



## **NEWS FROM BEYOND NUCLEAR**

For immediate release

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### **Ukraine's nuclear power plants face daily risk of deadly disaster while war continues**

***Safe zones can't prevent inherent dangers of nuclear reactors leading to catastrophe, group warns***

TAKOMA PARK, MD, February 23, 2023 — Ukraine's nuclear power plants are in immeasurably greater peril today than one year ago when Russia first invaded the country, warns Beyond Nuclear, and creating safe zones around them cannot nullify the technology's inherent dangers and catastrophic consequences.

All 15 of Ukraine's reactors at four sites across the country have experienced missile strikes, artillery shelling or drone bombing dangerously close by since the war began. The six-reactor Zaporizhzhia nuclear power plant, the largest in Ukraine and all of Europe, and with more than 2,000 tonnes of deadly radioactive waste onsite, represents the greatest threat. The plant has been occupied by Russian forces since March 4, 2022 and is embroiled most directly in the conflict zone in the southeastern part of the country.

"With the war raging close by, the Zaporizhzhia nuclear plant represents a nightmarish target that, if catastrophically damaged could cause a nuclear disaster on a scale that would dwarf the impact of Chernobyl, whose effects are still being felt today," said Linda Pentz Gunter, International Specialist at Beyond Nuclear.

Ukraine's Chernobyl Unit 4 reactor exploded on April 26, 1986, sending a radioactive plume across the former Soviet Union and beyond, contaminating 40% of the European landmass and setting up a 1,000 square mile Exclusion Zone still uninhabitable today.

"The scenarios that could lead to a nuclear power plant disaster in Ukraine are, in many ways, the same ones that could cause a nuclear power accident on any given day, even under routine operation," Pentz Gunter said. "These include loss of power, human error or sabotage. The conditions of war just make such an outcome far more likely."

While the International Atomic Energy Agency has so far urged — but has been unable to establish — safe zones around Ukraine’s nuclear power plants, “these might prevent a direct attack, but they cannot prevent loss of power accidents or human error,” Pentz Gunter continued. “While the risks may be reduced, the inherent dangers of nuclear power plants cannot be protected against even on a good day, never mind in the extremes of a protracted war.”

While a deliberate or even accidental bombing or missile strike at one of Ukraine’s nuclear plants could lead to fires, meltdowns and a massive release of radioactivity, loss of power could also cause a meltdown. Russia’s attacks on the grid have cut essential off-site electricity supplies on a number of occasions at all four nuclear power plant sites. This forces operators to turn to onsite emergency power systems such as diesel generators and batteries to power a subset of essential safety systems including reactor cooling.

Should the diesel generators fail and cooling is lost, the reactor cores heat up and the cooling water evaporates, uncovering the core and leading to meltdown. A drain down in the fuel pools could cause a runaway zirconium fire and a massive release of radioactivity.

A steady supply of cooling water is also essential. However, alarms have recently been raised by the seemingly deliberate draining of the Kakhovka Reservoir, on which the Zaporizhzhia nuclear power plant relies for its cooling water.

“It is critical to keep the highly radioactive irradiated fuel rod assemblies in the fuel pools submerged in water at all times,” said Paul Gunter, Director of Reactor Oversight at Beyond Nuclear. “Deliberately cutting off the cooling water supply to Zaporizhzhia is putting Europe’s biggest nuclear power plant — and the continent’s entire population — in extreme jeopardy. A fire in the fuel pool, where the most highly radioactive components are stored, is by far the worst possible outcome,” he said.

The workforce at Zaporizhzhia has been working under extreme duress since the Russian occupation, with accounts of incidents of violence and even the disappearance of some workers.

“A diminished and frightened workforce pulling long shifts while fearing for the safety of their families is another recipe for human error and nuclear disaster,” Pentz Gunter said.

Human error was at the root of both the 1979 Three Mile Island nuclear power plant accident in the United States as well as the Chernobyl explosion, even without the added stresses of a war.

Ukraine relies on its nuclear plants for 50% of its electricity supply. But plunged into a war zone, most of the 15 reactors have had to shut down, sometimes for days or even

indefinitely. With such a heavy dependence on nuclear power, Ukraine has no robust renewable energy infrastructure to turn to instead.

“The lesson learned here is that, in times of crisis and natural disaster, nuclear power cannot serve as a reliable energy source,” Paul Gunter said. “Due to its inherent dangers, it will not be available when needed most. And it constitutes unthinkable risks that would not be raised at all were Ukraine powered by wind and solar energy.”

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*Beyond Nuclear is a 501(c)(3) nonprofit membership organization. Beyond Nuclear aims to educate and activate the public about the connections between nuclear power and nuclear weapons and the need to abolish both to safeguard our future. Beyond Nuclear advocates for an energy future that is sustainable, benign and democratic. The Beyond Nuclear team works with diverse partners and allies to provide the public, government officials, and the media with the critical information necessary to move humanity toward a world beyond nuclear. Beyond Nuclear: 7304 Carroll Avenue, #182, Takoma Park, MD 20912. [Info@beyondnuclear.org](mailto:Info@beyondnuclear.org). [www.beyondnuclear.org](http://www.beyondnuclear.org).*