalists, in order to know their concerns and expectations. Since 2009 the MoE/NED, has been ordering regular public opinion polls, twice a year until 2012 and once per month since 2012. Questions are about respondents' knowledge on nuclear energy, knowledge of the Government's plan to build NPP and opinion on the construction of the first NPP in Poland. PGE has also been undertaking

		quantitative and qualitative research since 2011. Currently about 40-50% of the population supports nuclear power. Support dropped after Fukushima but has returned to previous levels. The Government launched an information and education campaign in March 2012. The campaign included TV, and other media including social media. PGE is also running its own information campaign, promoting awareness of the construction of Poland's first NPP. PGE plans to set up local information centres to the proposed sites, after consultation with local authorities. PAA informs the public about nuclear safety and radiological protection through their website. The Government Commissioner for Polish Nuclear Power has had meetings with regional administrators. In 2010 the MoE launched a public consultation on the draft programme and its EIA. Ministry received comments from about 300 organisations. PGE has organized meetings with regional level administration and with local populations with participation of researchers and opinion leaders. The PNPP and the Law of 29 June 2011 on preparation and realization of investments in nuclear facilities and accompanying investment propose that Local Committees of Information in the vicinity of NPP, involving local representatives, should be set up. Trans-boundary consultations with neighboring countries are being completed.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
GP-11.1.1 **Defining the draft PNPP and using it to consult at local, national and trans-boundary levels is a mean for building confidence in the programme.** **GP-11.1.2** **The organisation of a series of topical meetings (e.g. tourism, agriculture) by PGE with a wide range of local community entities to identify local concerns, capture them in a database and commit to responding within six months.**		

12. SITE AND SUPPORTING FACILITIES **Condition 12.1: General survey of potential sites, conducted** **Candidate sites identified**	**Phase 1**
Summary of the condition to be demonstrated	In Phase 1, it is necessary to identify the main exclusion and avoidance criteria (covering safety, security, cost, socio-economic, engineering and environment) and conduct regional analysis to identify candidate sites. These should include the impact of external hazards on security and emergency response capability. Depending on the specific authorisation process of the Member State, site selection, justification, and authorization by the regulatory body will probably be required early in Phase 2, so plans should exist for the next Phase.
Review observations	The site selection was conducted considering geographical study where, through a set of screening criteria as part of the site survey process a list of candidate sites was established. Environmental criteria were included in this site selection process. During the mission, the future operating organisation, PGE confirmed that there had been consultation and coordination with relevant security agencies, in particular the ISA, during the process of site selection. This was undertaken at two stages, during the screening of the 92 candidates sites and then in relation to consideration of the three remaining sites. The candidate sites were further processed based a set of ranking criteria and a shortlist of candidate sites was obtained and recommended for further site characterization. The Council of Ministers published regulations for detailed scope of site assessment for a nuclear facility based on international safety standards. As result of site survey and ranking process PGE selected 3 candidate sites for further investigations, namely: Choczewo, Żarnowiec, Gąski. Site survey and selection strategy was developed and accepted by the PGE in June 2011. The INIR misson team was informed that the initial characterization will be conducted at two sites (Choczewo and Zarnowiec). PGE already selected the contractor for the site characterization studies. They are required to prepare two reports: o site characterization report o EIA report Involvement of the public is part of the EIA process.

Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
GP-12.1.1 **The inclusion in the specification for the site characterization a requirement by the contractor to implement an Integrated Management System (GS-R-Part 3) by PGE EJ 1. This specifically includes occupational health and safety and Environment Management (ISO14001).**		

13. ENVIRONMENTAL PROTECTION **Condition 13.1: Environmental framework and key issues for nuclear power outlined; environmental studies production and communication recognized**	**Phase 1**
Summary of the condition to be demonstrated	The NEPIO needs to be aware of international as well as national environmental requirements and to ensure that they are fully considered. Initial environmental studies should be conducted as appropriate for use in feasibility studies or siting studies (see issue 12). The basis will be a set of criteria derived from the environmental requirements at a regional scale and with the use of available data.
Review observations	The Strategic Environment Assessment and Environmental Impact Assessment (SEA & EIA) procedures, including trans boundary impact assessments, are the responsibility of the General Director for Environmental Protection (GDEP) with the Regional Directors for Environmental Protection. The national legal framework states that the scope for the SEA and EIA for investments which may potentially have impact on the environment is determined by the GDEP for each case. The SEA has been performed by the NED. Currently, the consultation process is on-going, led by GDEP and NED, with support of experts from RWMP as well as scientific institutes and external experts.

