

# RUSSIA-UKRAINE INVASION

## NUCLEAR TRANSGRESSIONS

### A TIMELINE OF THE TRANSGRESSIONS AGAINST INTERNATIONAL NORMS AND STATE PRACTICE IN REGARDS TO THE TREATMENT OF NUCLEAR POWER PLANTS DURING ARMED CONFLICT

**MARCH 4, 2022**

Russian forces seize control of the Zaporizhzhia Nuclear Power Plant, the largest in Ukraine and all of Europe. Some of the plant's facilities were damaged by Russian shelling.

**APRIL 28, 2022**

The IAEA probed a Ukrainian report that a missile had flown directly over the South Ukraine Nuclear Power Plant near Yuzhnoukrainsk. Ukraine's government has regularly accused Russia of sending rockets directly over Ukrainian nuclear plants.

**MAY 20, 2022**

Russia's deputy prime minister, Marat Khusnullin, stated that Russia would seek to integrate the Zaporizhzhia Nuclear Power Plant with Russia's energy system if Ukraine refused to pay for the plant's electricity. Russian occupying forces later told heads of the plant's subdivisions that Russia wanted to put the power plant under Rosatom control by September 1.

**JUNE 2, 2022**

Following the Russian withdrawal from the Chernobyl Exclusion Zone, the plant's staff reported that more than \$135 million worth of equipment was missing from the power plant, with nearby nuclear labs also ransacked by Russian forces.

**JUNE 29, 2022**

Russian occupying forces planned to drain the cooling pools at the Zaporizhzhia Nuclear Power Plant in order to search for alleged weapons belonging to workers. According to Ukraine, several plant workers were detained and tortured to coerce weapons that they had dropped some weapons, explosives, or shells into the concrete basins of the cooling pools. In July 2022, Enerhodar's mayor alleged that Russian occupiers tortured the power plant's diver to death

**SEPTEMBER 5, 2022**

Ukrainian energy minister Herman Halushchenko stated that a fire resulting from ongoing shelling around the Zaporizhzhia Nuclear Power Plant severed the plant's last connection to the reserve line that provided its only source of outside power.

**SEPTEMBER 16, 2022**

The IAEA Board of Governors adopted a resolution calling on Russia to cease all actions against the Zaporizhzhia Nuclear Power Plant, deploring Russia's persistent violent actions against nuclear facilities in Ukraine.

**OCTOBER 3, 2022**

The head of the Zaporizhzhia Nuclear Power Plant, Ihor Murashov, was released after being arrested by Russian forces. Murashov was allegedly blindfolded and detained in an undisclosed location by the Russian occupiers.

**FEBRUARY 24, 2022**

Russian troops take control of the Chernobyl nuclear power plant. Russia would eventually transfer control back to Ukraine a month later. The IAEA added that they were not able to confirm reports of Russian forces receiving high doses of radiation while in the Chernobyl Exclusion Zone. Radiation detectors would only return online in June 2022.

**MARCH 26, 2022**

Russian troops fired on the nuclear research subcritical facility in Kharkiv. Further damage would be inflicted on the facility the following June.

**APRIL 30, 2022**

The IAEA confirmed that a group of eight Rosatom specialists had been sent to the Zaporizhzhia Nuclear Power Plant to demand daily reports on confidential issues from its management.

**MAY 27, 2022**

The State Regulatory Inspectorate of Ukraine (SNRIU) claimed that the Zaporizhzhia Nuclear Power Plant and the nearby city of Enerhodar contain Russian military forces and weapons, along with active fighting taking place nearby.

**JUNE 23, 2022**

According to reports, Russian forces have fortified the outside of the plant with trenches and heavy artillery. This raised concerns about the security of nuclear material at the site. Later reports were that Russia garrisoned the plant with tanks, rocket launchers, and armored personnel carriers.

**JULY 1, 2022**

Energoatom announced that it re-established its connection to surveillance systems at the Zaporizhzhia Nuclear Power Plant. This was the second time communications had been lost with the plant due to the cutting off of all Ukrainian mobile operators by Russian occupation

**SEPTEMBER 11, 2022**

Ukraine announced they would power down the Zaporizhzhia Nuclear Power Plant's sixth and final working reactor following weeks of shelling around the area.

**SEPTEMBER 19, 2022**

According to Ukrainian officials, a powerful Russian missile exploded less than 900 feet from the reactors of the South Ukraine Nuclear Power Plant. While there was no damage to essential safety equipment, the blast forced a shutdown of one of the plant's hydraulic units.

