



Russian armed forces and Rosatom at the Zaporizhzhia nuclear plant, Ukraine

Greenpeace assessment of Russian operations, IAEA safety and security principles
and failure of IAEA reporting and inspections

Greenpeace Germany and Greenpeace Central and Eastern Europe¹

Berlin/Kyiv

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Greenpeace Germany and Greenpeace Central and Eastern Europe have prepared this assessment for member states of the International Atomic Energy Agency (IAEA) Board of Governors in advance of the 2nd October 2023 Board meeting. Greenpeace has provided this assessment due to our severe concern at the security and safety crisis at the Zaporizhzhia nuclear plant in Ukraine that has resulted directly from the March 2022 military assault and illegal occupation by Russian military forces, including the State Nuclear Corporation, Rosatom. Greenpeace wish to draw to the attention of the IAEA Board members several urgent issues:

- Military activity by Russian armed forces at, and in the vicinity of the Zaporizhzhia nuclear plant;
- Russian violation of the IAEA five principles.
- The limited scope and inadequacy of IAEA reporting on Russian military operations and that of Rosatom and on violation of five principles;
- Rosatom, nuclear sanctions and continued IAEA support for Russian nuclear program

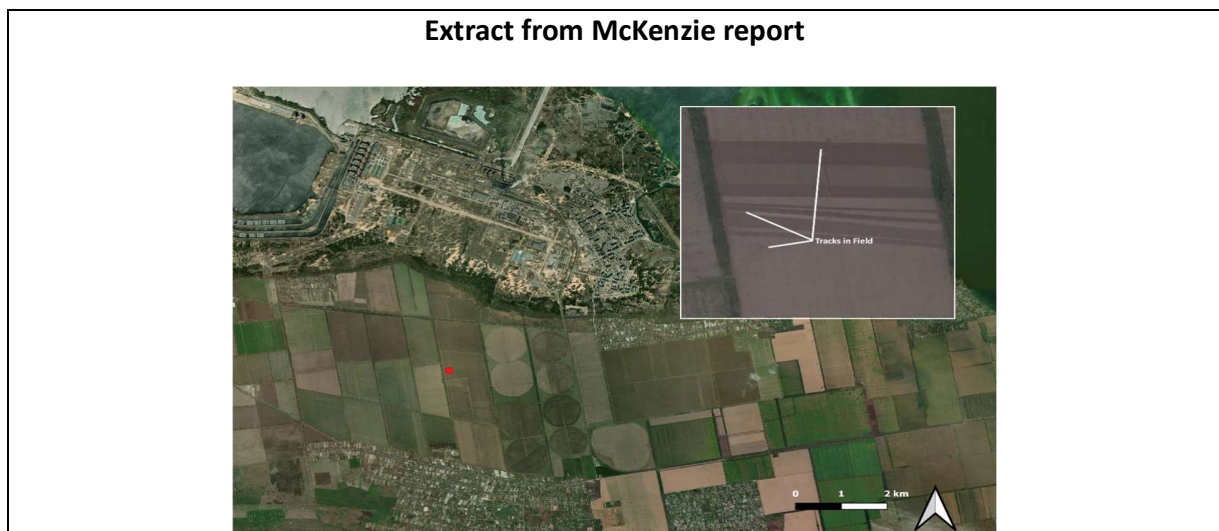
Russian military activity and new remote sensing analysis

In addition to this assessment, Greenpeace has provided IAEA Board member a new remote sensing report, 'Analysis of the Russian Seizure and Ongoing Occupation of the Zaporizhzhia Nuclear Power Plant (ZNPP)', which Greenpeace Germany commissioned from McKenzie Intelligence Services of the UK. The report details Russian military activity at the Zaporizhzhia nuclear plant and in the vicinity of the plant since 4 March 2022. Using satellite imagery, the

¹ Authors - Shaun Burnie, Greenpeace East Asia, sburnie@greenpeace.org and Jan Vande Putte, Greenpeace Belgium/East Asia, jan.vande.putte@greenpeace.org

analysts from McKenzie have identified Russian military activity that provides evidence that the Zaporizhzhia nuclear plant is being used strategically and tactically by Russian armed forces in its illegal war against Ukraine.²

Amongst the findings, the McKenzie report identified the precise GPS coordinates of Russian military firing operations, including and in particular within a range of 1-18km from the Zaporizhzhia plant. At these locations Multiple Rocket Launchers (MLRs), specifically BM-21 'Grad' and BM-30 'Smerch', have been fired since March 2022. McKenzie analysis reports that these military assets are likely based in nearby settlements including the nearby town of Vodyanoye. They also conclude that it is likely that there would be, "some form of liaison between the National Guard in occupation of the Zaporizhzhia nuclear plant the Russian military units operating the MLRs to ensure that both elements' operations do not interfere with each other and prevent any accidental clashes, especially in close proximity to the front line."³ We include one example below from the McKenzie analysis to highlight the form of information compiled.