		GDEP requires that the SEA report should provide information on all the candidate sites since this strategic document needs to support selection from all suitable sites. The regulations require participation of the public in the course of SEA and EIA development. Once the consultation is completed, the PNPP will include the outcomes. The INIR team was informed that this is expected to be completed in the next few weeks. With respect to the EIA document, the responsibility for its preparation rests on the investor, PGE. The process is well defined, involving a two stage assessment. The major assessment work is for the initial environmental consequences decision; a second review looking only at detailed information that was not available for the first assessment is then carried out for the construction permit. This second stage is obligatory for the nuclear programme. Public and trans boundary (if appropriate) consultations are required for both stages. The EIA report will contain conventional hazards assessments such as noise, electromagnetic fields, landscape changes, conventional waste, etc., as well as the radiological impact of the facility to the environment. Regarding monitoring issues, initially the investor in the course of site characterization is obliged to maintain a system for assessing ambient conditions, both radiological (air, soil, water, biota, human), as well as conventional (meteorology, hydrology, overall condition of the environment).
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

14. EMERGENCY PLANNING **Condition 14.1: Appreciation of the need for emergency planning, developed; communication with and involvement of local and national government taken into account**	**Phase 1**
Summary of the condition to be demonstrated	The Government needs to be aware of the nature of what is required for Emergency Response. It also needs to be aware that significant resources will need to be expended to develop, maintain and demonstrate an Emergency Response capability. The government requires acknowledging that it is responsible for the national emergency response plan and will need to define clear responsibilities for all organisations involved. The process of developing emergency response capability will be largely carried out in Phase 3.
Review observations	The INIR mission team was informed that Poland has a structured State Emergency Management System that covers planning, preparation, response and recovery. This also cover radiation emergency. Responsibilities of the national institutions engaged in emergency response are defined in the regulations and dependent on radiation emergency category. Assignments and responsibilities of organizational entities and state institutions engaged in emergency response are determined in the On-Site Emergency Plan, Emergency Plans for the Regions and the National Emergency Plan. The cooperation with the President of PAA on each level of emergency is performed via PAA's Radiation Emergency Center (CEZAR), which serves as National Contact Point. Bilateral agreements on mutual assistance in case of nuclear accidents and cooperation in nuclear safety and radiological protection have been executed with Denmark, Norway, Austria, Ukraine, Belarus, Lithuania, Russian Federation, Slovakia, Czech Republic, Germany and the United States of America. A survey of existing capabilities is under way to define how the existing framework of preparedness and response should be expanded to cover the needs related to the NPP programme. The INIR team was informed that PAA has developed a plan to prepare amendments to the Atomic Law and relevant regulations related to emergency plans for NPPs with a deadline in the second quarter of 2015. The INIR mission was informed that the requirements of GS-R-2 regarding the radiation emergency preparedness and response system are not fully implemented, for example, the Polish regulations do not require categorization of nuclear and radiation threat according to 3.6 GS-R-2. To meet the IAEA requirements for emergency preparedness and response the categorization of threats should be used for the basis

