

Information Circular

INFCIRC/1218

Date: 6 June 2024

General Distribution

Original: English

Communication from the Permanent Mission of Ukraine to the Agency

1. On 5 June 2024, the Secretariat received a Note Verbale, together with an attachment, from the Permanent Mission of Ukraine to the Agency.
2. As requested, the Note Verbale and its attachment are herewith circulated for the information of all Member States.



Permanent Mission of Ukraine
to the International Organizations
in Vienna

Wallnerstrasse 4,
1010, Vienna,
Republic of Austria

(+431) 479 7172,
pm_io@mfa.gov.ua

№4131/35-197-76983

The Permanent Mission of Ukraine to the International Organizations in Vienna presents its compliments to the Secretariat of the International Atomic Energy Agency and has the honour to convey, as attached, Ukraine's document in response to the Communication from the Russian Federation regarding the Russian-occupied Zaporizhzhia Nuclear Power Plant, which was contained in INFCIRC/1208 dated 15 May 2024.

The attached document contains detailed information related to abovementioned Communication by the Russian Federation. The Permanent Mission of Ukraine believes that this document will help the IAEA Member States gain clearer fact-based understanding of the developments at Ukraine's Zaporizhzhia Nuclear Power Plant, as well as the challenges to nuclear safety and security in Ukraine arising from the occupation and militarization of the Zaporizhzhia NPP by the Russian Federation.

The Permanent Mission of Ukraine requests the Secretariat to circulate this Note with the enclosed attachment as an Information Circular to all Member States.

The Permanent Mission of Ukraine to the International Organizations in Vienna avails itself of this opportunity to renew to the Secretariat of the International Atomic Energy Agency the assurances of its highest consideration. *v.k.*

Enclosure: 7 pages.



Vienna, 05 June 2024

Secretariat
International Atomic Energy Agency

Vienna

Ukraine's response to the Communication from the Russian Federation

This is a document prepared in response to the Communication from the Russian Federation contained in IAEA INFCIRC/1208 dated 15 May 2024.

Ukraine notes with regret the growing attempts of the Russian side to disseminate manipulative and false information regarding the situation at Ukraine's Zaporizhzhia Nuclear Power Plant using the IAEA platform and Agency's capabilities.

In this regard, Ukraine states that the Russian Federation has no right to make any assessment of sustainability and safety of operations of any Ukrainian nuclear facilities, including the Zaporizhzhia NPP, and to spread its arbitrary judgements at the IAEA platform.

It is important to remember the indisputable fact that the Russian Federation illegally seized control over Ukraine's Zaporizhzhia NPP in the course of brutal war of aggression against Ukraine and in flagrant violation of the principles of the UN Charter and the objectives of the IAEA Statute.

The Russian Federation has not heeded numerous calls of the Board of Governors and General Conference contained in their respective resolutions GOV/2022/17 of 3 March 2022, GOV/2022/58 of 15 September 2022, GOV/2022/71 of 17 November 2022, GC(67)/RES/16 of 28 September 2023, and GOV/2024/18 of 7 March 2024, to withdraw its military and other personnel from the ZNPP.

As long as the ZNPP is under occupation and has essentially been turned into a military station by Russia, there is a constant threat to nuclear and radiation safety.

Situation at Ukraine's Zaporizhzhia Nuclear Power Plant in the context of the Russian occupation

1. General information

The legislation of Ukraine in the field of nuclear energy is based on the standards of the International Atomic Energy Agency and is harmonized with the relevant legal documents of the European Union. Related documents of the Western European Nuclear Regulators Association (WENRA) as well as the best world practices were also considered in the development of the legislation.

Since the declaration of independence, Ukraine has had its own design organizations, whose activities are carried out in accordance with the requirements of national legislation, IAEA standards and the best world practices. The implementation of new projects in Ukraine is carried out at a high professional level, which ensures the safety and efficiency of nuclear facilities.

The unique experience acquired by Ukraine during the introduction of nuclear fuel produced by the Westinghouse Electric Company is a convincing example in this regard. This practice is actively used by a number of countries as an example of diversification of nuclear fuel supplies and strengthening of national energy security.

The General Designer of the Zaporizhzhia NPP is JSC Scientific Research and Design Institute "Energoproekt" (Ukraine). The use of TVZ-WR fuel assemblies is justified and was agreed upon with the General Designer, passed the necessary examination, was approved by the State Nuclear Regulatory Inspectorate of Ukraine, and fully complies with the requirements of regulatory documentation.

The successful trial operation of TVZ-WR fuel was carried out at the ZNPP reactor units, which was confirmed by relevant technical decisions, acts and reports. In 2022–2023, it was planned to transfer TVZ-WR fuel into industrial operation at reactor units No. 1, 3, 4, 5 of the ZNPP.

