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Ukrainian dam collapse 'no immediate risk' to Zaporizhzhia nuclear plant

But IAEA says damage to Nova Kakhovka dam raises long-term concerns for power station's future

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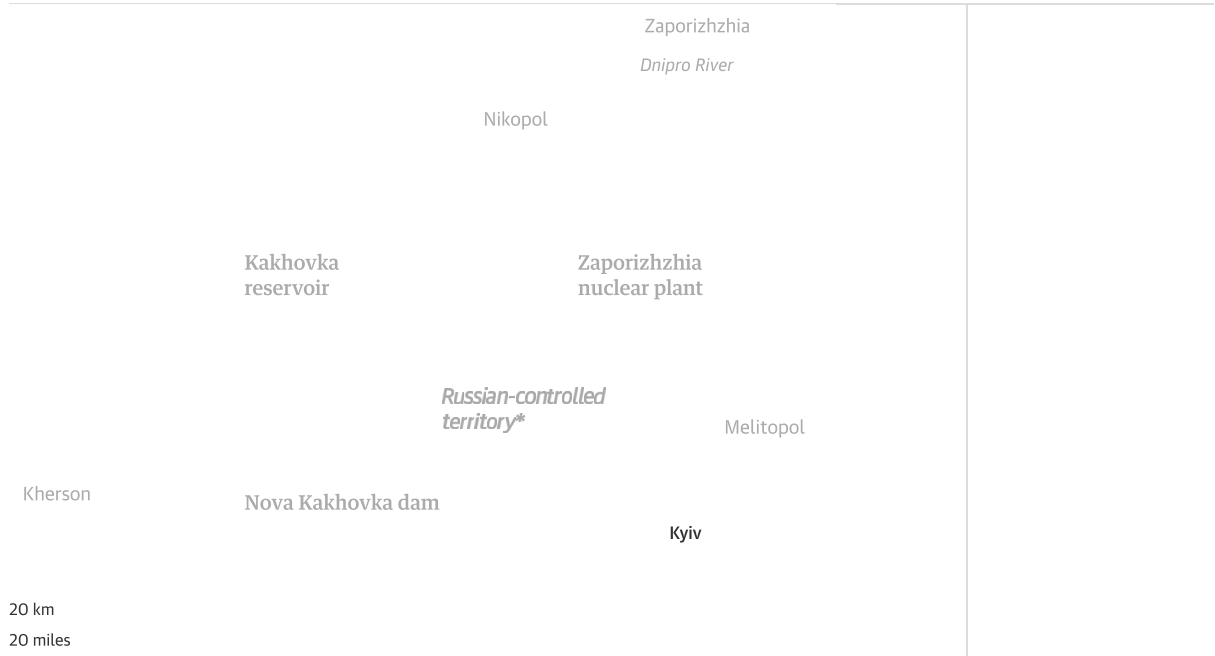
The [collapse of the Nova Kakhovka dam](#) and the draining of the reservoir behind it does not pose an immediate safety threat to the [Zaporizhzhia nuclear power plant](#) further upstream, but will have long-term implications for its future, according to Ukrainian and UN experts.

The Ukrainian nuclear energy corporation, Energoatom, put out a statement on the [Telegram social media platform](#) saying the situation at the plant, the biggest nuclear power station in Europe, was “under control”.

Rafael Mariano Grossi, the director general of the International Atomic Energy Agency, the UN's nuclear watchdog, [said in a statement](#): “our current assessment is that there is no immediate risk to the safety of the plant.”

But there are long-term concerns, both over safety and the possibility of the plant becoming operational again in the coming years. Oleksiy, a former reactor operator and shift supervisor at the plant, pointed out that all six reactors had been shut down since the plant found itself on the frontline after the Russian invasion.

Five of the reactors are in “cold shutdown”, turned off completely and being cooled, and one is in “hot shutdown”, kept at 200-250C so it would be easier to restart if conditions allowed, and to supply winter heating to the neighbouring town of Energodar.