		of graded approach to development emergency arrangements and capabilities at all levels of preparedness and response. The INIR team concluded that the Polish Government is aware of the needs for early establishment of the emergency preparedness and response, its responsibilities for a national response plan, and will have to accomplish evaluation of the national capabilities and the resources needed for further expansion.
Areas for further action	**Significant**	No
	Minor	Evaluation of future needs for expansion
RECOMMENDATIONS		
None		
SUGGESTIONS		
S-14.1.1 **Poland should consider completing its survey on how the existing framework of emergency preparedness and response should be expanded to cover the needs arising from the future Nuclear Power Programme, including an evaluation of additional resources required.**		
GOOD PRACTICES		
None		
Condition 14.2: Emergency planning for existing radiation facilities and practices in place		**Phase 1**
Summary of the condition to be demonstrated		If any reviews or audits have been undertaken of the existing framework, there should be evidence that the actions resulting from it are being progressed.
Review observations		In 2009 PAA conducted self-evaluation of emergency planning and response under the IAEA regional project RER/9/091 "Establishment of National Capabilities for Response to Radiological and Nuclear Emergency" using the IAEA criteria. The results of the review were considered positive with small changes needed, and EPREV mission had not been planned. The IAEA IRRS mission planned for April 2013 will include Emergency Planning module. See 15.3 for description of the table top exercise conducted in 2012.
Areas for further action	**Significant**	No
	Minor	No

RECOMMENDATIONS
None
SUGGESTIONS
None
GOOD PRACTICES
None

15. NUCLEAR SECURITY Condition 15.1: Conditions for nuclear security acknowledged Necessary regulation identified	Phase 1
Summary of the condition to be demonstrated	The need to establish legislation and a regulatory framework are addressed under issue 5 and 7. The NEPIO should recognise the importance of nuclear security and that it should be based on national threat assessments. It should ensure that a competent authority is designated for the preparation of the national threat assessment. The State should recognize that the design basis threat (DBT) should be used to define security at all nuclear facilities.
Review observations	There are few references to nuclear security in the draft PNPP. It was stated in the SER that the Committee for Polish Nuclear Power included the Under Secretary of State for Internal Affairs that has responsibility for national security. The Committee will review the PNPP before it is submitted to the Council of Ministers. Whilst there was no supporting documentation provided in the form of a relevant regulation, Memorandum of Understanding or procedural document, it was confirmed during the INIR mission that ISA is responsible for the national threat assessment. ISA is established under the law related to the ISA and the Foreign Intelligence Agency (FIA). ISA reports to the Minister of the Interior. ISA is responsible for economic security; counter intelligence; protection of sensitive information; detection of corruption of public officials; combatting international organized crime; combatting terrorism and WMD proliferation; and cyber security. Within the ISA is the Counter Terrorist Centre (CAT) whose staff is comprised of the ISA, Police, Border Guards, FIA, and Military Counter-intelligence agency, Customs Service, Government Protection

		Bureau. In addition, CAT coordinates the sharing of information between all of these agencies as well as keeping the national threat assessment updated as it relates to the threat of terrorism. Whilst there was no supporting documentation provided in the form of either a relevant regulation, Memorandum of Understanding or procedural document the responsible authority for the DBT was identified during the INIR mission as the ISA. The ISA plans to coordinate with other relevant agencies in the preparation of the DBT, including in particular the regulator PAA and the future operating organisation, PGE. The SER focuses principally on the physical protection of nuclear materials without a description of other aspects of nuclear security. Poland is involved in IAEA activities in relation to nuclear security and has key bilateral relationships with neighbouring countries including sharing of intelligence in relation to threat assessment.
Areas for further action	**Significant**	Nuclear security requirements in the PNPP.
	Minor	No
RECOMMENDATIONS		
R-15.1.1 **The Government Commissioner for Polish Nuclear Power should, in consultation with relevant agencies involved in nuclear security, such as the Regulatory Body (PAA) and the Internal Security Agency (ISA), review the draft PNPP to ensure that all issues related to nuclear security are adequately addressed. See also R-1.3.1.**		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		
Condition 15.2: Nuclear Security arrangements for existing radiation facilities and practices in place		**Phase 1**
Summary of the condition to be demonstrated		If any reviews or audits have been undertaken of the existing framework, there should be evidence that the actions resulting from it are being progressed. (It is probably more appropriate to review this in detail during Phase 2).
Review observations		There have not been any specific reviews undertaken in relation to the nuclear security arrangements for existing radiation facilities and practice in place. However in the context of emergency planning and response a Table Top Exercise was conducted having regard to the scenario of an Improvised Nuclear Device and a Radiological