² All Planet Lab data from their SkySat constellation collected from March 2022 to July 2023 was used in the McKenzie study. The orbit pattern of the SkySat constellation allows for frequent collections of the nuclear plant, occasionally with multiple collects in a single day. The dates and times of collection from the SkySat constellation used in the conduct of this study are listed at Annex A to this report. Analysis was conducted by the McKenzie team of imagery analysts; all of which are former military intelligence analysts and are graduates of the UK MoD and NATO-recognised Imagery Analysis Course (UKIAC). This course includes in-depth study of industrial processes including power generation. The course also develops the analyst's expertise in military equipment and activity including ground forces. The area of interest was studied in chronological order using all of the acquired imagery in order to develop a timeline of activity. Using our analysts' experience and understanding of military activity, all relevant activity was recorded and analysed to produce an assessment of activity on the ground. A north arrow is included to orientate the reader. All measurements are approximate and are acquired using Geospatial Information Systems (GIS) mensuration features. All times quoted in the report are local.

³Greenpeace Germany, Analysis of the Russian Seizure and Ongoing Occupation of the Zaporizhzhya Nuclear Power Plant (ZNPP) September 2023, McKenzie Intelligence Services

The image above dated 12 August 2022 shows tracks along the edge of the perimeter of a field are indicative of a launcher or launcher deploying to firing point, manoeuvring into position and firing a salvo (Fig.35). There are at least three separate positions that have appeared between 7 and 12 August 2022. The field appears to have been ploughed or agriculturally prepared after the tracks were made. Coordinates are 47.46458, 34.61114 and a distance from ZNPP of 4.8km south-southeast of the plant.

McKenzie conclude that, "It is clear that the tactics being employed by the artillery units is to deploy to firing positions some distance from their lay-up positions, conduct their fire missions then move on to prevent targeting by counter-battery fire. It also appears that they are using the presence of the nuclear power plant as a shield to also deter counter battery fire on to their firing positions."⁴ The real-world effects of this firing by Russian forces are the destruction and terrorization of local Ukraine communities, including for the population of the nearest town to the nuclear plant across the former Kakhovka reservoir at Nikopol.⁵

These Russian military operations at Zaporizhzhia are in clear disregard of several important IAEA Board resolutions dating from March 2022 through September 2022 (GOV/2022/17, GOV/2022/58) that call upon the Russian Federation to immediately withdraw its military and other personnel from the Zaporizhzhya Nuclear Power Plant in order for the competent Ukrainian authorities to regain full control of the plant to ensure its safe and secure operation.⁶ The McKenzie report further shows that the Russian military operations at Zaporizhzhia and its vicinity are in disregard of IAEA nuclear and radiation safety resolution (GC(66)/RES/6) and the nuclear security resolution (GC(66)/RES/7) adopted by the General Conference in September 2022, which called for all Member States "to be mindful of the importance of nuclear safety and security regarding peaceful nuclear facilities and materials in all circumstances".⁷ The safeguards resolution (GC(66)/RES/10), of September 2022, inter alia, urged all Member States, "to refrain from attacks or threats of attacks on, against or in the vicinity of nuclear facilities devoted to peaceful purposes in order to ensure that the Agency is able to conduct safeguards activities in accordance with relevant safeguards agreements".⁸

⁴ Greenpeace Germany, September 2023.

⁵ Nick Dole and Fletcher Yeung, Ukrainians in Nikopol are out of water and in Russia's firing line. But Zaporizhzhia nuclear power plant could pose the biggest threat, 16 July 2023, ABC, see <https://www.abc.net.au/news/2023-07-16/ukraine-war-nikopol-residents-without-water-fear-nuclear-risk/102596430>

⁶ IAEA Board, The safety, security and safeguards implications of the situation in Ukraine Resolution adopted on 3 March 2022 during the 1613th session, GOV/2022/17, see www.iaea.org/sites/default/files/22/03/gov2022-17.pdf; IAEA Board, The safety, security and safeguards implications of the situation in Ukraine Resolution adopted on 15 September 2022 during the 1647th session, 15 September 2022, see www.iaea.org/sites/default/files/22/09/gov2022-58.pdf

⁷ IAEA, 30 September 2022, see www.iaea.org/sites/default/files/gc/gc66-res-dec2022.pdf

⁸ IAEA, 30 September 2022.

