

Information Circular

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General Distribution

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Communication dated 18 May 2023 received from the Permanent Mission of Ukraine to the Agency

1. The Secretariat has received a Note Verbale dated 18 May 2023 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.



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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 communicate the document “Preliminary Analysis of the Russia’s Illegal Actions at the Zaporizhzhia NPP and Their Consequences”, prepared by the competent authorities of Ukraine.

The Permanent Mission of Ukraine requests the Secretariat of the International Atomic Energy Agency to promptly circulate this Note Verbale and its enclosure as Information Circular to all IAEA Member States.

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

Encl.: on 5 pages



Vienna, 18 May 2023

Secretariat
International Atomic Energy Agency

Vienna

Preliminary analysis of the Russia's illegal actions at the Zaporizhzhia NPP and their consequences

№	IAEA Pillars on Nuclear Safety and Security based on the Agency's Standards ¹	Russia's illegal actions	Potential consequences
Pillar 1	The physical integrity of nuclear installations must be maintained whether it is the reactors, fuel ponds, or radioactive waste stores.	Forcible capture, mining of the perimeter and shelling of the ZNPP site and the adjacent territories, which has led to the violation of the physical integrity of the ZNPP and serious damage to the plant and its facilities, create a direct threat to life and health of the operating personnel.	Russia's shelling continues to pose a constant threat to the physical integrity of facilities at the ZNPP.
		Unauthorized structures at the plant site, in particular construction of "walls" near the SNF dry storage.	This has substantive implications for the day-to-day operations of the plant and could lead to a nuclear incident or accident.
		Possible dismantle and removal of FSS-1 and FSS-2 (full-scale simulator) from the ZNPP outside the uncontrolled territory of Ukraine.	The construction of any structures contrary to the design, approved and implemented in accordance with the requirements of Ukrainian legislation, is an uncontrolled illegal interference by Russia in the design of the ZNPP nuclear installation. Such actions constitute a gross violation of the license for operation of the plant, as well as international requirements, in particular in the context of the implementation of the Agreement between Ukraine and the IAEA for the Application of Safeguards in

¹ SF-1: Fundamental Safety Principles; NSS-20: Objective and Essential Elements of a State's Nuclear Security Regime; NSS 35-G: Security during the Lifetime of a Nuclear Facility; NSS 27-G: Physical Protection of Nuclear Material and Nuclear Facilities (Implementation of INFCIRC/225/Revision 5); GSR Part 1 (Rev. 1): Governmental, Legal and Regulatory Framework for Safety; GSR Part 2: Leadership and Management for Safety; GSR Part 3: Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards; GSR Part 4 (Rev. 1): Safety Assessment for Facilities and Activities; GSR Part 5: Predisposal Management of Radioactive Waste; GSR Part 7: Preparedness and Response for a Nuclear or Radiological Emergency; SSR-2/1 (Rev. 1): Safety of Nuclear Power Plants: Design; SSR-2/2 (Rev. 1): Safety of Nuclear Power Plants: Commissioning and Operation; NSS-13: Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Revision 5); SSG-53: Design of the Reactor Containment and Associated Systems for Nuclear Power Plants; SSG-63: Design of Fuel Handling and Storage Systems for Nuclear Power Plants; NS-G-2.14: Conduct of Operations at Nuclear Power Plants; SSG-15 (Rev. 1): Storage of Spent Nuclear Fuel; WS-G-6.1: Storage of Radioactive Waste; RS-G-1.8: Environmental and Source Monitoring for Purposes of Radiation Protection.

			Connection with the Treaty on the Non-Proliferation of Nuclear Weapons.
Pillar 2	All safety and security systems and equipment must be fully functional at all times	Unauthorized change of the status of nuclear installations.	<p>The presence of russian troops, military equipment and weapons, as well as russian shelling, can damage critical systems and equipment of the ZNPP and lead to radiological consequences on the site and beyond.</p> <p>By placing its military equipment, ammunition and explosives in the turbine buildings of the ZNPP russia violates fire, nuclear and radiation safety requirements. This significantly increases the risk of fire, which can occur due to the detonation of the ammunition. In addition, russian military equipment make it impossible for specialized fire vehicles and other machines to access the turbine buildings of the ZNPP.</p> <p>Ukrainian operational personnel make significant efforts to maintain the operation of nuclear safety and security systems under constant pressure from the russian military.</p>
		Damage to safety important systems such as mobile feed water pumps for steam generators and the nitrogen-oxygen plant.	
		Attacks on energy facilities, in particular power lines, the damage of which directly affects the safe operation of Ukrainian NPPs.	
		<p>Use of the ZNPP for military purposes:</p> <p>1) power units do not produce electricity for the needs of the population;</p> <p>2) russia placed on the ZNPP site:</p> <ul style="list-style-type: none"> • 50 units of heavy equipment (tanks, armored personnel carriers, etc.); • about 500 soldiers; • equipment, ammunition, and explosives are located in the turbine buildings of units № 1, 2, and 4 of the ZNPP; <p>3) IAEA experts are not allowed in the turbine buildings of the ZNPP, where russian military equipment is located;</p> <p>4) russia announced the permanent presence of representatives of Rostekhnadzor at the ZNPP.</p>	
		Blocked access for the IAEA experts to important facilities, such as the on-site crisis center and the central alarm station.	