**OCTOBER 5, 2022**

Russian President Vladimir Putin ordered his government to take control of the Zaporizhzhia Nuclear Power Plant. Russia's move to seize complete control of the power plant came as Russia sought to formally annex the Zaporizhzhia region as Russian territory.

## OCTOBER 19, 2022

The IAEA initiated negotiations for a safety zone to be instated around the Zaporizhzhia Nuclear Power Plant. However, Ukrainian Energy Minister Herman Halushchenko stated that he saw no signs of progress on said deal. Additionally, Russian Deputy Minister of Foreign Affairs Sergei Ryabkov said that any deal to demilitarize the plant is impossible.

## NOVEMBER 3, 2022

Following Russian accusations that Ukraine was building a radioactive “dirty bomb”, inspectors from the IAEA checked 3 Ukrainian facilities and found no evidence of undeclared nuclear activity.

## NOVEMBER 3, 2022

The Zaporizhzhia Nuclear Power Plant was disconnected from the Ukrainian power grid again as a result of Russian shelling.

## NOVEMBER 24, 2022

Following renewed Russian missile strikes damaging Ukraine’s energy infrastructure, Ukraine disconnected all four of its operating nuclear power plants from the power grid. Missiles knocked one plant offline in Khmelnytskyi while a second plant in Rivne was forced to reduce energy produced after Russian strikes damaged the power lines that connect it to the national grid.

## NOVEMBER 28, 2022

According to Ukraine’s military, Russian forces banned Ukrainian technicians from the Zaporizhzhia Nuclear Power Plant if they refused to sign contracts with Rosatom.

## JANUARY 20, 2023

Ukrainian Energy Minister Herman Halushchenko stated that Russian forces continued to build military fortifications around the nuclear power units at the Zaporizhzhia Nuclear Power Plant. Additionally, about 1,500 Ukrainian specialists have been barred from entering the facility because they refused to sign contracts with Rosatom.

## FEBRUARY 10, 2023

Ukraine informed the IAEA that two of its operating nuclear power plants, Rivne and South Ukraine, had reduced power output as a precautionary measure due to renewed shelling of the country’s energy infrastructure. Additionally, the instability of the electrical grid also caused one of the reactor units at the Khmelnytskyi Nuclear Power Plant to shut down.

## FEBRUARY 18, 2023

Two Russian cruise missiles narrowly avoided hitting the Pivdenoukraińska nuclear plant. Energoatom said that the threat of a disaster was high and called the act “Russian nuclear terrorism”.

## MARCH 7, 2023

Ukrainian nuclear utility Energoatom claimed that Russian soldiers had set up machine guns on the grounds of the plant, placed military equipment in engine rooms, and even carried out indoor welding work that had set off fire alarms.

## MARCH 9, 2023

IAEA Director General Rafael Mariano Grossi announced that the Zaporizhzhia Nuclear Power Plant lost all off-site power when its remaining 750 kilovolt line was disconnected.

## MARCH 27, 2023

Ukraine expressed fears its Zaporizhzhia Nuclear Power Plant could face a shortage of water to cool its reactors because Russian forces let water out of the Kakhovka reservoir that supplies the plant.

## APRIL 14, 2023

Two landmines exploded near the Zaporizhzhia Nuclear Power Plant, although IAEA Director General Rafael Mariano Grossi said it was not clear what had caused the landmine blasts outside the plant’s perimeter fence. Grossi did add that IAEA experts at the site continued to hear regular shelling in the area.

## APRIL 28, 2023

IAEA Director General Rafael Mariano Grossi reported that IAEA staff at the Zaporizhzhia Nuclear Power Plant had to take shelter after missile attack warnings, with the sound of continued shelling in the distance as military activity continued.

## MAY 3, 2023

The State Nuclear Regulatory Inspectorate of Ukraine claimed that Russia placed military equipment and explosives in the turbine compartment of power unit No. 4 at the Zaporizhzhia Nuclear Power Plant

## MAY 26, 2023

Ukraine’s defense ministry claimed that Russia was planning to simulate a major accident at the Zaporizhzhia Nuclear Power Plant to try to thwart the Ukrainian counteroffensive. The ministry’s intelligence directorate said Russian forces would soon shell the plant and announce a radiation leak, which would force an investigation by international authorities.