Russian violation of IAEA five principles

On 30 May 2023 the IAEA Director General Rafael Mariano Grossi (DG) presented to the United Nations Security Council (UNSC) the proposal for both Russia and Ukraine to abide by five principles:

- (1) no attack from or against the plant;
- (2) no use of the plant as storage nor as a base for heavy weapons or military personnel;
- (3) no placement of off-site power at risk;
- (4) the protection of all essential structures, systems and components from attacks or sabotage; and
- (5) no action which undermines these principles.⁹

The evidence contained in the McKenzie report contributes to the existing public literature on the Russian attack, occupation and subsequent operations at the Zaporozhzhia nuclear plant and surrounding area. In terms of compliance with each of the IAEA five principles, Greenpeace concludes that Russia is in violation of all five principles.

The very presence of the Russian National Guard and Rostom at the Zaporizhzhia nuclear plant is defacto an attack on the property of Ukraine.¹⁰ There is conclusive evidence of use of the plant as a storage area for military hardware, including in the McKenzie report. The presence of BTR-80 wheeled armoured personnel carriers (APC) and a mixture of Ural and Kamaz utility trucks means there is a likelihood that that the trucks contain military equipment, including potentially explosive ordinance. The Russian military occupation of the Zaporozhzhia plant and the wider region since March 2022, has not only put at risk off-site electrical power supply, it has also led on multiple occasions to loss of off-site power or LOOP.¹¹ The Russian National Guard is not a legitimate force to protect essential structures at the Zaporizhzhia nuclear plant. Rather the National Guard, together with Rosatom, are the threat to essential services, systems and components. The occupation of the Zaporizhzhia plant by Russian armed forces and Rosatom, including the forces operating in the vicinity of the nuclear plant, are in contravention of the IAEA five principles.

⁹ UN News, IAEA chief outlines five principles to avert nuclear 'catastrophe' in Ukraine, 30 May 2023, <https://news.un.org/en/story/2023/05/1137172#:~:text=Grossi's%20proposals%20to%20ensure%20the,the%20territory%20of%20the%20plant>

¹⁰ Article 49 - Definition of attacks and scope of application, and Article 56 - Protection of works and installations containing dangerous forces, Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977, see <https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-49>

¹¹ Since March 2022, Zaporizhzhia has suffered seven loss of off site power (LOOPS), requiring reliance on emergency diesel generators, Nuclear Safety, Security and Safeguards in Ukraine, 31 May 2023, see GOV/2023/30, see www.iaea.org/sites/default/files/23/06/gov2023-30.pdf

While Greenpeace understands the intention behind the principles, the fundamental issue is Russia's occupation and broader war against Ukraine and unfortunately the principles fail to demand an end to Russia's occupation of Zaporizhzhia. If the principles are to have any practical purpose then the state of compliance by Russia and Ukraine should be known and reported on. This then leads to the current state of reporting on compliance with the principles and the communications of the IAEA, including its Director General (DG).

The IAEA reporting five principles

On 30 May 2023 the IAEA DG presented to the United Nations Security Council (UNSC) the proposal for both Russia and Ukraine to abide by five principles.¹² In his address to the UNSC, the DG stated that the IAEA Support and Assistance Mission to Zaporizhzhia, (ISAMZ) would report to the DG on the observance of these principles and that he would report publicly, including to IAEA member states and the UNSC on any violations of these principles. The DG respectfully asked both sides to observe these five principles and for the members of the UNSC to unambiguously support them.¹³ The DG then added that the five principles were hereby established, and that the Agency intended to start monitoring these principles through ISAMZ.¹⁴

However, four months after the announcement of the five principles, there have been no significant reporting by the IAEA DG on the compliance or non-compliance by Russia forces or Ukraine.

The IAEA DG's report issued to the Board on 5 September 2023 on the application of the five principles, provides only limited details on the events at Zaporizhzhia since May 2023. The DG report, Nuclear Safety, Security and Safeguards in Ukraine,¹⁵ states that in order to monitor compliance with the principles, ISAMZ personnel conduct walkdowns of areas at the ZNPP of significance for nuclear safety and security. But notes that, "While, in general, the ISAMZ team was able to conduct independent verifications at the site, some areas of the plant, such as reactor building rooftops or turbine halls, remained inaccessible for the ISAMZ team for long periods." The ISAMZ team was not granted access to the rooftops of Units 1, 2, 5 or 6 during the reporting period – which, as the McKenzie report details, includes Russian fortified positions or sangars.¹⁶ In August 2023 the IAEA DG had indicated that access to Units 1, 2, 5 or 6 rooftops was expected,¹⁷ but as of 27 September 2023, no such access has been granted.

