THE ZAPORIZHZHIA NUCLEAR CLIFF EDGE: RUSSIA AND ROSATOM ESCALATES CRISIS

GREENPEACE UKRAINE ANALYSIS OF NEW RUSSIAN GRID LINE, COOLING WATER SUPPLY, LOSS OF OFFSITE POWER AND EARLY REACTOR RESTART

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Introduction

The Zaporizhzhia nuclear power plant (ZNPP) crisis has entered a new and potentially disastrous phase. As of 16.56 hrs local time on 26 September 2025, for 72 hours Europe's largest nuclear power plant has been dependent on emergency diesel generators to provide essential electricity supply to the safety systems of the six-reactor nuclear site. Emergency diesel generators are considered a last line of defense to be used only in extreme circumstances.

This is the tenth loss of external grid connection or Loss Of Off-site Power (LOOP) since the Russian armed forces attacked and occupied the ZNPP on 4 March 2022. It is already by far the longest loss of power since 2022, and there are no signs of Russian engineers conducting repairs. A series of separate but significant developments have coalesced in recent days to the point where Greenpeace Ukraine concludes that Russia and the Russian state nuclear corporation Rosatom are on the verge of a major escalation of the nuclear crisis at ZNPP. The key developments are:

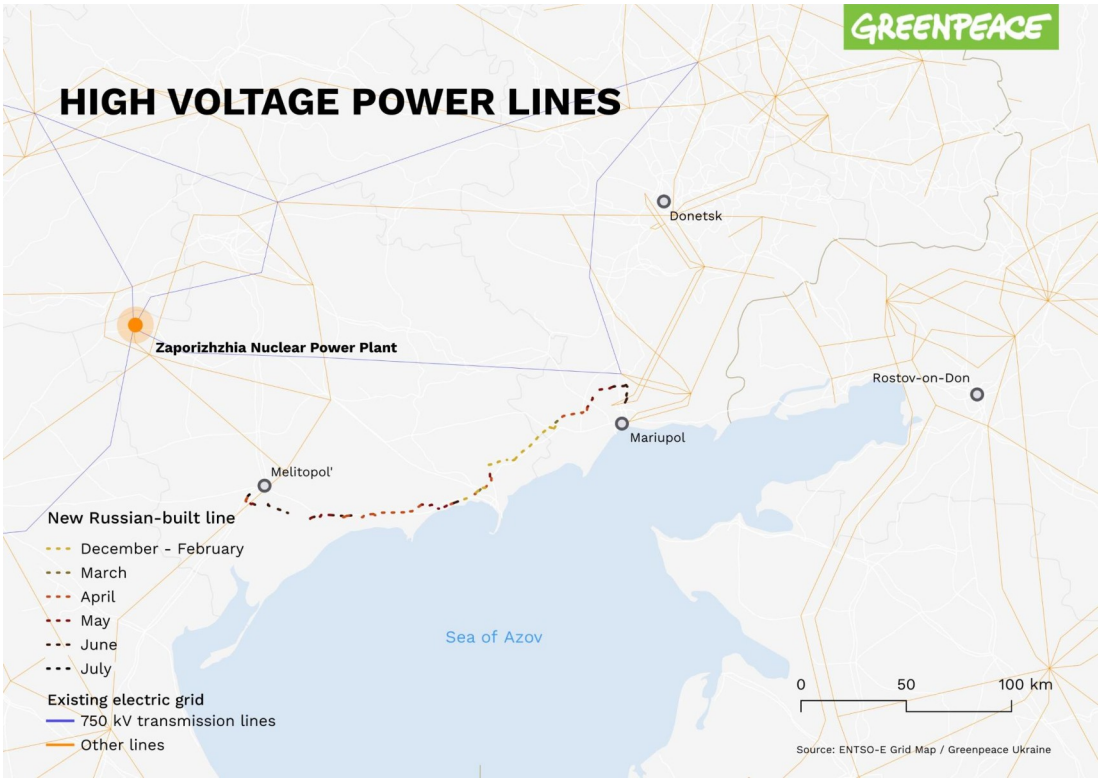
- Russian construction of a new 201km electricity power line between the substations of Melitopol and Mariupol;
- Deliberate Russian damage to the 750kV power line near the ZNPP within the Russian illegally occupied area, a complete disconnection from the Ukrainian grid and the loss of all electricity supply to the ZNPP;
- Completion of a new water management supply system at ZNPP cooling pond;
- Reactor restart plans entering "final stage" according to Russian state nuclear corporation, Rostom.

All of these developments are linked to the Kremlin's stated aim of restarting the reactors at the ZNPP which have not generated electricity since September 2022. In December 2024, Sergey Kiriyenko, First Deputy Chief of Staff of the Presidential Executive Office of the Russian Federation stated that it was the intention to restart the reactors, 'as fast as possible'. One requirement to permit restart is to connect the ZNPP reactors to the electrical grid within temporary Russian occupied Ukraine, and ultimately across the border to Russia. It is a strategic priority of the Russian government to resume electricity generation of the ZNPP reactors, to be led by Rosatom. The objective of restart is not driven by energy demand but rather the continued and extended use of the ZNPP as a political and military strategic asset to leverage international pressure to help the Kremlin secure broader war aims. Greenpeace Ukraine has been campaigning since January 2024 to stop the restart of the ZNPP, including challenging the enabling role of the International Atomic Energy Agency (IAEA) in any Rosatom reactor restart operations. These latest developments have escalated the threat and risks at the ZNPP to a new level. Each of these developments will be explained in new Greenpeace Ukraine analysis published today.