The equipment used at the ZNPP since the beginning of its construction was manufactured at the enterprises throughout the former Soviet Union, including Ukraine (turbines, condensers, main circulation pumps, transformers, pumping equipment of turbine departments, process control systems, control and protection system equipment, etc.). Since 1991, that is, for more than 30 years, the construction, commissioning and operation of the ZNPP have been carried out in accordance with the legislation of Ukraine, norms, rules and standards that meet international requirements.

Since the collapse of the Soviet Union, reactor unit No. 6, a dry nuclear fuel storage facility, a radioactive waste processing complex, and a new training center building with a full-scale simulator have been put into operation at the ZNPP.

2. Technical condition of the ZNPP reactor units

Repeated shelling of the Zaporizhzhia NPP site by the Russian Federation Armed Forces caused significant damage to the equipment, buildings, structures, pipelines and constructions of the ZNPP, which leads to the risk of a possible accident. Currently, all reactor units of the ZNPP are in cold shutdown mode, however, any transfer of reactor units to another operational mode may lead to equipment damage and potential accident.

During 2023, due to the incompetent actions of the Russian occupation administration of the plant when transferring the reactor units from a cold shutdown to a hot cold shutdown, three incidents with radioactive water leakage from the primary circuit to the secondary circuit occurred at the ZNPP steam generators. Further operation of steam generators without appropriate high-quality repairs is impossible and constitutes a violation of safe operation conditions. The leakage of boric acid indicates degradation of safety system equipment and primary circuit equipment.

2.1. *Maintenance of the equipment*

The increase in the number of defects and retention by Russia of safety-critical system equipment with identified defects indicates the inability of Rosatom to ensure repairs and proper maintenance of the equipment at the Zaporizhzhia NPP.

Due to the fact that a significant part of the equipment used at the ZNPP is of Ukrainian and foreign (not Russian) production, the Russian occupation administration of the Zaporizhzhia NPP failed to carry out major repairs as envisaged by the established norms. In total, at the ZNPP reactor units, the number of outstanding major repairs of the main equipment of a reactor section varies from 75 to 90% of the total amount of equipment.

Failure to carry out planned major repairs of equipment, timely operational control of the base metal and welded joints, as well as proper technical maintenance leads to significant increase in

the risk of additional failures of safety system equipment. Failure of these systems can turn a regular operational event into an accident, during which European countries can be exposed to radiation.

2.2. *Cooling of the ZNPP reactors*

The design solution for the ZNPP provides for cooling the reactor section equipment with a technical water supply system and equipping the turbine compartment with a circulation system.

After the destruction of the Kakhovka Hydroelectric Power Plant dam by the Russian Armed Forces and the draining of the Kakhovka reservoir, there is no capacity for the design replenishment of these systems. Replenishment from coastal pumping stations No. 1 and 2 and by mobile pumping units installed by the Russian occupation administration in the cooling pond of the ZNPP leads to a decrease in the water level in the cooling pond and the entire circulation system. This can disable the pumping equipment of 41 sprinkler modules and the equipment of the pumping station of the cooling tower.

The use of wells to feed these systems does not correspond to the design and is not a reliable source of water supply needed to cool the reactor core and the nuclear fuel storage pools. Thus, the safety status of the Zaporizhzhia NPP is constantly and irreversibly deteriorating, day by day increasing the likelihood of a nuclear accident, which will threaten not only Ukraine, but also Europe and the world.

3. Personnel at the ZNPP

3.1. *Personnel training*

Since 1 February 2024, the Russian occupation administration has terminated access to the ZNPP site for the employees who, despite constant pressure, did not sign contracts with Rosatom, but continued to perform their official duties to ensure the operation of the ZNPP. The total number of personnel who remain in the city of Enerhodar and who are not allowed to their workplaces exceeds 2,500 people.

Due to such actions, there is a critical shortage of licensed personnel at the control panels of the reactor units, which is a gross violation of the regulations of safety operation. Currently, the number of personnel at the unit control panels is 22 people (12% of the need), who have signed contracts with Rosatom.

The instructor staff of the ZNPP training center, who are experienced in working with the ZNPP equipment and can provide training of qualified specialists, shortened to 13 instructors for the training of operational personnel (21% of the need), two of which are instructors on a full-scale simulator (15% of the need).

Rosatom instructors do not meet the established qualification requirements and the level of knowledge necessary for training personnel. They also do not have the necessary practical experience in the relevant positions. In addition, due to Russian shelling, Building "B" of the ZNPP Training Center was significantly damaged, including training rooms and classrooms. About 50 pieces of computer equipment were damaged, disabled, and destroyed. Due to the destruction of Building "B" of the ZNPP Training Center, it is not possible to conduct training there.