¹² UN News 30 May 2023.

¹³ UN News 30 May 2023.

¹⁴ UN News 30 May 2023.

¹⁵ IAEA Board of Governors, Nuclear Safety, Security and Safeguards in Ukraine, 5 September 2023, GOV/2023/44.

¹⁶ McKenzie insert detailsPAGE. It was first reported on reactor units 2,3 and 5 by the UK Defense Intelligence on 27 April 2023, see <https://twitter.com/DefenceHQ/status/1651456287408832512>.

¹⁷ IAEA, Update 180 - IAEA Director General Statement on Situation in Ukraine, 22 August 2023, see <https://www.iaea.org/newscenter/pressreleases/update-180-iaea-director-general-statement-on-situation-in-ukraine>

The IAEA, due to Russian obstruction, is unable to confirm compliance of the five principles by the Russian occupier but the IAEA in its report to the Board fails to state so explicitly. It should have done. On 30 June 2023, the DG in Communiqué 168 makes it explicit, “We need full access to be able to confirm that the five principles have not been violated, and we will continue to request the necessary access to all those areas essential to nuclear safety and security so that we can deliver on this mandate, including that the plant should not be used as storage or base for heavy weapons and munitions”.¹⁸ Three months later, the ISAMZ team continues to be blocked by Russian forces and Rosatom from full access and consequently the IAEA is unable to meet its stated goal.

The DG report to the IAEA Board of Governors of September 2023 states that, “the ZNPP requested the ISAMZ team to provide advance notice of one week for all requests for access to relevant premises at the plant.” It is not explained who is the “ZNPP”, but it must be assumed to be the Russian armed forces at Zaporizhzhia or Rosatom management at the plant or both. The IAEA report correctly concludes that, “Such an arrangement does not allow for prompt observation and assessment in the case of urgent needs arising from claims or in reaction to unexpected events such as the destruction of the Kakhovka dam.” Given the clear evidence of deliberate Russian destruction of the Kakhovka dam on 6 June 2023,¹⁹ the IAEA is wholly justified in warning that Russia’s obstruction undermines its work. But the IAEA fails to conclude the obvious - it is Russian occupiers at the plant, both armed forces and Rosatom, that do not comply with the five principles, and it is they since March 2022 which have created the crisis at the plant risking a major nuclear event.²⁰

The DG report to the IAEA Board of Governors of September 2023 further states that, “During the reporting period, the ISAMZ team did not observe attacks from or against the plant, in particular targeting the reactors, spent fuel storage, other critical infrastructure or personnel, although it did report regular detonations and gunfire in close proximity to the ZNPP site. At least on four occasions, the main off-site power line was disconnected, but these events could not be unambiguously attributed to a particular military activity...”.²¹

Greenpeace is concerned that the IAEA is taking its commitment to neutrality too far in terms of identifying the responsible party for the current crisis at Zaporizhzhia. As McKenzie details,

¹⁸ IAEA Update 168 – IAEA Director General Statement on Situation in Ukraine, 30 June 2023, see <https://www.iaea.org/newscenter/pressreleases/update-168-iaea-director-general-statement-on-situation-in-ukraine-0>

¹⁹ Ben Dando, Seismic signals recorded from an explosion at the Kakhovka Dam in Ukraine June 6th, 2023, Norstar, see <https://www.norsar.no/in-focus/seismic-signals-recorded-from-an-explosion-at-the-kakhovka-dam-in-ukraine>; Mstyslav Chernov And Lori Hinnant, Russia had means, motive and opportunity to destroy Ukraine dam, drone photos and information show, AP, 18 June 2023, see <https://apnews.com/article/ukraine-russia-war-kakhovka-dam-collapse-investigation-f5b76fe1ddb98aa5ff7e4dfd3199c38>;

²⁰ The initial attack on the Zaporizhzhia plant on the 3rd and 4th of March has so far been underreported in terms of how close the plant came to disaster. See for example the analysis of former Zaporizhzhia reactor operator, Olexiy Kovyniyev, Nuclear Safety: Zaporizhzhia and military conflict, Nuclear Engineering International, 13 July 2022, <https://www.neimagazine.com/features/featurenuclear-safety-zaporizhzhia-and-military-conflict-9847710/>

²¹ IAEA Board of Governors, September 2023.

the Russian national guard and other Russian military forces are in operation at and in the vicinity of the Zaporozhzhia nuclear plant. The emplacement of landmines and shelling of the Zaporizhzhia nuclear plant since March 2022 have only been confirmed to be due to Russian operations. And as the IAEA confirms, the ISAMZ team is prevented from conducting its inspections by the Russian occupiers.