		Dispersal Device. Lessons learned from these two exercises, including in relation to coordination, communication and cooperation between all relevant competent authorities should be considered in the context of Phase 2.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

16. NUCLEAR FUEL CYCLE **Condition 16.1: Knowledge of nuclear fuel cycle steps (front end and back end) and approaches developed**	**Phase 1**
Summary of the condition to be demonstrated	At a strategic level it is necessary to consider how the fuel cycle will be established. Options need to be considered for the front end of the fuel cycle addressing, sourcing uranium and fuel manufacture, and for the back end of the fuel cycle, covering all the spent fuel inventory in the country and addressing spent fuel storage (at-reactor and away-from-reactor) and eventual disposal/reprocessing.
Review observations	According to the SER Poland has assessed the long term implications resulting from the fuel cycle commitments inherent in developing a nuclear power programme. Poland has some conventional and non-conventional uranium resources but, at this stage of the development of its Nuclear Program, Poland has no plans to develop the industrial front-end activities of: mining, milling, chemical conversion, enrichment and fuel fabrication. In August 2009, the Minister of Economy set up a team responsible for drafting the national plan of management of radioactive waste and spent nuclear fuel. This group has already started its work and, among others, it will provide recommendations for the management of the SNF (including recommendation on the use of open cycle or close

		cycle). There is a plan to transform this Team into a Permanent Advisory Committee to the Government for waste and spent fuel in the near future. Nuclear Chemistry and Technology Institute has analysed the different options for the fuel cycle in its report entitled "*The detailed description of the proposed for Poland solutions in area of radioactive waste and SNF management depending on the possible in Poland fuel cycle – open or closed*". The conclusion of the report is that the most favourable option for Poland is the "**open fuel cycle**" and to adopt the "wait and watch" strategy. This leads to the need for interim storage of spent fuel, for which licensing is also required. This conclusion has not yet been included in the PNPP. The Atomic Law includes provisions for the licensing and supervision of all types of fuel cycle facilities. RWMP is in charge of building and operating the nuclear waste repositories, including the future SNF repository. Operators of nuclear power facilities will be financially responsible for waste management and to finance activities in this respect. Poland has analysed the experience of other countries and is considering options for SNF storage and timing for a repository. In conclusion, Poland has a good understanding of the long term nuclear fuel cycle commitments inherent in developing a nuclear power programme and has gathered the necessary knowledge for completing realistic nuclear fuel cycle plans (front-end and back-end) during Phase 2. Poland considers that the most favourable option for "back-end" fuel cycle is the "open fuel cycle" and to adopt the "wait and watch" strategy. Nevertheless, Poland has not yet adopted a formal decision on this topic and plans to make this decision with the approval of the PNPP. The current draft of the PNPP already includes elements for the decision but not a formal conclusion on the recommended option.
Areas for further action	**Significant**	No
	Minor	Considerations of fuel cycle options
RECOMMENDATIONS		
None		
SUGGESTIONS		
S-16.1.1 **Poland should consider including in the final version of the PNPP the conclusion of its analysis on fuel cycle options.**		

GOOD PRACTICES		
None		
Condition 16.2: Need for at-reactor spent fuel storage recognized **Away-from-reactor spent fuel storage considered**		**Phase 1**
Summary of the condition to be demonstrated		The NEPIO needs to be aware of options for spent fuel storage or reprocessing and that it will need to decide a strategy during Phase 2 and include the need for interim storage requirements consistent with that strategy.
Review observations		According to the SER, Poland is aware of the need to consider the at-reactor (on-site) storage of SNF, in consistency with the (apparently) selected option of "open fuel cycle". At this stage, Poland is not considering the option of long term "away-from-reactor" spent fuel storage facilities. Therefore, the on-site storage facility capacity is scheduled to enable the storage of SNF for the full time of the NPP operation. Some additional time after final shut down of the NPP is considered. So far now, Poland is considering establishing on-site storage facilities for SNF at each NPP. There is a group, involving several agencies of the Government, the regulatory body and the operator, in charge to analyse future options for the SNF storage that will take into consideration the possible future number of sites of NPPs. Costs of the disposal are covered by the operator (generator of SNF). Poland has experience on the managing of the SNF from its Research Reactors. The INIR team concludes that Poland is aware of the implications of the different options for the back end of the nuclear fuel cycle. Poland is oriented to develop "at-reactor" storage capabilities consistent with "open fuel cycle" strategy. Poland has also shown its awareness of the implications of selecting the mentioned option.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		

