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Russia's Weaponization of the Zaporizhzhia Nuclear Power Plant

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(Source: Suspilne.media)

On May 22, as a result of Russian shelling of Ukraine's energy infrastructure, the Zaporizhzhia Nuclear Power Plant (ZNPP) was cut off from the central power grid once again. As a result, the plant was switched to standby for the seventh time since the beginning of the Russian re-invasion in February 2022. The diesel generators, which have only a ten-day stock of fuel, were automatically switched on to provide cooling for the nuclear material of the power units ([Suspilne.media \(https://suspilne.media/483070-zaes-vs-ome-perehodit-v-rezim-blekautu-cerez-obstrili-rosian-energoatom/\)](https://suspilne.media/483070-zaes-vs-ome-perehodit-v-rezim-blekautu-cerez-obstrili-rosian-energoatom/), May 22). Although hours later Ukrainian grid operator Ukrenergo was able to restore the power transmission lines that supply the ZNPP, the incident still raises legitimate concerns about the safety and security of Ukraine, its neighbors and the wider region ([Facebook.com/NPCUkrenergo \(https://www.facebook.com/npcukrenergo/posts/pfbid023K3cutqUt7MVjHMnJ6P9Ukn2TinD8pQpsqM](https://www.facebook.com/npcukrenergo/posts/pfbid023K3cutqUt7MVjHMnJ6P9Ukn2TinD8pQpsqM) May 22). Russia's invasion of Ukraine and its subsequent occupation of Europe's largest nuclear power plant have caused an unprecedented situation: For the first time, hostilities have unfolded on the territory of an operating civilian nuclear power plant, and, as a result, the threat of a radioactive catastrophe has become all the more real ([Zprz.city \(https://zprz.city/news/view/rik-v-okupatsii-z-4-bereznya-minulogo-roku-zaporizka-aes-zahoplana-rosijskimi-vijskovimivideo#:~:text=%D0%9D%D0%B0%D0%B9%D0%B1%D1%96%D0%BB%D1%8C%D1%88%D0](https://zprz.city/news/view/rik-v-okupatsii-z-4-bereznya-minulogo-roku-zaporizka-aes-zahoplana-rosijskimi-vijskovimivideo#:~:text=%D0%9D%D0%B0%D0%B9%D0%B1%D1%96%D0%BB%D1%8C%D1%88%D0) March 4).

The ZNPP has long been a symbol of Ukraine's energy independence and technological prowess. Located on the shores of Kakhovka Reservoir, the power plant consists of six nuclear reactors with a combined maximum capacity of 6,000 megawatts, which provides approximately 40 percent of Ukraine's electricity needs. It also contains stores of used nuclear fuel and radioactive materials as well as the only training center (repair, maintenance and operation simulators) in Ukraine ([Uatom.org \(https://www.uatom.org/zagalni-vidomosti/diyuchi-aes-ukrainy/zaporizka-aes\)](https://www.uatom.org/zagalni-vidomosti/diyuchi-aes-ukrainy/zaporizka-aes), accessed May 28). The ZNPP plays an instrumental role in reducing Ukraine's reliance on fossil fuels and in ensuring a stable energy supply. Over the years, it has undergone numerous upgrades, including with Western nuclear technologies, and safety improvements ([Glavcom.ua \(https://glavcom.ua/country/society/enerhoatom-zajaviv-pro-remontni-roboti-na-aes-chi-budut-vidkljuchennja-svitla-925882.html\)](https://glavcom.ua/country/society/enerhoatom-zajaviv-pro-remontni-roboti-na-aes-chi-budut-vidkljuchennja-svitla-925882.html), May 9).

Since March 4, 2022, when Russian forces took control of the ZNPP, it has become a critical component in Moscow's ongoing aggression against Ukraine and a military asset against the West. Russian occupation of the ZNPP poses threats ranging from nuclear safety and security, national and regional stability, as well as energy deficits to economic losses and industrial espionage. The plant's strategic significance and size make it an attractive target for Russian military threats, nuclear blackmail and disinformation leading to concerns over its safety and potential weaponization. By effectively utilizing the ZNPP as a strategically positioned nuclear weapon, Russia is not only seeking to intimidate and threaten the Ukrainian population but also millions of people in the surrounding regions ([YouTube \(https://www.youtube.com/watch?v=dj9VZVnVTLO\)](https://www.youtube.com/watch?v=dj9VZVnVTLO), March 3).

Ukraine is also home to three other strategically important nuclear power plants—the Rivne, Khmelnytsky and South Ukraine plants. The Chernobyl Nuclear Power Plant, which is currently undergoing a decommissioning process, is also situated on Ukrainian territory ([Energoatom.com.ua](https://www.energoatom.com.ua) (<https://www.energoatom.com.ua/vp-mobile-version.html>), accessed May 28). Ukrainian nuclear power plants, along with other nuclear and radiation facilities, including storage facilities for radioactive waste and used nuclear fuel, are primarily intended for the peaceful use of nuclear energy. According to international law (Article 56 of the Additional Protocol to the Geneva Conventions of August 12, 1949), objects such as nuclear facilities are not intended for military operations and should not be targeted ([Ihl-databases.icrc.org](https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-56#:~:text=It%20is%20prohibited%20to%20make,installations%20mentioned%20in%20paragraph%20) (<https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-56#:~:text=It%20is%20prohibited%20to%20make,installations%20mentioned%20in%20paragraph%20> accessed May 26). Additionally, the resolution from the IAEA General Conference in 2009 states that “any armed attack or threat to nuclear facilities meant for peaceful purposes violates the principles of the United Nations, its Charter, international law and the charters of relevant agencies” ([Epravda.com.ua](https://www.epravda.com.ua/publications/2022/03/5/683307/) (<https://www.epravda.com.ua/publications/2022/03/5/683307/>), March 5, 2022).

Even during peacetime, nuclear power plants remain objects of heightened danger, despite their robust accident prevention systems. Thus, while Russia’s invasion most directly threatens Ukraine, its tactics of weaponizing Ukrainian power plants and spreading nuclear blackmail poses a grave threat to regional security and stability. Furthermore, this alarming development sets a dangerous precedent, potentially encouraging other countries to exploit similar civilian objects for military purposes. Urgent international action is required to address the situation, ensure nuclear safety, restore energy stability, protect critical infrastructure and prevent potentially catastrophic long-term consequences.

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