Russian grid line construction

Greenpeace Ukraine published satellite imagery analysis on 27 May and 10 June which showed 90km of construction of electricity pylons in temporary Russian controlled Zaporozhzhia and Donetsk Oblasts in Eastern Ukraine. The Russian engineers led construction took place between December and June 2025. Since June, Greenpeace Ukraine has conducted more in-depth analysis with remote sensing analysts and have extensively reviewed satellite imagery of the eastern Ukraine region from December 2024 until August 2025. This new imagery analysis, completed in September 2025, reveals that in the temporary Russian occupied Zaporizhzhia and Donetsk Oblasts, Russian engineers have in fact installed 201km of electricity pylons and power lines between substations at Melitopol[1] and Mariupol[2]. The construction of this power line has been undertaken in phases from December 2024 (see image and table below)

Over a distance of 201 km electricity line it is stimated that around 663 high voltage pylons/towers have been constructed by Russia. The electricity grid line construction was overseen by the Black Sea Regional Branch Dispatch office of the Russian occupiers branch of JSC SO UES. This is a specialized organization that carries out centralized operational dispatch control in the Unified Energy System of Russia.



New Russian Grid Construction December 2024-July 2025

[1] Melitopolska substation South-West of Melitopol (46.813946, 35.288419)
[2] Pivdennodonbaska substation North of Mariupol (47.32456, 37.42641)

The graphic above and table below shows the phases of electricity line construction from December 2024-July 2025

Russian grid electricity grid line construction phases in temporary occupied Zaporizhzhia and Donetsk Oblast

Date of construction	Distance installed	Location
December 2024 – February 2025	**46.7km**	**Azovske (46.81752135700216, 36.69036997709619) and north-east of Berdiansk (46.89355227995937, 36.87301953811908)**
March 2025	**6.9km**	**Azovske (46.81752135700216, 36.69036997709619) and Komshuvate, Donetsk Oblast (47.07448936524649, 37.16602974456678)**
April 2025	**60.6km**	**Nikolskyi district, Donetsk Oblast (47.149075214953434, 37.27188175453554)**
May 2025	**45.6km**	**Berdyans'kyi district, Zaporizhia Oblast, 46.936753, 36.828969, and through Prymors'kyi district Zaporizhia Oblast, Ukraine 46.722581, 36.278921 to 46.718063, 35.904921**
June 2025	**40.2km**	**Sections at Manhushskyi raion Donetsk Oblast, (47.144613, 37.359763); Berdyans'kyi district ZaporizhZHia Oblast, (46.935773, 36.830891); Prymors'kyi district Zaporizhzhia Oblast, (46.746440, 36.442062), Pryazovs'ke Zaporizhzhia Oblast, (72401 46.719031, 35.639981) and Melitopolska substation Zaporizhzhia Oblast, Ukraine (46.813946, 35.288419).**
July 2025	**1.2km**	**Melitopolska substation (46.813946, 35.288419)**
December – July	**201km**	

Table compiled and based on Greenpeace Ukraine satellite image analysis between May-September 2025.

The construction of this additional new power line by Russian engineers is part of the overall objective of disconnecting the ZNPP from the two remaining grid lines that run north of the Dnipro, and to reconnect the ZNPP to the grid lines within temporary occupied Russian territory of Ukraine. The Russian aim to connect ZNPP to the temporary occupied grid first emerged in mid 2022, when Rosatom presented a plan to workers at the plant. Then director of Energoatom, Peter Kotin was reported on 24 August 2022 in the Guardian, stating that, *"that Russian engineers had already drawn up a blueprint for a switch on the grounds of emergency planning should fighting sever remaining power connections. They presented [the plan] to [workers at]*

the plant, and the plant [workers] presented it to us. The precondition for this plan was heavy damage of all lines which connect Zaporizhzhia nuclear power plant to the Ukrainian system,"[3]

Image 3: High resolution Sky Sat image 15 April 2025 electricity pylon for new electricity line from ZNPP nuclear plant in temporary occupied Ukraine. Source : Planet/Greenpeace Ukraine

Major Russian activity at Melitopol substation: June–July 2025

Greenpeace Ukraine analysis of new additional satellite imagery from June through to 27 Jul 2025 showed construction had continued with the installation of 1.2km in the area close to the substation of Melitopol in temporary Russian occupied Zaporizhzhia Oblast, Ukraine. The 0.5 meter resolution imagery indicates a high level of Russian activity close to the east and south of the substation over a period of weeks from early June until late July. The possibility is that while new construction was small scale compared to the period from December 2024 when many tens of kilometers were installed, the last months have been focused on the technical issues of preparing for connection to the substations of Melitopol and Mariupol. It is not possible from remote sensing imagery to confirm whether the final connections have been made – but the conclusion is that after several months it is only a matter of time before this is completed. This then brings us to the issue of a connection between the new Russian grid line, the current Loss of Off Site Power, LOOP at ZNPP and possible early restart of a reactor at ZNPP

[3] Emma Graham-Harrison, Revealed: Russian plan to disconnect Zaporizhzhia nuclear plant from grid, The Guardian, 24 August 2022, see https://www.theguardian.com/world/2022/aug/24/revealed-russian-plan-to-disconnect-zaporizhzhia-nuclear-plant-from-grid

Substation 5.5km southwest of center of Melitopol, Zaporizhzhia Oblast, Ukraine

7 June 2025
Coordinates:81095013551174, 35.287813575545016

27 July 2025
Coordinates:81095013551174, 35.287813575545016

Images: © 2025 Planet Labs PBC

Russian damage to 750 kV line at ZNPP

The State Nuclear Regulatory Inspectorate of Ukraine, SNRIU reported on 23 September 2025 that the ZNPP at 16.58 local time had lost its last connection to the external grid and was operating on emergency diesel generators.[4] There were no reports of shelling or firing or sounds of explosions prior to the grid loss. With the exception of Russian propaganda and disinformation sources. On 24 September, 16 hours after the loss of grid connection between ZNPP and the 750kV line, the Rosatom communication director at the nuclear plant, Yevgenia Yashina, confirmed that the location of the damaged 750kV line was in, "the area of the Zaporozhye Nuclear Power Plant".[5] Falsely accusing the Ukraine military of "heavy and continuous shelling" of the location.