GOOD PRACTICES
None

17. RADIOACTIVE WASTE Condition 17.1: The burdens of radioactive waste from nuclear power plants recognized Current capabilities for waste processing, storage and disposal reviewed	Phase 1
Summary of the condition to be demonstrated	The decision to embark on a nuclear power programme must take account of the need for the handling, storage and disposal of radioactive waste and develop a national strategy.
Review observations	Poland has previous experience in the management of radioactive waste and SNF coming from its Research Reactors and other facilities using radioactive materials and sources. • Poland's experience on waste management dates from 1958. • Rozan disposal for solid short-lived low and medium activity waste and for temporary long-lived waste is operated since 1961. MoE is the body responsible for radioactive waste management, while RWMP is responsible for the waste management on a daily basis (responsible for operation). In August 2009, the Minister of Economy set up a team responsible for drafting the national plan of management of radioactive waste and spent nuclear fuel for the implementation of the nuclear energy programme. The Team has already prepared some expert deliverables to cover some particular issues. There is a plan to transform this team into a Permanent Advisory Committee to the Government for radioactive waste and SNF in the near future. Poland is in the process of implementing the EU Directive 2011/70/Euratom. • All EU MSs are obliged to create their National Plans for SNF and Radioactive Waste by August 2015. • In August 2013 the EU countries have to deliver specific information to the EU Commission about the implementation of the said Directive into the national legal system. The INIR team was informed that Poland has prepared a first

		assessment on the implication on the national waste management system of the introduction of nuclear power. • The assessment is based in some assumptions, as the nuclear technology to be used for future NPPs has not yet been chosen by the operator. As result of this assessment there are some estimates of the amounts of SNF and the amount of waste in the different categories to be generated during the operational life of the NPPs and decommissioning; • Poland also has made some preliminary assessments on the time to start the decommissioning of the NPPs; • The results of these assessments are used to predict the time schedule for constructing a new low and medium active waste disposal facility, as the Rozan facility is close to being full; • Cost of constructing, operating, closure and supervision of the new disposal facility will be covered by the payments collected by RWMP as operator of the facility.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		
Condition 17.2: Options for ultimate disposal of all radioactive waste categories recognized		**Phase 1**
Summary of the condition to be demonstrated		Although the ultimate route for disposal of high level waste can be decided later, it is important to understand the options for the different waste categories and to recognise that adequate options ultimately have to be selected.
Review observations		The INIR team noted that provisions of the Atomic Law and some regulations of the Council of Ministers of Dec 2002 on radioactive waste and spent fuel describe necessary activities concerning the disposal concept and related infrastructure. Regulation of 2012 determines the financial contribution of the NPP operators to cover the costs of final management of SNF and

		radioactive waste, as well as costs of decommissioning. The Regulation of 2002 determines the detailed scope of assessment to be done of the candidate site of a nuclear facility See 17.1 on the Poland's plans to construct a new repository for low and medium active waste (as Rozan is scheduled to finish its operational life in 2020 - 2022). So far now, there are 15 identified potential sites for the new repository for low- and intermediate level waste LILW. Poland plans to determine a short list of 3 candidate sites for further assessment of their features for the repository. Spent fuel from the research reactor has already been managed through agreements with USA and the Russian Federation for the final transfer of the SNF to Russia (under the Global Threat Reduction Initiative - GTRI). Poland is assessing the experience of other countries related to the final management of SNF. Poland current forecast for the disposal of SNF is to construct the SNF repository not earlier than 2050. (Note: This conclusion reaffirms the need for provision for long-term storage of SNF). In conclusion, Poland understands the options for disposal of different radioactive waste categories and has experience in the operation of a repository for LILW in Rozan. Poland is planning to construct a new repository for ILLW to replace Rozan, as this repository is close to its final operational life. Poland has a good understanding of the need to construct a repository for SNF and high-level waste (HLW), and has some preliminary estimates on the time schedule available for the decision and the construction of this repository.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

