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Russia 'risking radiation disaster' if power cuts to Ukraine nuclear plant continue

Frank Jordans · 08:31, Oct 13 2022



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A [Ukrainian nuclear power plant](#) that has been surrounded by Russian forces [lost power on Wednesday morning](#) (local time) when a [Russian missile](#) damaged a distant electrical substation, increasing the risk of radiation disaster, according to the plant's operator.

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precarious the situation at Europe's largest nuclear plant is.

They say repeated power outages over short periods of time are only making the problem worse. Here's a look at the risks.

Zaporizhzhia

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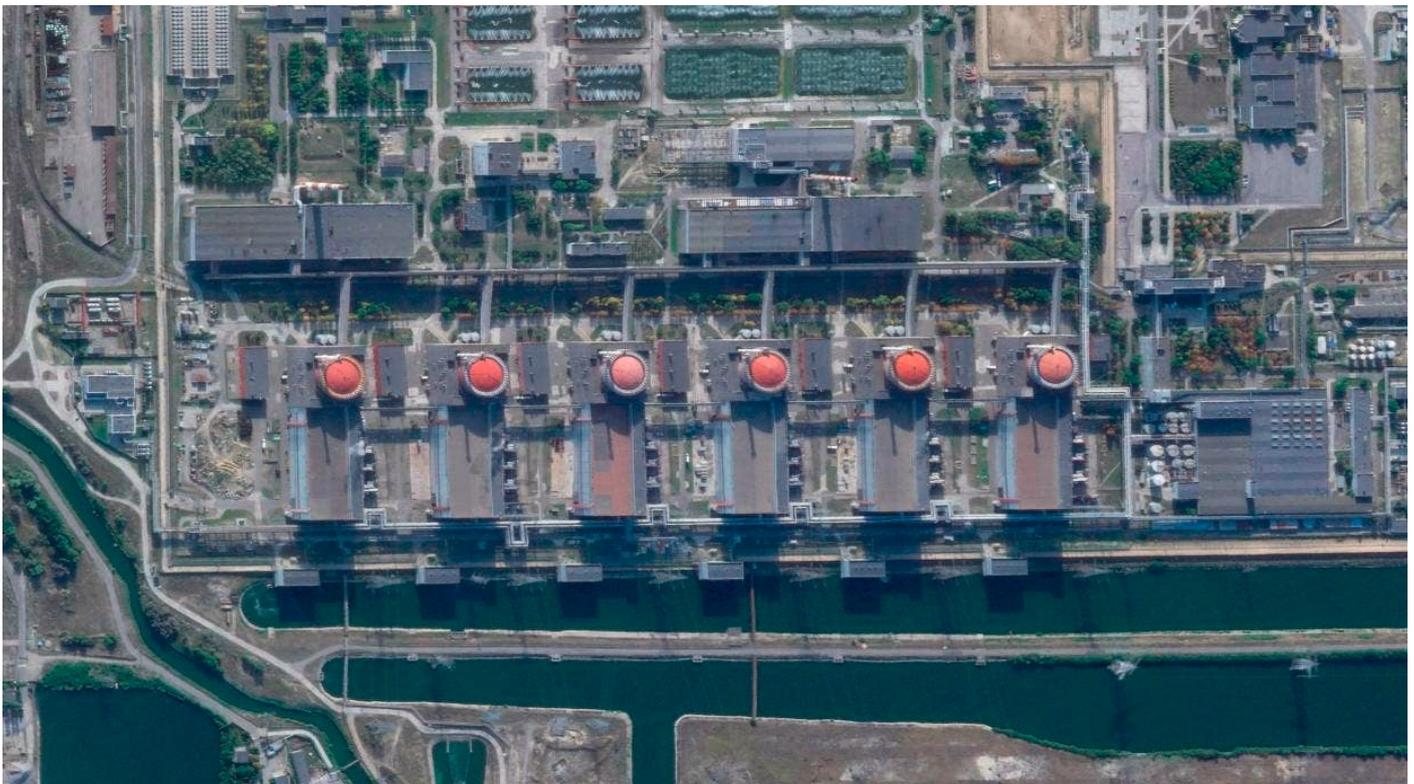
Disaster danger

Fears of a nuclear catastrophe have been at the forefront since Russian troops

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Ukrainian authorities decided several weeks ago to power down the last reactor to reduce the risk of a catastrophe like the one at Chernobyl in 1986, where a reactor exploded and blew deadly radiation across a large vast area.

But the reactor core and used nuclear fuel must still be cooled for lengthy periods to prevent them overheating and triggering dangerous meltdowns like the ones that occurred in 2011 when a tsunami hit the [Fukushima plant in Japan](#).



PLANET LABS PBC/AP

Ukraine's Zaporizhzhia nuclear power plant. The station was built during the Soviet era and is one of the 10 biggest in the world.

Iodine supplies

Some European countries are trying to prepare for the worst and started stockpiling iodine tablets to help protect their populations from possible radioactive fallout.

In others, like Germany, authorities have calculated there is a low risk that radiation levels harmful to human health would reach their territory.

In the event of a disaster, the biggest risk outside Ukraine could be to Russia,

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significant radiation pollution in Central Europe, which is why countries around Ukraine are now thinking very seriously about issuing stable potassium iodide tablets,” he said.



AP

A Russian military convoy took over the Zaporizhzhia Nuclear Power Station early in the war.

Limited power supply

The Zaporizhzhia plant has been receiving external power to ensure the important task of cooling the reactor and spent nuclear fuel can continue, but the connections are at constant risk of disruption due to the conflict.

As power lines and substations have been damaged in fighting, Ukraine's nuclear operator Energoatom has been forced to repeatedly rely on diesel generators.

These generators, which have enough fuel for at least 10 days, have kicked into action when external power has failed – but experts say their repeated use over a short period of time increases the risk of a disaster.

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“Having to repeatedly fall back on diesel generators also limits the room for manoeuvre,” she added. “In that moment there’s no further backup and this is a high-risk technology.”

The diesel generators kicked in immediately Wednesday when electricity from the missile-damaged substation was cut. External power from the transmission line was restored hours later.



LEO CORREA/AP

The scene of destruction after a Russian attack in Zaporizhzhia on Sunday.

Ongoing risk

Shutting down the plant’s last reactor several weeks ago significantly reduced the risk of a radiation disaster by gradually increasing the time it would take for a meltdown to occur.

But if cooling fails due to a complete loss of power, meltdowns would still happen eventually, said Rueffer.

Dorfman said that in the worst case, Ukraine could see a situation similar to what happened in Fukushima.

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Associated Press writer David Keyton contributed from Stockholm.

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