The loss of the 750kV line follows the loss of the one remaining 330kV line on 7 May 2025 due to Russian shelling attacks on Nikopol district north of the Dnipro river.

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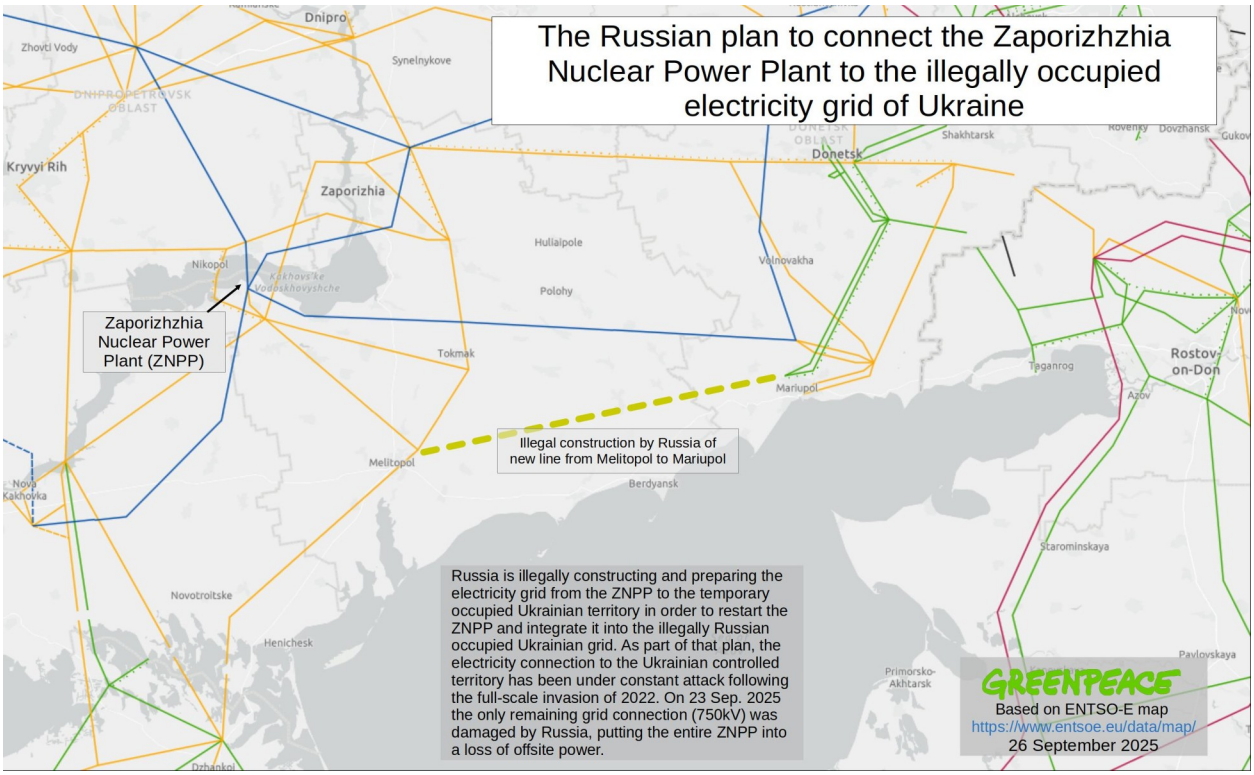
[4] SNRIU, Radiation background in the observation zone of Zaporizhzhia NPP unchanged (as of 21:00, 09/23/2025) Published on September 23, 2025 at 9:27 PM, see https://snriu.gov.ua/news/radiatsiinyi-fon-u-zoni-sposterezhennia-zaporizkoi-aes-bez-zmin-stanom-na-2100-23092025

[5] TASS, Ukraine continuously shells ZNPP damaged power supply line, restoration time unknown, 24 September 2025, see https://tass.com/Society/2020485



Loss Of Offsite Power – LOOPs at ZNPP

The ZNPP has suffered ten complete loss of external electricity grid connection since the Russian full-scale invasion, and specifically since the attack and occupation of Ukraine's nuclear plant on 4 March 2022. Prior to the Russian attack and occupation in 2022, the ZNPP had ten external power lines, with only two operational due over the last three years to the war. Each loss of external power, described as Loss Of Offsite Power or LOOP is a serious event that requires the plant personnel to immediately operate emergency diesel generators. These are essential to provide electricity to the nuclear plant to power pumps and safety systems, in particular to maintain cooling water functions for the hot nuclear fuel in the Reactor Pressure Vessels (RPVs) and the spent fuel pools. The risk of failure of emergency diesel generators or running out of diesel fuel and loss of electricity supply means the inevitable failure of cooling of the nuclear fuel in the cores and spent fuel pools. In the case of the ZNPP, the total amount of nuclear fuel in the reactors is 537 tons with 1236 tons in the spent fuel pools.

The previous nine LOOPs at ZNPP have been due to Russian targeting of Ukraine's electricity grid, in most cases deliberate shelling and missile attack.