3.2. Treatment of the Ukrainian personnel from the ZNPP

Another factor that also significantly threatens the safe operation of the ZNPP includes war crimes, crimes against humanity, and violations of the human rights committed against the plant's employees and their family members.

The Russian occupiers created a whole network for the illegal detention of Ukrainian citizens and using various methods of torture against them: keeping people in basements, kidnapping, intimidation, mock execution, digging graves, torture with electric current, etc.

Such tortures led to the death of Mr Andriy Honcharuk, a diver of the ZNPP hydraulic unit, as well as to an attempted murder of Mr Serhiy Shvets, an employee of the energy repair department. In addition, at least seven employees of the ZNPP were detained by the Russians, and their fate is still unknown. The only purpose of these crimes committed by Russia is to force the employees of the plant to accept Russian citizenship and sign contracts with Rosatom.

4. Operation and maintenance

4.1. Blackouts at the ZNPP

Since the beginning of Russian full-scale invasion, Ukraine's nuclear power plants have been completely de-energized 12 times as a result of Russian shelling which damaged substations and transmission lines connected to nuclear power plants: Zaporizhzhia NPP – eight times, South Ukraine NPP – two times, Rivne NPP – one time, Khmelnytskyi NPP – one time.

Currently, the ZNPP continues to receive power from the Ukrainian power grid via the Dniprovskya 750 kV high-voltage overhead line or the 330 kV Ferosplavna 1 back-up line (the only available backup line).

Damage to external transmission lines between the ZNPP and the power grid (750 kV and 330 kV, respectively) leads to a complete blackout of the plant with the activation of the emergency diesel generators, which is the last barrier of protection for the ZNPP. In the event of failure of the emergency generators, a nuclear and radiation accident is inevitable due to meltdown of nuclear fuel in the absence of power sources necessary for the operation of cooling pumps.

4.2. Emergency preparedness and response

The emergency drills conducted by the Russian Federation at the Zaporizhzhia NPP are formal in nature and are not aimed at maintaining emergency preparedness. At present, the greatest threat is the blackout of the site, which since the beginning of the occupation has occurred more frequent than during the entire period of operation of all nuclear power plants with VVER reactors in Ukraine.

At the same time, external power outages are not even included by Rosatom in the list of drills. Moreover, the internal crisis center and the technical support center, designed specifically to support emergency preparedness and response, were not used at all during the mentioned drills, since Russian military personnel were stationed there.

5. Militarization of the ZNPP

Currently, the situation at and around the Zaporizhzhia NPP remains extremely threatening from the point of view of its militarization. The Russian military further militarize the plant and surrounding territories under Russian occupation, using them as cover for artillery strikes on the territories and settlements controlled by Ukraine.

Due to the intensification of military activity in the region, constant explosions and small-arms fire have been recorded near the ZNPP site, as evidenced by statements of experts of the IAEA Support and Assistance Mission at the ZNPP. During March-May 2024, the IAEA recorded a number of attempted attacks on the ZNPP site using UAVs.

In all cases, the IAEA team tried to gain access the incident sites to assess the damage but did not receive permission from Russian occupation administration of the ZNPP. These attacks by Russia significantly escalate the nuclear safety and security situation at the ZNPP and increase the risk of a nuclear accident.

Thus, Russia violates the Five Concrete Principles outlined by IAEA Director General Rafael Mariano Grossi to prevent nuclear accident at the Zaporizhzhia Nuclear Power Plant in Ukraine, namely:

1. There should be no attack of any kind from or against the plant, in particular targeting the reactors, spent fuel storage, other critical infrastructure, or personnel.
2. ZNPP should not be used as storage or a base for heavy weapons (i.e. multiple rocket launchers, artillery systems and munitions, and tanks) or military personnel that could be used for an attack from the plant.
3. Off-site power supply to the plant should not be put at risk. To that effect, all efforts should be made to ensure that off-site power supply remains available and secure at all times.
4. All structures, systems and components essential to the safe and secure operation of the ZNPP should be protected from attacks or acts of sabotage.
5. No action should be taken that undermines these principles.

The Five Concrete Principles by the IAEA Director General are in line with Ukraine's position as set out in Paragraph 1 of the Peace Formula of the President of Ukraine Volodymyr Zelenskyy, entitled 'Radiation and Nuclear Safety'.

It stipulates that any use of nuclear energy, facilities, devices and objects should be safe, properly regulated, controlled and environmentally friendly. Accidents at nuclear facilities have the

potential for transboundary impact. Bombing and shelling of Ukrainian nuclear infrastructure could have serious humanitarian consequences.

Ukrainian nuclear power plants and facilities must operate safely under full sovereign control of Ukraine. Russian troops should be withdrawn from the Zaporizhzhia NPP site, and its territory should be fully demilitarized.

Ukraine values leading role of the IAEA in maintaining nuclear safety and implementing safeguards at civilian nuclear facilities.