18. INDUSTRIAL INVOLVEMENT Condition 18.1: National policy with respect to national and local industrial involvement considered	Phase 1
Summary of the condition to be demonstrated	A recommended policy for national involvement, covering availability of expertise, industrial capability and technical services for the overall programme (assuming more than one NPP is planned); the balance between capability, quality standards and intended industrial development should be recognized.
Review observations	The potential contribution of the national industry to the PNPP was analysed in Chapter 15 of PNPP (draft) and other Government documents indicated in the SER. There is a clear policy defined in the draft of the PNPP, which include the following steps, to be implemented by the first NPP investor or its vendor: ✓ Evaluation of needs for the first NPP; ✓ Evaluation of the potential local suppliers; ✓ Accreditation of the selected local suppliers; ✓ Final analyses referring to the involvement in the first NPP. The Polish organisations were engaged by the MoE in these preliminary analyses and the list of these organisations is presented in the SER. During the discussions with potential local suppliers of goods and services the financial evaluation (funding requirements) on the required actions for capability improvement were requested by MoE and were made by the involved companies. Targets for local participations are indicated in the SER: zero basic value in 2010, increasing to 40% in 2020 and 60% in 2030. There are Polish companies already involved in the construction of the NPP in others countries, having the experience and skills required for these activities. The EU directives for acquisitions and the Polish laws will not allow requesting in the BIS for the first NPP a certain participation of the local suppliers for goods and services, but the information collected by the MoE should be available for the potential NPP Vendors or EPC Contractors. The potential NPP Vendors already contacted the local companies and presented their requirements for participation in the first NPP as sub-contractors. PGE EJ 1 Ltd. analysed the subject of local participation in the context of an EPC Contract for the first NPP in Poland and has reviewed experiences in countries that have or are developing a nuclear power

		program. In connection with the potential local participation with goods and services for the first NPP, a national Research Project was implemented under the coordination of the Warsaw Technical University, funded from the state budget and the result of this project will be available for the MoE in 2013.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		
Condition 18.2: Need for strict application of quality programmes for nuclear equipment and services recognized **Consistent policies for nuclear procurement in place**		**Phase 1**
Summary of the condition to be demonstrated		If the national policy in 18.1 supports national or local industrial involvement in construction or support services, there needs to be a clear intent to develop the required management systems and to meet the required standards.
Review observations		A policy or plan for development of an appropriate management system (including quality control and assurance) is included in chapter 15 of the PNPP being identified as **"**Pre-conditions of the domestic industry involvement". Specific standards are indicated for implementation in the local organisations which intend to participate to the first NPP: ✓ ISO 9001:2008 – Quality management; ✓ IAEA GS-R-3:2006 – IAEA Safety Standards: The Management System for Facilities and Activities; ✓ ASME NQA-1-2008 – Quality Assurance Requirements for Nuclear Facility Applications; ✓ RCCM A5000-2008 – Quality Assurance Principles.

		The implementation of the management system and existence of the technical competences should be ensured by the certification system. The certification process should be conducted by the NPP technology suppliers or the EPC Contractor for the first NPP in Poland.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		
SUGGESTIONS		
None		
GOOD PRACTICES		
None		