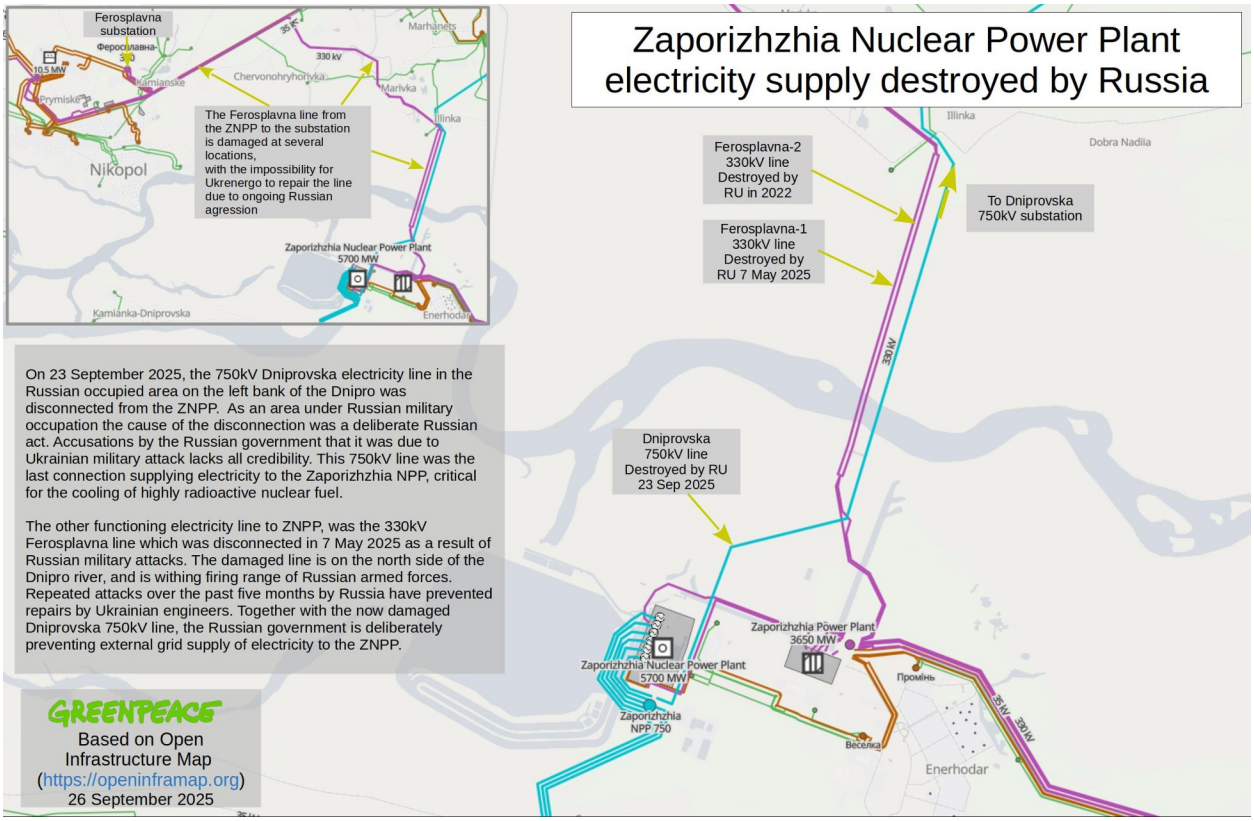
ZNPP LOOPS 2022-25

Date of LOOP	Length of loss of external grid connection
25 August 2022	Few hours ?
8 October 2022	Few Hours ?
12 October	4.5 hours
2-5 November 2022	46 hours
23 November 2022	20 hours
9 March 2023	11 hours
22 May 2023	5 hours
2 December 2023	4.5
7 July 2024	1.5 hours
23 September 2025	On going (72 hours as of 16.56 hrs 26 September local time)

Table compiled by Greenpeace Ukraine based on reports from IAEA Board of Governors reports, OECD Nuclear Energy Agency, and media report 2022-2025

Why is this current LOOP different ?

Key issues are location, length of time of LOOP and prospects for restoration of grid connection.



Location - In all previous cases, the nine LOOPs have been due to Russian attacks on the grid lines on the north bank of the Dnipro river and former Kakhovka reservoir. The repairs of these lines have been conducted under severe pressure and risk by Ukraine's Ukrenergo engineers. The 330kV line connection that was lost due to repeated Russian attacks in May 2025 left only one 750kV line remaining connected to ZNPP.

As confirmed by Rosatom officials the damage to the 750kV line occurred close to the ZNPP. On 25 September, Rosatom communications director at ZNPP stated that, "The timeline for completing the repairs is unknown…The damaged line is located relatively close to the Zaporizhzhya NPP site, on the Dnieper River shoreline. However, restoration efforts are currently being complicated by ongoing shelling by the Ukrainian Armed Forces in the area of the plant and in the immediate vicinity of the damaged line."[6]

Based on the location of the ZNPP switchyard, and the direction of the 750kV line, Greenpeace estimates that that the damage to the line took place between 2-5km north of the ZNPP switchyard – which runs north of the ZNPP towards the Dnipro river. See graphic

As stated, there was no shelling or attacks on the electricity line prior to loss of connection to ZNPP. This is indicative of deliberate sabotage by Russian forces.

The Rosatom communication director on 24 September claimed that it was not possible to give a timeframe for repair to the damage line due to the, "ongoing and intense Ukrainian shelling of the ZNPP area and the damaged line."[7] Again, as over the past three years there are no credible reports of shelling of the ZNPP area by Ukraine armed forces. Ukraine policy unlike Russia is not to launch military strikes on nuclear plants – that would be suicidal and risk massive radiological contamination of their country.

Length of grid outage – There are no signs of any Russian repair of the damaged electricity line – there is no restriction on their ability to undertake repairs given that there is no shelling by Ukraine of the location. As of 04.58 local time on 26 September, it is the longest loss of offsite power since the start of the Russian occupation. The latest reports on the status of diesel generators at the nuclear plant is that there are 20 emergency generators, with sufficient fuel oil of 20 days continuous operation. That does not mean that they will all successfully operate for this period due lack of maintenance and breakdown risks. As the ZNPP reactors have been in shutdown mode since September 2022, the cooling water requirements for the reactor core fuel and spent fuel is considerably less than if the reactors were in generation mode or had only recently been shut-down. This gives Rosatom considerably flexibility in the length of time they can operate on emergency generators. Only during the coming days and weeks will it become known exactly what is planned. Repair to the damaged 750kV remains a possibility. But the prospects are that this is a return to 2022 and the original Rosatom plan to use the Russian created crisis to make a safety case for connecting to the grid lines to the south and east of the ZNPP in temporary Russian occupied Ukraine.

