

ANNEX G. Short summary on the monitoring and control program, action plans of the post-project analysis of KNPP-3,4

Organization of works to observe the normative requirements for the environmental impact during construction and operation of KNPP-3,4

Energoatom, as the Operating Company (OC) performs activities in design, construction, commissioning, operation and decommissioning of KNPP-3,4 based on the current licenses and is responsible for NPPs safety.

Company Management considers that the electric power generation under modern conditions shall be safe and environmentally compatible and directs the staff so that the high indicators during the electric power generation are achieved without decreasing the safety level of NPPs.

The Company is guided by the principle of safety priority over economical and production aims.

For reliable protection of personnel, population and the environment from ionizing irradiation and maximum possible reduction of impact of anthropogenic factors on the environment, Energoatom established the **following fundamental principles**:

- Comply with the requirements of the environmental protection legislation of Ukraine, international agreements of Ukraine, standards and regulations in the sector of nuclear energy use, nature management and environmental protection;
- Plan works in environmental protection and monitor the compliance with the environmental impact standards;
- Provide environmental support in NPPs operation;
- Develop and implement the system of environmental management;
- Record quantitative and qualitative indicators of discharge of harmful chemical substances into the air, discharge into water natural objects, non-radioactive waste management for rational consumption of natural resources;
- Monitor the environment in the control area organizing observations of the radiation background, hydrogeology, hydro chemical state of the environment;
- Implement environmental policy organizing environmental training of the personnel, improve the level of the environmental training;
- Provide transparent and reliable information for the population on the environmental situation in the NPP location area;
- Perform constructive interaction with supervisory authorities and public organizations in environmental safety.

Company Management **is planning appropriate measures** to ensure the adequate protection of the public and the environment from radiological and other hazards at all the service life stages of the KNPP-3,4.

Energoatom is obliged to implement in full all technical, organizational, financial and other decisions, stipulated by the project, as well as during the whole service life of the power units 3,4 to comply with the technological procedure, to bear primary and material costs related to operational safety and, thereby, guarantee compliance with the environmental requirements.

The staffing table of NPP will specify the appropriate officials, who will be in charge of the personal responsibility for the fulfillment of the technological procedure

and of the design decisions in the power units 3,4 operation and environmental protection.

Comprehensive measures to ensure normative state of the environment and its safety comprise:

- Measures to ensure normative state of the environment;
- Assess restrictions of a power unit construction according to the conditions of the natural, social and anthropogenic environment and the scope of engineering preparation of the territory, necessary in order to comply with the conditions of the environmental safety;
- Assess environmental impact of the production waste, formed during power units operation;
- Perform comprehensive assessment of the environmental impacts of a power unit;
- Assess the level of the environmental hazard of power units operation and their impacts on life conditions of a person;
- Assess the hazard of the power unit operation concerning natural, social and anthropogenic environment;
- Substantiate the optimality of the approved complex of design decisions based on the requirements of the environmental and sanitary legislation and the assurance of the operating reliability of the facilities of the anthropogenic environment;
- Provide a list and characteristics of the residual impacts and justification of their admissibility during construction and operation of power units.

Monitoring and management programs to observe the normative requirements for the environmental impact during construction and operation of KNPP-3,4

Safety analysis implementation

The OC implements comprehensive justifications of power units' safety and prepares their findings in the reports on safety analysis and reports on periodic safety reassessment.

During design of KNPP-3,4 a tentative Safety Analysis Report (SAR) will be elaborated, which is one of the documents, necessary to obtain the license for construction of a nuclear facility. According to the results of the construction and erection works, installation and start-up work as well as pilot production, the final SAR will be elaborated, which is the document, necessary to obtain the license for a power unit operation.

Periodically (every 10 years upon the commencement of the operation) or earlier, upon the SNRIU request, the OC performs the reassessment of the power units safety. The scope and the completeness of the reassessment, as well as the safety factors, which are to be reassessed, shall be defined in an appropriate document. According to the findings of the reassessment, a Periodical Safety Reassessment Report (PSRR) shall be elaborated.

In case of incompliance with the safety requirements during the analysis, the CO shall implement necessary corrective actions and substantiate the possibility of the future safe operation of a power unit.

Organization of the departmental supervision

There is the departmental supervision system in Energoatom.

The structure of the Company (and at each NPP) foresees structural subdivisions of the departmental supervision, which perform supervision and monitoring of the operation of all operating nuclear power units and will perform supervision and monitoring of KNPP-3,4; develop and implement programs of inspections of the nuclear, radiation, technical, environmental and fire protection safety condition in order to define compliance of the indicators with the requirements of the normative documentation, as well as to monitor implementations of the measures in elimination of the identified deficiencies.

The staffing table of KNPP specifies a structural subdivision, which performs the departmental supervision of the state of the constructions, systems and elements, compliance with the limits and conditions of safe operation, compliance with the technological procedure requirements and instructions and assurance of safe labor conditions of the personnel.

Monitoring and management to comply with normative requirements for environmental impact

In order to ensure the compliance with the normative and methodological requirements of the normative documents, the Ministry of Energy and Coal Industry of Ukraine and Energoatom elaborated industry-specific regulatory documents:

- “Organization and performance of the environmental protection activity and nature management in the NPP separated subdivisions” (COY-Н ЯЕК 1.026:2010);
- “Requirements to the form and content of the reports of NPPs of Energoatom on the impact assessment of the non-radiation factors of NPPs on the environment” (CTII 0.26.085-2009);
- “Rules to prepare reports of the radiation safety at NPPs (COY-Н ЯЕК 1.009:2008);
- “System of the assessment of the operation safety level and technical condition of nuclear power units with VVER reactors” (CTII 0.41.066-2006)

The documents were elaborated for organization and implementation of:

- Environmental protection;
- Improvement of environmental control system;
- Monitoring of all activities in the environmental protection;
- Assessment and preparation of the current periodical reports on the assessment of the impact of NPP operation on the environment.

Basic types of monitoring

- I Impact of the radiation factors of KNPP-3,4 operation on the environment:
 - 1 NPP personnel irradiation;
 - 2 Gas-aerosol discharge of the radioactive substances into the air;
 - 3 Water discharge of the radioactive substances into the external reservoirs;
 - 4 Content of radioactive substances in the surface reservoirs water;
 - 5 Content of radioactive substances in the settlements air;
 - 6 Content of radioactive substances in the surface ground layer at the radiation monitoring stations distanced from NPP.
- II Impact of the non-radiation factors of KNPP-3,4 operation on the environment:
 - 1 Air pollution control;
 - 2 Water consumption and water resources protection;
 - 3 Hazardous waste management;
 - 4 Compliance with the requirements of state environmental supervisory authorities;
 - 5 Fulfillment of environmental measures.