## MAY 30, 2023

The Kharkiv Institute of Physics and Technology was heavily damaged by repeated Russian strikes. Evaluations stated that many buildings on the site were beyond repair.

## JULY 7, 2023

Russian operators at the Zaporizhzhia Nuclear Power Plant continue to ignore requests from both Ukraine and the IAEA to bring the last partly-operational reactor under their supervision into a state of full shutdown.

## OCTOBER 12, 2023

After multiple requests over the last months, a team of IAEA experts was finally able to access the roof of unit 2 at the Zaporizhzhia nuclear plant and saw no sign of mines or explosives. Additionally, the team was able to see parts of the roofs of units 1 & 3 and did not see signs of mines or explosives. This was the first roof inspection since August, when experts had access to the roofs of units 3 & 4; however, the IAEA is still seeking access to all the turbine halls and roofs “one after another”.

## OCTOBER 25, 2023

Blasts near the Khmelnytskyi nuclear site damaged windows at the facility overnight. The IAEA stated that, although this did not affect operation of the plant, it did knock out power temporarily for some off-site radiation monitoring stations.

## NOVEMBER 27, 2023

On the same day that the Zaporizhzhia nuclear power plant lost its main off-site power line, IAEA staff reported that they heard what sounded like rockets fired from a Multiple Launch Rocket System (MLRS) nearby.

## FEBRUARY 22, 2024

IAEA Director General Rafael Mariano Grossi stated that the Zaporizhzhia Nuclear Power Plant lost connection to its last back-up external power line. The disconnection leaves the plant solely reliant on its 750 kV line, with no immediate back-up options available.

## MARCH 28, 2024

IAEA Director General Rafael Mariano Grossi stated that IAEA staff at the Zaporizhzhia Nuclear Power Plant heard explosions every day over the previous week, several times sounding near the site.

## APRIL 13, 2024

Russian President Vladimir Putin told the IAEA that Russia plans to restart the Zaporizhzhia Nuclear Power Plant, which Russian troops have occupied for two years. An unnamed European diplomat said Russia may aim to do so in time for the 40th anniversary of the plant's original connection to the Soviet Union's electrical grid.

## MAY 30, 2024

IAEA Director General Rafael Mariano Grossi met with Rosatom officials to discuss the continuing efforts of the agency to help prevent a nuclear accident at Zaporizhzhia. Grossi raised numerous issues with the current situation, such as the vulnerability of Zaporizhzhia's off-site power lines, its need for reliable water supplies to ensure reactor cooling, and the ongoing situation related to staffing and equipment maintenance.

## JUNE 23, 2024

The IAEA called for a halt of attacks on Enerhodar, the town nearest to the Zaporizhzhia Nuclear Power Plant, after drone strikes hit two electricity substations serving the area.

## AUGUST 11, 2024

A fire broke out in one of the cooling towers at the Zaporizhzhia Nuclear Power Plant. Ukrainian President Volodymyr Zelenskyy accused Russian forces of starting the fire. A month later, IAEA chief Rafael Mariano Grossi said the tower would have to be demolished.

## NOVEMBER 9, 2023

U.S. cybersecurity firm Mandiant reported that Russian cyber spies were behind a hack in late 2022 that disrupted part of Ukraine's power grid. The group behind the attack, known by the moniker "Sandworm" has been previously identified as a cyberwarfare unit of Russia's GRU military intelligence agency. The attack, carried out simultaneously with Russian missile strikes, caused a power cut by tripping circuit breakers at an electrical substation.

## JANUARY 4, 2024

The IAEA reported that Russia was obstructing access to specific areas of the Zaporizhzhia Nuclear Power Plant. Russia's denial of IAEA inspectors' access to reactors 1, 2, and 6, coupled with the lack of provision of 2024 maintenance plans for the facility, raised concerns about the safety and security of the plant.

## MARCH 4, 2024

Energoatom Chairman Petro Kotin claimed that there were no longer any Energoatom personnel at the Zaporizhzhia Nuclear Power Plant. Despite having 360 employees at the plant at the beginning of 2024, Ukrainian personnel have been denied access to the facility by Russian occupying forces.

## APRIL 9, 2024

The IAEA confirmed that the main reactor containment structures at the Zaporizhzhia Nuclear Power Plant had been attacked by three drone strikes. In response, the IAEA held an emergency meeting where they once again called for the removal of Russian military personnel from the site.