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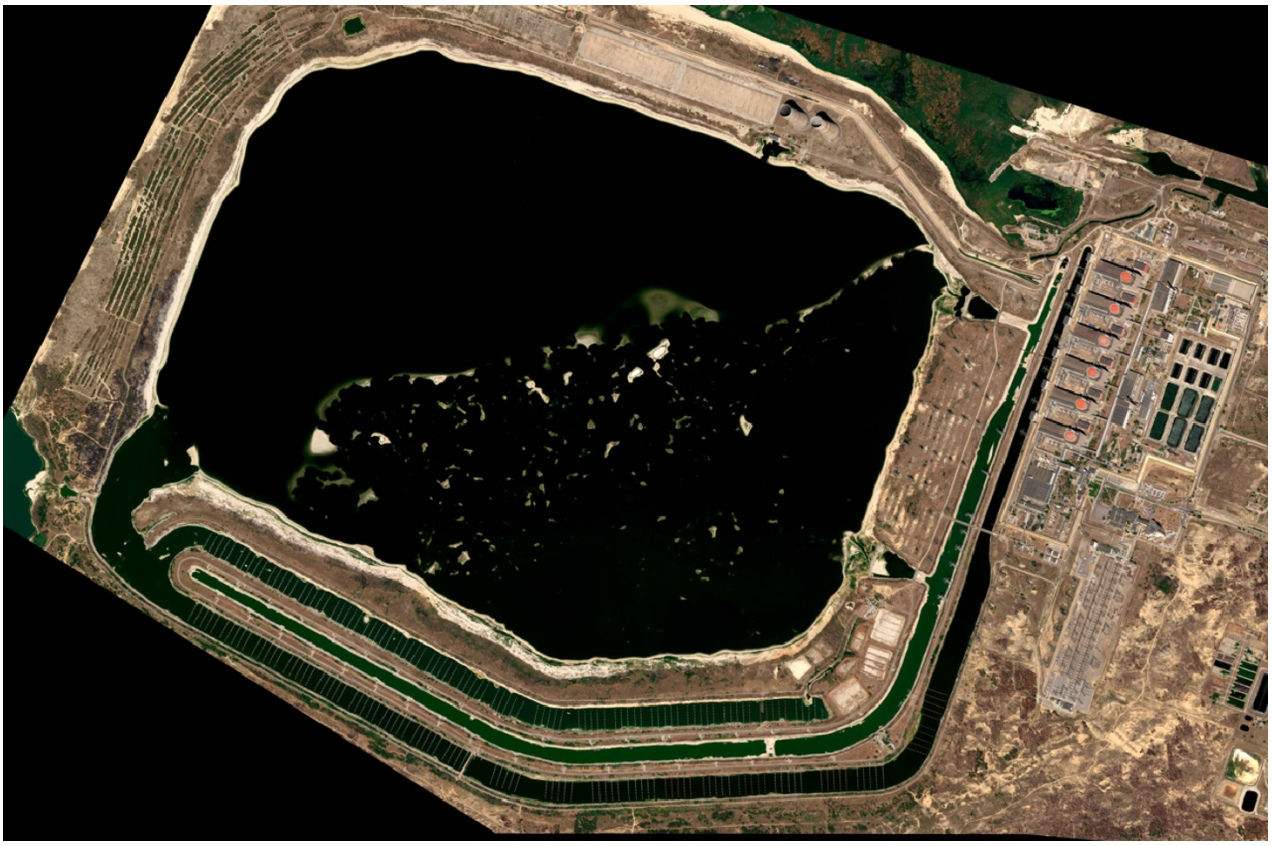
[6] TASS, Expert Yashina: Repairs to the Zaporizhzhya NPP power supply line are complicated by shelling by the Ukrainian Armed Forces.

[7] TASS, Ukraine continuously shells ZNPP damaged power supply line, restoration time unknown, 24 September 2025, see http://tass.com/society/2020485

Water supply crisis at ZNPP



Satellite image of the Zaporizhzhia nuclear plant showing the six reactor units and cooling pond and water inlet and outlet channels, and electrical switchyard (right side of image) 12 August 2025. Source: © Airbus DS 2025

Ever since the Russian military destroyed the Kakhovka reservoir on 6 June 2023, the Zaporozhzhia nuclear plant has been in water crisis.

Solving the water supply issue – Rosatom director of the ZNPP, Yuri Cherniuk told Russian news agency TASS on 21 September 2025 that the "restart plan progresses successfully, including water, power supply issues (and) is being successfully implemented…work is underway in every direction. This includes the most frequently discussed issues, including ensuring the plant's power supply, maintaining the transmission lines required for generation, hydrotechnical facilities, and keeping water levels adequate for the plant's operation. Work is being carried out across all these areas".[8]

The ZNPP nuclear plant had a complex and large scale water management system in place prior to March 2022. Over 1000 workers were assigned to hydrotechnical areas of the plant. Out of total workforce of over 1000. The destruction of the Kakhovka hydro-electric dam and rapid drainage of the Kakhovka reservoir in June 2023 removed the primary source of water supply to

[8] TASS, Zaporozhye NPP restart plan progresses successfully, including water, power supply issues, 21 September 2025, see https://tass.com/economy/2019327

the ZNPP. However, the ZNPP cooling pond, constructed for the purpose of supplying water to the reactors contained a vast reserve of water. Together with the water channels and spray ponds, there appeared to be sufficient water supply for the nuclear plant so long as the reactors remained in shutdown mode. Thus, Rosatom plans to restart the reactors required plans for replenishing water in the cooling pond. In May 2024, Rosatom announced its intention to construct a water pumping station to be used to extract water from the Konka river, a tributary of the Dnipro river. Greenpeace analysis concluded that installation of a large pumping station would take place only after the end of Russia's war against Ukraine.

