

# Could the Ukraine dam attack pose risks to the Zaporizhzhia nuclear power plant? Experts explain

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Experts from the [International Atomic Energy Agency](#) (IAEA) want access to a location near Ukraine's Zaporizhzhia nuclear power plant. They want to clarify why there are discrepancies between different measurements of the reservoir that supplies water to cool the facility's reactors.

The [IAEA is due to visit](#) Ukraine and the Zaporizhzhia plant in the next week. It [released a statement](#) saying that the level of the Kakhovka reservoir has been dropping rapidly since the Nova Kakhovka dam was severely damaged after an attack on June 6.

The attack [on the Nova Kakhovka dam](#) in a Russian-occupied part of Ukraine unleashed flooding that devastated an area of about 600km<sup>2</sup>, roughly the size of the city of Chicago. The attack, which is being blamed by many western [analysts on Russia](#), happened a week before a scheduled visit of IAEA inspectors to the Zaporizhzhia [nuclear power plant](#).

Sitting upstream, the Russian-occupied power plant relies on cooling water from the Dnipro River and the Kakhovka reservoir. The cooling pond and the discharge channel are both vital for the safety of the plant.

IAEA director general [Rafael Grossi said](#): "Even if there is no short-term threat, the dam disaster is causing major new difficulties for the Zaporizhzhya Nuclear Power Plant at a time when the nuclear safety and security situation is already extremely fragile."

The IAEA also wants access to the plant's [electrical switchyard](#), which used to provide back-up power. According to the IAEA, Zaporizhzhia—which is Europe's largest nuclear power plant—now relies entirely on its sole remaining 750kv power line for off-site electricity. This has been cut repeatedly since the war began in February 2022. The [IAEA has not received adequate access](#) so far.

The most visible impact of the dam breach is the destruction unfolded by the floods. Given the scale of the destruction of homes, wildlife and farmland, the contamination of water, as well as landmines unearthed by the floods, this catastrophe is set to transform the geography and ecology of the region. It will inflict further hardship on a population already scarred by war.

The short-term impacts of the dam's destruction revolve mainly around physical impact such as people's homes and villages, and tactical battlefield dynamics. But the strategic implications of [Russia's "ecocide"](#) stem from two dangerous dynamics: Putin's increasing appetite for risk and Russia's willingness to absorb costs, despite massive human, military and [economic losses](#).

In this context, Russia's reckless behavior increases the likelihood of escalation with even more dire consequences, such as possible foul play involving Zaporizhzhya. The nuclear plant has been the site of intense shelling for almost a year. This has raised concerns about a nuclear accident.

The Kakhovka dam's collapse has renewed concerns over the possibility of an environmental disaster, either intentional or unintentional, on a larger scale. Russia's disregard for the scale of immediate and long-term devastation also suggests a higher likelihood of Russia breaking the [nuclear taboo](#)—the idea of an inhibition against using [nuclear weapons](#), whether for tactical or strategic purposes.

## Escalation logic

Given the timing of the explosion—at the cusp of Ukraine's much anticipated counteroffensive—many analyzed the intent of the explosion based on whether the dam's destruction would benefit Ukrainian or Russian militaries.

Defense expert [Rajan Menon tweeted](#) that the flooding "created far greater problems for Ukraine than for Russia." Not least "by making any near-term armored and mechanized infantry offensive far harder, if not impossible." The Russian army appears to be the benefactor in the short term as it scrambles to slow down Ukraine's counteroffensive.

Others thought it unlikely that the dam explosion was deliberate, considering the damage caused to Russia's fortifications and the crippling effects of the flooding on Crimea's infrastructure. The Kyiv Independent's war correspondent [Illia Ponomarenko argued](#) that the dam's explosion was a "catastrophic collapse due to deadly negligence by the Russian occupational authorities and their military."

No matter whether the explosion was accidental or deliberate, neither side is a clear benefactor. This creates new levels of ambiguity in the war's escalation logic. [Escalation logic](#) refers to the strategic decisions and actions taken to intensify a conflict, aiming to gain an advantage or deter the opponent. It involves escalating conflict through military, political, economic or informational means to increase pressure on the opponent. Intent is difficult to measure and ambiguity increases the risk of miscalculation.

## Russian steps

Russia's war against Ukraine has followed a series of escalating steps.

After the initial invasion, when the Russian offensive stalled in the summer of 2022, the Russian military chose to use cruelty against Ukrainian civilians.

It started with sporadic [air raids against civilian targets](#) and went on to deliberately destroy civilian energy infrastructure to demoralize populations and degrade Ukraine's economy and military.

This escalation, however, negatively affected Russia's economy and outlook as well, since the [immediate and long-term forecasts do not look promising](#).

Russia's scorched-earth strategy with its absolute disregard for economic-rational thinking suggests an acceptance of higher risks, resulting in increased recklessness and high risks of unintended consequences. Whether intentional or not, losing control of Europe's largest nuclear plant does not present an acceptable scenario for the wider international community.

With that in mind, the west would be prudent to adjust its risk tolerance to levels proportional to the situation at hand and provide Ukraine with all necessary support to deny Russia control of any critical infrastructure. Simultaneously, the nuclear taboo that shuns the use of nuclear weapons should be extended to reckless behavior around nuclear sites.

Meanwhile, there needs to be an agreement that would allow the IAEA to secure a safe zone around the nuclear power plant to prevent a potential nuclear catastrophe.

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