## APRIL 19, 2024

IAEA Director General Rafael Mariano Grossi urged restraint from all sides following a report of a third drone attack in two weeks around the Zaporizhzhia Nuclear Power Plant.

## JUNE 14, 2024

The IAEA reported a mine explosion near the cooling pond of the Zaporizhzhia Nuclear Power Plant, although no damage or casualties were reported.

## JULY 12, 2024

The UN General Assembly adopted a resolution demanding that Russia urgently withdraw its military and personnel from the Zaporizhzhia Nuclear Power Plant and return the facility to Ukraine. Russia was joined by 9 other countries in opposing the resolution.

## AUGUST 19, 2024

IAEA Director General Rafael Mariano Grossi called for maximum restraint on all sides at Zaporizhzhia after a drone strike on a road near the power plant's perimeter. The drone strike was also just 100 meters from the only remaining power line providing external power to the nuclear plant.

## SEPTEMBER 9, 2024

The IAEA published a report on its efforts to ensure nuclear safety and security during Russia's invasion of Ukraine. Director General Rafael Mariano Grossi warned that the situation at Zaporizhzhia remains "precarious and very fragile."

## OCTOBER 8, 2024

Russian Shahed drones violated the no-fly zone above the South Ukraine Nuclear Power Plant at Pivdennoukrainsk. Energoatom stated afterwards that the number of Russian unmanned aerial vehicles flying over Ukraine has increased drastically.

## OCTOBER 23, 2024

The IAEA reported ongoing daily military activity near the Zaporizhzhia Nuclear Power Plant. While no damage was reported, the IAEA team reported explosions close to the facility and stressed the persistent threat facing the power plant.

## NOVEMBER 7, 2024

The IAEA flagged nuclear safety in Ukraine as a "highly challenging" issue in response to media reports on more ongoing fighting and drone attacks near the Zaporizhzhia Nuclear Power Plant.

## DECEMBER 10, 2024

A drone strike damaged one of the IAEA's armored vehicles en route to the Zaporizhzhia Nuclear Power Plant. Ukrainian President Volodymyr Zelenskyy blamed Russia for the attack, while Russia's defense minister claimed Russian troops had ensured the safety of the convoy.

## JANUARY 5, 2025

The IAEA reported loud blasts near Russia's Zaporizhzhia Nuclear Power Plant, including an alleged drone attack on its training center. IAEA Director General Rafael Mariani Grossi said the blasts represent another threat to nuclear safety.

## FEBRUARY 5, 2025

The IAEA postponed the rotation of its mission to the Zaporizhzhia Nuclear Power Plant due to a lack of security guarantees from Russia. Following this, IAEA Director General Rafael Mariano Grossi announced plans to visit Moscow to address the situation.

## MARCH 5, 2025

Rosatom chief Alexei Likhachev said that Russia plans to restart the Zaporizhzhia Nuclear Power Plant once "military and political conditions allow". Experts warn that restarting the plant under Russian control would set a dangerous precedent for international nuclear security.

## SEPTEMBER 24, 2024

Ukrainian President Volodymyr Zelenskyy accused Russia of using Chinese satellites to photograph Ukraine's nuclear plants ahead of possible strikes. Zelenskyy did not elaborate whether the satellites were commercial or controlled by the Chinese government.

## OCTOBER 9, 2024

Ukrainian Energy Minister claimed Moscow may be preparing a series of strikes on Ukraine's nuclear energy facilities, warning the European Union that it needed imminent help protecting its nuclear power plants.

## OCTOBER 28, 2024

A Russian Shahed UAV flew dangerously close to one of the power units at the Khmelnytskyi Nuclear Power Plant.

## DECEMBER 4, 2024

Ukraine called for an extraordinary meeting with the IAEA's Board of Governors in response to Russian attacks on substations critical to its nuclear power plant's safety and security.

## DECEMBER 13, 2024

Ukraine's nuclear power plants reduced electricity output again following renewed Russian attacks on Ukraine's energy infrastructure.

## JANUARY 23, 2025

The IAEA reported frequent explosions near the Zaporizhzhia Nuclear Power Plant. Additionally, air raids were heard from the Khmelnytsky, Rivne, and South Ukraine nuclear power plants.

## FEBRUARY 14, 2025

A Russian drone struck the Chernobyl Nuclear Power Plant, setting fire to the shelter that contains radiation from the site of the nuclear disaster. Ukrainian President Volodymyr Zelenskyy stated that the fire had been extinguished and no increase in radiation levels had been recorded.