However, the water crisis since June 2023 and the Russian destruction of Kakhovka continued to deteriorate in 2025. On 6 June 2023 the ZNPP cooling pond water level was reported at 16.67 meters.[9] One year later in May 2024, the cooling pond was measured at 15.29 meters.[10] By 2 July 2025, Rosatom reported that the cooling pond water level was measured at 14.1 meters.[11] Meanwhile, Energoatom, the legitimate owner and operator of the ZNPP, reported that the water level was actually 13.7 as of 17 July 2025, a three meter decline since June 2023.[12] The primary loss of water levels at the ZNPP cooling pond is evaporation.

New high resolution satellite imagery of ZNPP cooling water inlet channel and Russian constructed dam

Satellite image of the Zaporizhzhia nuclear plant showing the six reactor units and cooling water inlet channel, 12 August 2025. Source: © Airbus DS 2025

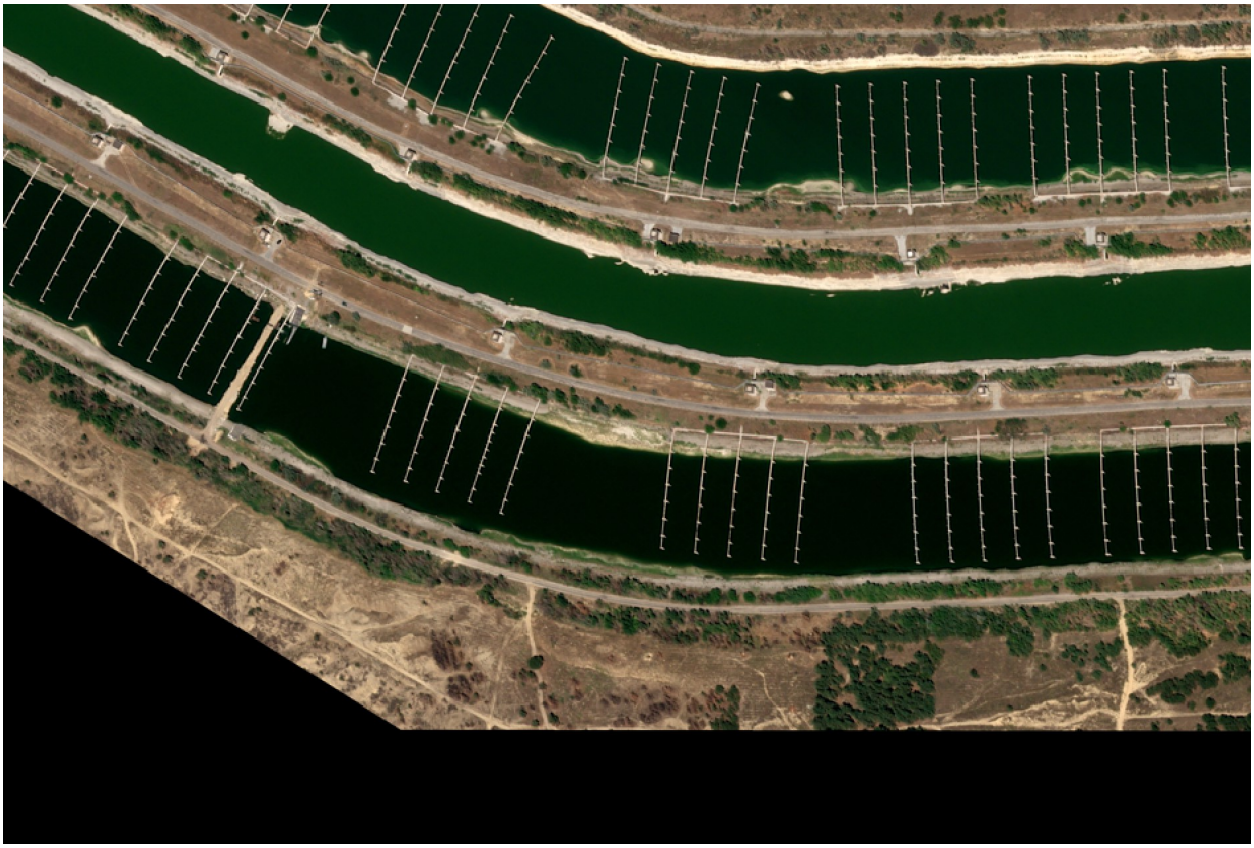
[9] IAEA, Nuclear Safety, Security and Safeguards in Ukraine Report by the Director General, GOV/2024/30 Item 8 of the provisional agenda (GOV/2024/23 and Add.1), 27 May 2024, see www.iaea.org/sites/default/files/documents/gov2024-30.pdf

[10] Ibid.

[11] ZNPP.RU, July Newsletter No. 25, see https://znpp.ru/upload/iblock/9ad/95604kl0p4zh9md13spe423zl4ael3oy.pdf

[12] Energoatom, The water level in the ZNPP cooling pond is stable, 21 July 2025, see https://www.energoatom.com.ua/en/news/riven-vodi-u-stavkuoxolodzuvaci-zaes-stabilnii37

Even with the reactors in cold shutdown, it is clear that the water crisis at the ZNPP is not sustainable, and that without measures to stop further decline, the cooling water level affecting safety systems would continue to be lowered. Rosatom informed the IAEA in 2024, that the service water pumps and fire pumps will remain operable until the height of the cooling pond drops below 12 meters.[13] This level can be predicted to be reached as early as mid 2026.



Satellite image of the Zaporizhzhia nuclear plant showing section of cooling water inlet with new sand bar/dam built by Rosatom in June / July 2025 on left end and cooling water spray systems. 12 August 2025. Source: © Airbus DS 2025

Therefore between June and August 2025, Rosatom initiated a plan to slow down the inevitable decline of water supply to ZNPP service water pumps and fire pumps. A temporary dam wall was constructed across the main water inlet channel at a location on the southern bank of the ZNPP cooling pond. (see above) This structure effectively cuts off water draining from the inlet channel into the wider pond., At the same time, the IAEA has reported that mobile water pumps have been deployed to move water from the cooling pond into the inlet channel. As of 4 September it was reported that the inlet channel water level was 14.1 meters.[14] At this level, the IAEA reports that it provides cooling water to the main reactor unit transformers and other important operating systems. As of 26 September 2025, the IAEA has not been permitted access to the new dam structure, and Rosatom has provided little information, including the volume of

[13] IAEA, May 2024.
[14] IAEA, Update 312 – IAEA Director General Statement on Situation in Ukraine, 4 September 2025, see https://www.iaea.org/newscenter/pressreleases/update-312-iaea-director-general-statement-on-situation-in-ukraine

water being pumped into the inlet channel. Assuming the pumping continues indefinitely, and given sufficient pumping capacity and availability of the large volume water in the cooling pond, it can be expected that the inlet channel water level will stabilize and increase over time.