19. PROCUREMENT **Condition 19.1: Unique criteria associated with purchasing nuclear equipment and services recognized**	**Phase 1**
Summary of the condition to be demonstrated	Procurement policies taken with full knowledge of the special requirements for nuclear procurement; recognition of the need for a procurement policy consistent with the industrial participation policy. A qualified team to write the request for proposal and BIS for the selection of the potential NPP supplier and contractor. The specification should match all the national legal and regulatory requirements. A strategy for procuring the equipment and services need be developed. Recognize the requirements of any procurement by the owner/operator outside of the main supply contract.
Review observations	The INIR mission team was informed that: • Public procurement law applicable in Poland shall be used for the acquisition process of the first NPP in Poland. • The special procurement team exists in the mother company – PGE SA and have been created in the daughter companies PGE Energia Jadrowa SA and PGE EJ 1 Ltd. The teams have wide experience from the on-going tenders concerning often very big

		power investments (mainly in the conventional – coal and gas – power plants). • PGE EJ 1 Ltd. already announced two tenders concerning: ✓ "Providing the Owner's Engineer services to support PGE EJ 1 Ltd.'s first Polish NPP development programme with an installed capacity of app. 3000 MWe" ✓ "Site characterization & licensing/permitting services for the PGE EJ1 Sp. z o. o.'s first Polish NPP development programme with an installed capacity of app. 3000 MWe" and these were practical tests in organisation of nuclear power procurement, producing positive reactions worldwide. In order to issue these procurement packages the external expertise was also used as support to PGE EJ 1 Ltd. team. The strategy for the BIS preparation is already established and "integrated procurement" (nuclear technology, support for Operation & Maintenance, financing) should be used. The internal procedures for this "integrated procurement" process are under development in PGE EJ 1 Ltd. These procedures will help internally the procurement process and also further discussions with National Authority for Public Procurement for necessary amendments to the existing Public Procurement Law. PGE EJ 1 Ltd. should involve 40-60 staff in the BIS preparation and specific program training is under preparation for this team. An Independent Advisory Board should be created by PGE EJ 1 Ltd.in Phase 2 of the program, for the key decision in the "integrated procurement" process. Taking into account that the national Public Procurement Law provisions are not appropriate for large EPC contracts (as the first NPP in Poland), at present there are deliberations concerning the right procedure to be chosen for the "integrated procurement" process. Depending on the results of the consultations with the European Commission directions and National Public Procurement Authority the appropriate procedure will be chosen for this "integrated procurement" approach.
Areas for further action	**Significant**	No
	Minor	No
RECOMMENDATIONS		
None		

SUGGESTIONS
None
GOOD PRACTICES
GP-19.1.1 The plan to create an Independent Advisory Board of the NPP Owner (PGE EJ 1 Ltd.) to support the key decision on the “integrated procurement” process of NPP technology, support for NPP Operation & Maintenance and NPP financing.

ATTACHMENT 2: LISTS OF THE INIR TEAM AND COUNTERPARTS

INIR REVIEW TEAM	
Juan Carlos **LENTIJO**	Team Leader IAEA
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Christelle **DRILLAT**	Reviewer IAEA
Rhonda **EVANS**	Reviewer IAEA
Stephen **MORTIN**	Reviewer UNITED KINGDOM
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Yury **TROSHCHENKO**	Reviewer IAEA
Ivan **VIDENOVIC**	TC PMO IAEA
Anne **MUETZELBURG**	INIR Secretary IAEA

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Kamil **KRZYSZTOSZEK**	Specialist, Accountancy of Nuclear Materials, Department of Nuclear Safety and Health Care, NCNR

ATTACHMENT 3: REFERENCES

Documents provided by Poland

1. Report of Self-Assessment of the Status of Nuclear Power Infrastructure Development in Poland ("Self-Evaluation Report") version 17.12.2012
2. Evaluation of The Status of National Nuclear Infrastructure Development, Evaluation Forms for Infrastructure Issues, 07-01-2013
3. Draft Polish Nuclear Power Program, Ministry of Economy, 2011
4. The Atomic Energy Law and other relevant laws, Decrees by Government, Decisions by Prime Minister, Circulars by Governmental Ministries as provided by Poland (for a complete listing of all of these documents related to the nuclear power programme, please see the Poland's Self-Evaluation Report).

