

General Assembly 4

The Question of the Zaporizhzhia Nuclear Power Plant



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of The Hague
Model United Nations

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Forum: General assembly 4

Issue: The Question of the Zaporizhzhia Nuclear Power Plant

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Introduction

The Zaporizhzhia Nuclear Power Plant, prior to Ukraine War, was a major electricity producing facility in Ukraine, contributing significantly to the country's power grid. It is one of the largest nuclear power plants in Europe. The halt in production of electricity at this plant has immense repercussions not only on local power supply but the global energy market. Zaporizhzhya generates up to 42,000 gigawatt-hours (GWh) of electricity a year, contributing about 20% of Ukraine's total electricity. Since March 5, 2022, the plant has been occupied by Russian forces. This occupation came amidst the broader conflict between Russia and Ukraine and has led to a precarious situation given the plant's significance and the potential risks associated with its operation during a military conflict

Definition of Key Terms

Power outage - The loss of the electrical power network supply to an end user

Occupation - The action, state, or period of occupying or being occupied by military force.

War zone - a region in which a war is being fought.

Weaponization - adapted for use as a weapon.

Cooling - having the effect of making something less warm

Global energy market - commodity markets that deal specifically with the trade and supply of energy

General Overview

The Zaporizhzhia Nuclear Power Plant in Ukraine, currently under Russian control since March 2022, faces a critical situation with power outages and safety concerns amidst the ongoing conflict. Recent incidents, including a disrupted power line, raised fears about a potential nuclear catastrophe, prompting calls for a protection zone. The crisis highlights



wider issues regarding Europe's readiness for nuclear incidents, considering aging reactors and climate-related risks. International bodies like the IAEA and the UN are actively involved, emphasizing the importance of safety measures and diplomatic efforts to ensure the plant's security.

The situation has sparked international concerns about nuclear safety during wartime, shedding light on the absence of clear regulations governing nuclear power plants in conflict zones. Calls have been made for the establishment of a protection zone around the plant, urging both Ukraine and Russia to refrain from military activities in its vicinity to prevent a potential catastrophe.

The power outage at the Zaporizhzhia Nuclear Power Plant poses a significant threat due to the intricate nature of nuclear reactor operations. One of the reactors at the plant is requiring continuous cooling even when not actively generating electricity. The cooling systems, crucial for maintaining a safe temperature, rely on a stable power supply. The sudden disruption of power, as experienced during the recent outage, jeopardizes the plant's ability to effectively cool the reactor. Without proper cooling, there is an imminent risk of the reactor overheating, potentially leading to the melting of fuel rods and the release of radioactive materials.

Nuclear power plants have backup power systems in place to manage such situations. However, prolonged power interruptions can strain these backup systems, heightening the risk of a nuclear incident. The outage underscores the delicate balance required to ensure the safe operation of nuclear facilities, particularly in regions affected by conflict. The potential consequences of a reactor overheating extend beyond the immediate plant vicinity, posing risks to both human health and the environment. Immediate and effective restoration of power and cooling systems is paramount to preventing a nuclear catastrophe at the Zaporizhzhia Nuclear Power Plant.

The functionality of the Zaporizhzhia Nuclear Power Plant holds implications for both the global energy market and energy security. As one of the largest nuclear power plants in Europe, any disruption in its operation can reverberate across regional energy markets. The plant's compromised functionality, especially in the context of the ongoing Ukraine-Russia conflict, introduces uncertainties in the supply of electricity. This uncertainty can lead to shifts in energy prices, affecting both neighbouring countries and broader global energy

markets. Investors and energy stakeholders may respond to such disruptions with caution, contributing to market volatility.

Furthermore, the Zaporizhzhia crisis underscores the interconnected nature of energy security. The potential risks associated with the nuclear facility pose challenges to the reliability of energy supply in the region. Countries that depend on a stable and predictable energy supply from the affected region may face shortages or increased costs. This situation highlights the importance of diversifying energy sources and investing in resilient energy infrastructure to mitigate the impact of geopolitical tensions on global energy security. In essence, the functionality of the Zaporizhzhia Nuclear Power Plant plays a role in shaping not only the regional energy landscape but also influencing broader global energy dynamics.

Now that it is under Russian authority, the facility serves as a vital resource for Russia's and Ukraine's strategic objectives. Russia can potentially exert influence in the wider geopolitical scene and impact regional energy dynamics through its control over the plant. In contrast, Ukraine wants to regain control over the plant in order to preserve control over a vital national asset and ensure its own energy independence. Ukraine wants sovereignty over its energy infrastructure.