Sufficient water to restart reactor ?

The combination of developments in the last weeks and particularly the loss of grid connection has led Greenpeace to consider that far from being deterred from restarting a shutdown reactor at ZNPP, the Kremlin and Rosatom are emboldened by stemming the decline of water at the plant, and that there is an intention to move to early restart. The closed water system that is now operating at the inlet channel, and with mobile pumps in operation, has the potential to provide very large volumes of water to the smaller but still substantial inlet channel. Prior to the Russian destruction of the Kakhovka dam, the surface area of the cooling pond was 8.2 km2, and had a volume of 47.05 million m3 with an average depth of 5.87 meters, and the maximum depth of 13.5 meters, with a length of coastline of the pond of 11.2 kilometers.[15] Even with the dramatic reduction in size and volume of the cooling pond it still retains a large water supply sufficient to maintain the inlet channel water for potentially several years.
The inlet channel from the north of the plant to the new temporary sand bar dam measures 4.7km and for 3.3km of its length measures 121 meters in width, narrowing to less than half that for 1.4km. Its depth is not known at the time of writing this report and therefore total volume is not known. But as said, with the ability to pump water from the still vast cooling pond, the water supply for the inlet channel appears secure.

The conclusion we have reached is that for strategic reasons, the Russian plan is increasingly likely to opt for restart of one reactor at the ZNPP using the existing water supply from the inlet channel. This is likely to require limited operation of the reactor. It will also require operation of the spray fields that are located in the inlet channel. Rosatom will not have access to the ZNPP cooling towers to further. One of these is non-operable due to the Russian targeting of the tower in August 2024 and it may require demolition. The other tower is not available as it is not connected to the inlet channel and therefore cannot receive heated water from the reactors directly.

Reactor restart in “final stages” according to Rosatom director at ZNPP

On 20 September 2025, Yury Chernichuk Rosatom director of ZNPP stated that, “The process of integrating the Zaporozhye Nuclear Power Plant into Russia is in its final stages, with significant work having been done in all areas over the past three years, I won't discuss the percentage of completion of this plan, but we have come quite far. It is safe to say that this process is in its final stages."[16] It is never advisable to accept Russian official statements to the media as

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[15] Olena Fedonenko, Tamila Ananieva, Tetiana Sharamok, Oleh Marenkov Oles Honchar, “Environmental Characteristics by Eco-Sanitary and Toxic Criteria of the Cooling Pond of Zaporizhzhya Nuclear Power Plant (Ukraine)”, Dnipro National University, Faculty of Biology and Ecology, Department of General Biology and Water Bioresources P.M.B. 49050, Dnipro, Ukraine, International Letters of Natural Sciences, 2018, see https://www.researchgate.net/figure/The-location-scheme-of-the-cooling-pond-ofZaporizhzhya-NPP-ZNPP-Google-map_fig1_326922850

[16] TASS, Zaporozhye NPP’s integration into Russia in its final stages — director, 20 September 2025, see https://tass.com/society/2019141

reflecting reality. And this is particularly true with the disinformation tsunami that has been launched by all arms of the Russian states related to events at ZNPP. The conditions at the Zaporozhzhia nuclear plant after more than three years of Russian occupation are severe with recent reports detailing the level of intimidation and torture Ukraine ZNPP personnel and their families in Enerhodar have been subjected to since 2022. The dire conditions of the nuclear plant in terms of lack of qualified personnel, regulatory failure, and the lack of any stable and reliable external electricity supply and water has no precedent in the history of commercial nuclear power. The possibility of putting one reactor into generation mode would at this level appear to be distant if not impossible. Greenpeace Ukraine analysis until recently was that while the moves towards restart were clear – grid line construction for example, there were many stages to go through before restart. Of particular significance was the crisis of cooling water supply. If the analysis above on current water management is correct, then it is possible that the critical obstacle of lack of cooling water may have been resolved at least in terms of limited reactor restart and at reduced power.

Greenpeace concludes that under these circumstance Russia might restart one reactor at reduced electrical generating power, which would mean less demand on cooling water. Such an operation would not comply with basic international nuclear safety guidelines and be a breach of the operational license under Ukrainian legislation.

Russian strategic aims

There is no legal or nuclear case for the Russian plans to restart the ZNPP reactors. But ever since 2022, Ukraine nuclear plants, and in particular the six reactors at Zaporizhzhia have been used as strategic tools to further Russian war aims. While there are no prospects for reaching agreement on ending the war, the future of the ZNPP remains a high priority issue for Ukraine and the Russian government. In May 2025, U.S. presidential envoy, Steve Witkoff, stated that, “the use of the Zaporozhe Nuclear Power Plant (ZNPP)… remain major issues to be discussed”. Describing the plant as, "a big part of this discussion because it’s a little bit of a crown jewel… it’s been closed, but we need to reopen that because it delivers a lot of electricity into some of the cities in Kiev."[17] Russian foreign minister Sergey Lavrov was quoted by TASS, that Moscow had not received any request from the United States to hand over control of the ZNPP to it. "If we ever do, we will make it clear that the power station is in Russian control and that no change here is conceivable[18]”.