		Occupants store many chemical products near transformers, which poses an increased risk of fire.	<p>The interference of representatives of Rosatom and Rosenergoatom in the management process of the ZNPP can lead to uncoordinated actions of personnel, human errors and, as a result, a nuclear accident.</p> <p>Dangerous fluctuations in the power grid and constant loss of external power supply due to russian shelling lead to emergency shutdowns of the plant and create the risk of a nuclear accident.</p>
		Possible attempts by Russia to replace Westinghouse nuclear fuel.	
		Intervention in the technological process of operation and management of the ZNPP.	
Pillar 3	The operating staff must be able to fulfil their safety and security duties with a proper rotation and have the capacity to make decisions free of undue pressure.	Blocked access to the plant site for 1,500 highly qualified Ukrainian workers and attempts to replace them.	<p>A significant reduction in the licensed and qualified personnel of the ZNPP, an increase in the workload of personnel, as well as attempts to replace them with Russian specialists, who do not have the proper training and licenses, pose a direct threat to the safe operation of the ZNPP, can lead to human errors and, accordingly, to a nuclear incident or accident.</p>
		<p>Measures aimed at appropriating the Zaporizhzhia NPP and other property needed for its operation:</p> <ol style="list-style-type: none"> 1) decree of the president of the Russian Federation No. 711 dated 5 October 2022 on the appropriation of Zaporizhzhia NPP; 2) creation of fake enterprises: FSUE “Zaporozhskaya NPP” and JSC “Operating Organization of Zaporozhskaya NPP”; 3) permanent presence of representatives of Rosatom and Rostekhnadzor; 4) constant psychological and physical pressure on the plant’s staff, forcing them to sign contracts with Rosatom; 5) non-admission of licensed managers to the plant. 	

Pillar 4	There must be secure off-site power supply from the grid for all nuclear sites.	Regular military activities of the Russian Federation lead to the loss of off-site power. Since the beginning of the Russian occupation the plant has been in blackout six times, when it was running only on diesel generators.	<p>If external power is lost, the plant switches to diesel generators to supply ZNPP's own needs and cool down reactors. DG fuel will suffice for 10 days. If it is impossible to resume the off-site power supply to the plant during this time, an accident with radiation consequences for the entire world may occur.</p> <p>In many cases, the repair of power lines is not possible due to the ongoing military operations of the Russian Federation or lack of spare parts.</p>
		Occupiers' mining of the territory around the perimeter of the ZNPP.	
Pillar 5	There must be uninterrupted logistical supply chains and transportation to and from the sites.	Shortage of spare parts and consumables for maintenance and repair.	<p>Maintaining the functioning and efficient logistics supply chains is critical as it keeps the important nuclear safety and security systems operational and ensures that any damage to them is repaired in time to avoid any adverse on-site or off-site consequences.</p>
		Logistics and transportation for the delivery of goods are disrupted.	
		Loss of Ukrainian suppliers.	
Pillar 6	There must be effective on-site and off-site radiation monitoring systems and emergency	Inability to implement emergency programs in full scope.	<p>Russian occupation and military activities resulted in damage to critical infrastructure and facilities necessary for effective emergency response. This significantly decreases on-site and off-</p>
		Inability to carry out planned radiation monitoring in full scope.	

	preparedness and response measures.	Disruption of radiation monitoring stations due to unreliable power supply. Damage to power cables and malfunction of sensors as a result of military operations.	site response and preparedness to any nuclear or radiological emergency.
		Inaccessibility of the ZNPP crisis center for its intended use.	
		Damage to facilities and critical infrastructure for effective emergency response (e.g. on-site fire stations).	
		Reduction in the frequency of training and exercises to maintain emergency preparedness.	
		Reduced number of personnel that decreases the effectiveness of emergency response.	
Pillar 7	There must be reliable communications with the regulator and others.	Communication with the Ukrainian regulator, operator and authorities located on the territory controlled by Ukraine is broken. Communication lines (phone, fax, internet and satellite) are not functioning.	Since the beginning of the Russian occupation, there has been a lack of means and channels of communication. This reduces the ability to support the safe operation of nuclear facilities with appropriate regulatory oversight, as well as to respond effectively to any nuclear safety event at the local, regional, national and international levels.
		Regulatory oversight and inspection of facilities and activities are terminated.	