The significance of the plant for the area adds a border aspect since national sovereignty and the stability and control of energy resources are linked. Russia may exert influence in the surrounding areas and shape its energy strategy thanks to its ownership of the Zaporizhzhia facility. In contrast, Ukraine's aim to reclaim control is consistent with its larger attempts to claim independence and sovereignty. Thus, in the context of a deeply ingrained and complicated conflict, the geopolitical struggle over the Zaporizhzhia Nuclear Power Plant reflects not only worries about energy security but also a larger war for influence and control along national frontiers.



Major Parties Involved

Russia

The Russian view on the Zaporizhzhia Nuclear Power Plant crisis likely revolves around strategic, energy security, and geopolitical considerations. Controlling the plant could be seen as a strategic move to exert influence over Ukraine's energy infrastructure, potentially providing diplomatic leverage. From an energy security standpoint, Russia may argue that its control ensures stability in the region's electricity supply, framing it as a measure to safeguard against disruptions. In the context of broader geopolitical dynamics, the Russian presence at Zaporizhzhia might be perceived as part of a strategic approach to assert influence in the region and maintain a strong position amid ongoing conflicts. Additionally, Russia might emphasize its role in providing stability to the plant during a tumultuous time, positioning its control as a measure to prevent potential safety or operational risks linked to the conflict.

Ukraine

Ukraine's perspective on the Zaporizhzhia Nuclear Power Plant crisis likely centers on national sovereignty, energy independence, and concerns about the safety and stability of the facility. The desire to regain control over the plant reflects Ukraine's broader commitment to asserting its autonomy and sovereignty over critical national assets. From an energy security standpoint, regaining authority over Zaporizhzhia is crucial for Ukraine's ability to independently manage its energy infrastructure and reduce dependence on external forces.

United States

The US has taken part in UN Security Council discussions pertaining to the obligations and dangers associated with the Zaporizhzhia plant. Concerns about the possibility of a nuclear accident have been voiced by the U.S., which has also stressed the significance of giving Ukraine back control of the plant.

France

France has expressed worries about the risks connected to the Zaporizhzhia Nuclear Power Plant. France is another country that participates in UN Security Council deliberations. France has stressed the significance of guaranteeing the facility's safety and giving Ukraine back authority, just like the United States has done.

Timeline

Year	Event
2014	- Russia annexes Crimea, leading to heightened tensions between Russia and Ukraine.
2014-2015	- Conflict erupts in Eastern Ukraine, particularly in Donetsk and Luhansk regions, involving pro-Russian separatists.
2015	- Minsk II agreement is signed, aiming to de-escalate the conflict, but sporadic fighting continues.
2018	- Ukraine declares martial law in several regions following a naval clash with Russia in the Kerch Strait.
2020-2022	- Ongoing tensions and sporadic conflicts persist in Eastern Ukraine. The Zaporizhzhia Nuclear Power Plant, being a critical infrastructure asset, remains in focus due to its strategic importance.
March 2022	- Russian forces occupy the Zaporizhzhia Nuclear Power Plant, marking a significant development in the ongoing Russia-Ukraine conflict.
October 2023	- Safety concerns at the plant escalate, with incidents including power outages and disruptions to its electricity supply, raising fears of a potential nuclear catastrophe.
December 2023	- The Zaporizhzhia Nuclear Power Plant experiences a power outage, emphasizing the vulnerability of critical infrastructure during the conflict.

Possible Solutions

Diplomatic negotiations involving international mediators or organizations could provide a platform for Russia and Ukraine to discuss the future of the Zaporizhzhia plant. A mediated dialogue may help identify common ground, ease tensions, and establish a framework for resolving the issue without further escalation. Engaging in diplomatic talks allows both parties to voice their concerns and explore compromises in the interest of regional stability and nuclear safety.

An international collaborative effort, possibly led by organizations like the International Atomic Energy Agency (IAEA) or the creation of a UN body that oversees nuclear plants could focus on ensuring nuclear safety at the Zaporizhzhia plant. Establishing a joint oversight mechanism involving both Russian and Ukrainian representatives, along with international experts, could address safety concerns and provide a neutral approach. This solution emphasizes the shared interest in preventing a nuclear incident and ensures adherence to international safety standards.

Facilitating a peaceful transition of control over the Zaporizhzhia plant from Russian forces back to Ukrainian authorities could be a viable solution. This transition could be managed through international agreements or protocols to ensure a smooth handover. This approach acknowledges Ukraine's sovereignty over its critical infrastructure while providing assurances to Russia about ongoing cooperation on nuclear safety. A well-managed transition could contribute to regional stability and address concerns related to the plant's safety and operational integrity.



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