If Russia is successful in connecting the ZNPP to the temporary and illegally occupied Ukrainian grid it will have taken a major step towards its plans to restart one or more reactors. If the final phase of the restart plans has been reached, including securing water supply, the Russian government will use the threat and actual operation to assert its claims to permanent ownership of Ukraine’s ZNPP. This must be prevented – the consequences in terms of radiological threat to Ukraine and Europe are potentially catastrophic. Given the amount of highly radioactive nuclear fuel on the site the severity of a nuclear release into the environment is potentially even greater than the Fukushima Daiichi and event Chornobyl disaster.

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[17] TASS, 21 September 2025.
[18] TASS, Details over Ukraine territory, ZNPP, access to major waterways remain key — Witkoff, 13 May 2025, see https://tass.com/world/1956933

The IAEA Director General's confusing role in ZNPP crisis

Since 2022, the member states of the IAEA have played an important role in challenging the Russian threat to Ukraine's nuclear plants, including at ZNPP. However, the IAEA Secretary General Rafael Mariano Grossi has sent dangerous and mixed signals about the IAEA and its policy in relation to the Russian state and nuclear industry. One day after Russian actions at the ZNPP led to the tenth loss of all external electrical power, the IAEA Director General in Moscow was a guest of honor at Rosatom's nuclear industry conference, ATOMIC WEEK. He only had warm words for the Russian nuclear industry and his good friend Alexei Likhachev, Director of Rosatom. This is the same week that detailed analysis and survivor testimony provided evidence that Rosatom's senior management is complicit in the abduction, detention, and torture of Ukrainian employees at the ZNPP. These abuses served a direct corporate purpose: coercing staff to sign new contracts to facilitate Rosatom's plans for operating the ZNPP reactors.

IAEA Director General Rafael Mariano Grossi and Russian President Putin, Director Rosatom, meeting in the Kremlin, Moscow, 25 September 2026. Photo TASS.

IAEA Director General Rafael Mariano Grossi, "It's a great pleasure, a great honor to be with you at this important event, the World Atomic Week which comes as it has been so rightly been said by Mr Kiriyenko just now that comes at a very special moment for nuclear energy world-wide. To do it here in Moscow, makes a lot of sense, this country has historically been at the forefront to nuclear energy development." ROSATOM ATOMIC WEEK, opening of the forum, 25 September 2025, see https://worldatomicweek2025.ru/broadcast/85

These statements above and below made by IAEA Director Grossi at this time of nuclear crisis at ZNPP are wholly inappropriate and send the signal of active support for the Russian nuclear industry – the sole party responsible for the nuclear emergency at ZNPP. They also contradict

and undermine the efforts of IAEA member states to hold Russian accountable for its crimes against Ukraine, including resolutions passed at the IAEA Board of Governors.[19]

IAEA Director General Rafael Mariano Grossi and Alexei Likhachev, Director Rosatom, meeting in the Kremlin, Moscow, 25 September 2026. Photo TASS.

"There is an assurance every place where there is a nuclear project taking place that only good things will come…All of this requires partnership all of this requires working together and here I want to thank my good friend Alexei Likhachev for the way in which Rosatom has also facilitated platforms of work and cooperation not only from a commercial point of view but also with a true sense of generosity for many, many countries. " ROSATOM ATOMIC WEEK, opening of the forum, 25 September 2025, see https://worldatomicweek2025.ru/broadcast/85

Stopping Russian plans and occupation of the ZNPP

The crisis at the ZNPP is entirely due to the occupation by Russian armed forces and Rosatom. Removing the threat at the plant means removing all Russian occupiers. The immediate risks

[19] While the nuclear plant remains under Russian occupation any active role by the IAEA that would help facilitate a reactor restart would be in non-compliance with multiple resolutions of the IAEA Board of Governors (BoG) as made clear in the report to the IAEA Board of Governors in September 2023. Active participation by the IAEA that would facilitate Rosatom planning of the restart of ZNPP would also be inconsistent with resolutions of the UN General Assembly (UNGA). This includes the UNGA resolution 'Territorial integrity of Ukraine: defending the principles of the Charter of the United Nations' (A/RES/ES-11/4), adopted on 12 October 2022. UNGA A/RES/ES-11/4 was noted by the IAEA Board of Governors in November 2022, where it welcomed *"the Director General's confirmation that the Agency is acting in accordance with this resolution and does not recognize any altered status of any part of Ukraine"*.

posed by the loss of electrical power and restart must be confronted by demanding that Russia immediately restore the 750kV external line, and permit the repair of the 330kV line by Ukraine. Plans to restart any reactor must be abandoned. The IAEA Director General must act to challenge Russia's plans and occupation of the ZNPP. Firstly, he must acknowledge and state that the decisions of the unauthorized Rosatom staff at the illegally occupied ZNPP remain beyond the legal license and contradict the norms of nuclear safety and security promoted by the Agency itself. This message by the IAEA Director will make it clear that the main threat to safety and security of the Ukrainian plant is the unauthorized Russian occupation and that it must be terminated. For the international community, particularly the European Union, punitive and severe sanctions must be imposed on Rosatom, cutting off all nuclear trade with corporation.

Satellite Imagery Annex 1

Image 1 – Satellite imagery of new electricity line being built by Russia in temporary occupied Ukraine to connect the Zaporizhzhia nuclear plant to Rostov in Russia. Source : Planet/Greenpeace Ukraine

Image 2 – Satellite imagery from 7 May 2025 of new electricity line being built by Russia in temporary occupied Ukraine to connect the Zaporizhzhia nuclear plant to Rostov in Russia. This section of line – approximately 8km in length with 30 pylons – is close to the village of Azovske on the Sea of Azov in the district of Beryansk. Source : Planet/Greenpeace Ukraine

Image 4: Status of eastern construction at Topolyne, north of Mariupol, in Donetsk Oblast as of 11 May 2025.

Image 5: Status of eastern line as of 22 May showing additional 15 pylons and electricity line over 5km in length constructed since 11 May, east of Topolyne, north of Mariupol, in Donetsk Oblast.