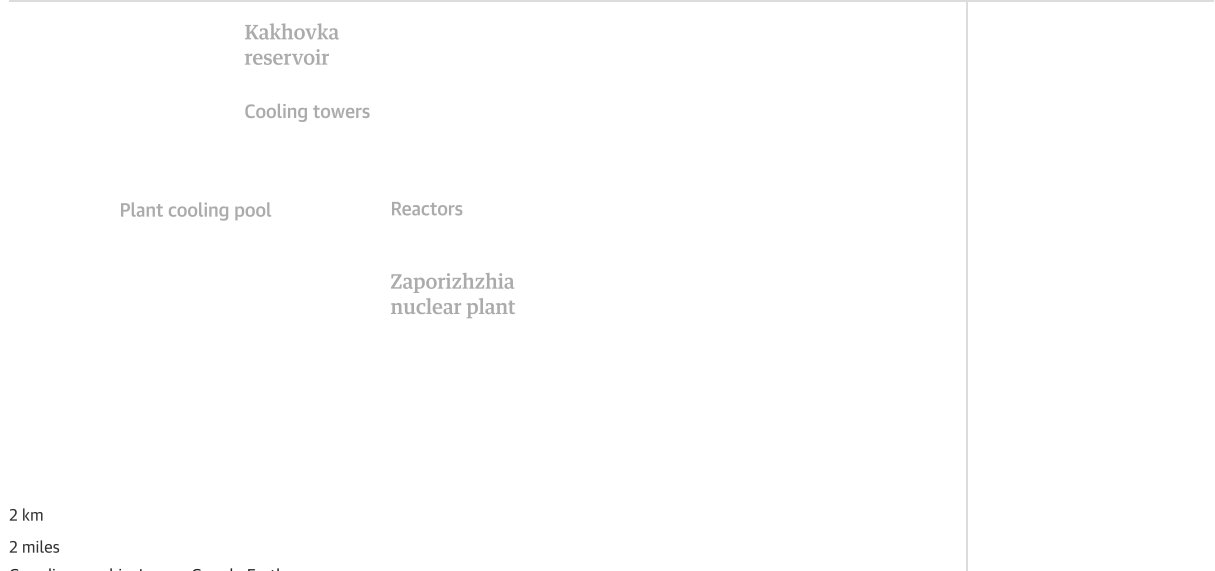


Guardian graphic. Image: Google Earth. Source: The Institute for the Study of War with AEI's Critical Threats Project. *Russian-controlled territory and most recent Russia advances - areas where ISW assesses Russian forces have operated in or launched attacks against but do not control

Oleksiy, who left after Russian forces occupied the plant in March last year and is now elsewhere in **Ukraine**, said the last reactor should be shut down and that the plant had sufficient resources to keep all reactor cores cool.

“I think that the damage of the dam doesn’t impact the plant immediately, because they are being cooled by the safety systems located at the plant, which are spray systems,” he said. “The plant has a cooling lake, about two or three kilometres in diameter.”

The Energoatom statement said the cooling lake was filled and was at 16.6 metres (54.5ft), “which is sufficient for the power plant’s needs”.



Guardian graphic. Image: Google Earth

Mariana Budjeryn, a Ukrainian nuclear scientist, said: “The fact that there’s an artificial pond next to the ZNPP [Zaporizhzhia nuclear power plant] where water can be maintained above the reservoir level, and the fact that the reactors are in cold shutdown, offers some reassurance and increased time to respond if ZNPP starts getting affected.”

But Budjeryn, who is a senior research associate on the project on managing the atom at Harvard University, added: “The bigger problem - who is going

to do it? ZNPP is already down-staffed to bare bones.”

Oleksiy said that over time water would evaporate from the cooling lake and if it could not be filled from the vast reservoir created upstream of the Nova Kakhovka dam, the turbines and the power plant could not be operated.

In his statement, Grossi said that the cooling pond should last “for some months” but it was imperative it was not damaged in fighting. The water is used to cool not just the reactor cores, but also the spent fuel and the diesel generators used for safety systems.

“Absence of cooling water in the essential cooling water systems for an extended period of time would cause fuel melt and inoperability of the emergency diesel generators,” he warned.

Budjeryn pointed to another implication of the dam collapse regarding the future of the Russian occupied nuclear plant, which Russian occupying forces have allegedly mined. “If the Russians would do this with Kakhovka, there’s no guarantee they won’t blow up the reactor units at ZNPP that are also reportedly mined - three of the six,” she said. “It wouldn’t cause a Chernobyl, but massive disruption, local contamination and long-term damage to Ukraine.”

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