IAEA documents

1. INTERNATIONAL ATOMIC ENERGY AGENCY, Considerations to Launch a Nuclear Power Programme, GOV/INF/2007/2/, Vienna (2007)
2. INTERNATIONAL ATOMIC ENERGY AGENCY, Milestones in the Development of a National Infrastructure for Nuclear Power, IAEA Nuclear Energy Series No. NG-G-3.1, Vienna (2007)
3. INTERNATIONAL ATOMIC ENERGY AGENCY, Evaluation of the Status of National Infrastructure Development, IAEA Nuclear Energy Series No. NG-T-3.2, Vienna (2008)
4. "Addendum to: Evaluation of the status of national infrastructure development" (Working Paper) NG-T-3.2 Addendum 1 Draft 25 Jan 2013
5. INTERNATIONAL ATOMIC ENERGY AGENCY, INIR, Integrated Nuclear Infrastructure Review Missions – Guidance on Preparing and Conducting INIR Missions. (Rev.1), Vienna (2011).
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7. INTERNATIONAL ATOMIC ENERGY AGENCY, Fundamental Safety Principles, Safety Standards No. SF-1, Vienna (2006)
8. Supporting Long Term Planning of Energy Options, IAEA Mission to Support the Self-Assessment of Poland National Nuclear Infrastructure, End-of-Mission Report, Vienna, (2010)
9. INTERNATIONAL ATOMIC ENERGY AGENCY, Relevant Safety Standards.

ABBREVIATIONS

A

ASN	L'Autorité de sûreté nucléaire – The French Nuclear Safety Authority

B

BSS -	the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources

C

CEA	Commissariat à l'énergie atomique et aux énergies alternatives - French Alternative Energies and Atomic Energy Commission

D

DBT	Design Basis Threat

E

EIA	Environmental Impact Assessment
EC	European Commission
EPC	engineering, procurement and construction
EPREV	Emergency Preparedness Review Services
ERO	Energy Regulatory Office – Urząd Regulacji Energetyki (URE)
EU	European Union
EURATOM -	European Atomic Energy Community

G

GDEP	General Directorate for Environment Protection Generalna Dyrekcja Ochrony Środowiska (GDOŚ)

H

HERCA	Heads of the European Radiological Protection Competent Authorities
HLW	High-level Waste
HRD	Human Resources Development

I

IAEA	International Atomic Energy Agency
INIR	Integrated Nuclear Infrastructure Review
LILW	Low- and Intermediate-level Waste
IRRS	Integrated Regulatory Review Service
ISA	Internal Security Agency - Agencja Bezpieczeństwa Wewnętrznego (ABW)

J

JC	Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

M

MoE	Ministry of Economy – Ministerstwo Gospodarki (MG)
MoST	Ministry of Treasury – Ministerstwo Skarbu Państwa (MSP)

N

NEPIO	Nuclear Energy Programme Implementing Organisation
NED	Nuclear Energy Department (within the Ministry of Economy)
NPP	Nuclear Power Plant
NUSSC	Nuclear Safety Standards Committee (Komitet Standardów Bezpieczeństwa Jądrowego)
NCNR	National Centre for Nuclear Research (Narodowe Centrum Badań Jądrowych (NCBJ)
PAA	National Atomic Energy Agency - Państwowa Agencja Atomistyki
NEA/OECD	OECD Nuclear Energy Agency

P

PGE	PGE Group - PGE Polska Grupa Energetyczna S.A.
PNPP	Polish Nuclear Power Programme - Program Polskiej Energetyki Jądrowej (PPEJ)
PMO	Programme Management Officer

R

RES	Renewables Energy Sources
RWMP	Radioactive Waste Management Plant – Zakład Unieszkodliwiania Odpadów Promieniotwórczych (ZUOP)
RASSC	Radiation Safety Standards Committee

S

SEA	Strategic Environment Assessment
SER	Self Evaluation Report
SNF	Spent Nuclear Fuel
SSAC	State System of Accounting for and Control of Nuclear Material

T

TRANSSC	Transport Safety Standards Committee

W

WASSC	Waste Safety Standards Committee (Komitet Standardów Bezpieczeństwa Odpadów Promieniotwórczych)
WANO	World Association of Nuclear Operators
WMD	Weapon of Mass Destruction