The DG reporting to the IAEA Board runs the risk of normalizing what is in fact a uniquely dangerous event in the history of nuclear energy. The DG report to the IAEA Board states that, “on 23 July 2023, the ISAMZ team observed directional anti-personnel mines located in a buffer zone between the site’s internal and external perimeter barriers under the control of the military. In this particular case, the ISAMZ team reported that these mines were situated in a restricted area that operating personnel could not freely access and were deployed facing away from the site. The ISAMZ team’s assessment, based on its own observations and the plant’s clarifications, was that any detonation of these mines, at the observed location and placement, would not critically affect the site’s nuclear safety and security systems.”²²

As the IAEA itself has reported, landmine detonations have already caused damage to safety systems at the Zaporizhzhia site.²³ When the IAEA assures the Board in its September 2023 report that detonation of these would not critically affect the safety and security of the plant, it is based on its own ISAMZ staff and “the plant’s clarification”. Which is to say, clarification by the Russian armed forces, Rosatom or both. That is concerning. At least the DG report does confirm that, “the presence of explosives on the site represents a safety hazard and is inconsistent with Agency safety standards.”²⁴ There can be no dispute that the explosives are Russian and therefore the IAEA has the opportunity, in fact duty, to confirm Russian non-compliance with one of the five principles. Again, it fails to do so.

Given all this, there is no justification for the IAEA failing to conclude that Russia is in non-compliance with the five principals. This failure can only be explained by the fact that the IAEA, due to the restrictions placed on it by the Russian armed forces and Rosatom, is incapable of effectively and comprehensively reporting on compliance with the five principles. The DG has stated that, “From now on, we will be monitoring compliance with these principles, which are designed to prevent a nuclear accident during the armed conflict, which is showing clear signs of intensifying in the region where the plant is located. This requires a strengthened IAEA presence”.²⁵ So long as the Russian occupation of Zaporizhzhia continues it is inevitable that Russia will not comply with the IAEA principles. Unfortunately, the conclusion is that the current approach of the IAEA will not prevent a nuclear disaster. Given the urgent nuclear crisis

²² IAEA Board of Governors, September 2023.

²³ IAEA Nuclear Safety, Security and Safeguards in Ukraine, Report by the Director General, 10 November 2022, GOV/2022/66, see www.iaea.org/sites/default/files/22/11/gov2022-66.pdf

²⁴ Board of Governors September 2023.

²⁵ IAEA, Update 166 – IAEA Director General Statement on Situation in Ukraine, 16 June 2023, see <https://www.iaea.org/newscenter/pressreleases/update-166-iaea-director-general-statement-on-situation-in-ukraine>

at Zaporizhzhia and potential consequences of a radiological release Greenpeace urges this matter is addressed urgently at the 2nd of October 2023 Board meeting.

Communiqués

In addition to the reports to the IAEA Board, the Communiqués issued on a regular basis by the IAEA DG provide only limited information as to the reality of the Russian military occupation, including the role of Rosatom and the multiple safety and security threats to the Zaporizhzhia nuclear plant.

At this time of unprecedented crisis at Europe's largest nuclear plant, the government of Ukraine and its people, as well as the IAEA Board and IAEA member states, require accurate information and analysis on the situation at the Zaporizhzhia nuclear plant. Language is important and recent communications, both official and in media interviews, by the IAEA Director General, we believe, fail to provide a comprehensive overview and assessment of the actual conditions at the Zaporizhzhia plant.

For example, IAEA Communiqué 167 of 21 June 2023, issued after the DG most recent visit to the Zaporizhzhia nuclear site, fails to explain to any substantive degree the Russian military presence, including the role of Rosatom.²⁶ In language that is inexplicable, given the clear and present danger posed by the Russian military occupation of the plant, the IAEA chooses instead to highlight Ukraine's activities as if they are the aggressor rather than Russia, and to accept without comment, justifications provided by Russian forces.

IAEA Communiqué - 167²⁷

"The ZNPP continues to lack back-up power in case the main 750 kV line is lost again – as has happened repeatedly since the military conflict began – as the last remaining 330 kV line was disconnected nearly four months ago. **The ZNPP continues to receive estimated reconnection dates, from Ukraine, which are not met.**"

"The IAEA is aware of reports of mines having been placed near the cooling pond. No mines were observed at the site during the Director General's visit, including the cooling pond. However, the IAEA is aware of previous placement of mines outside the plant perimeter, which the Agency has previously reported, and also at particular places inside - **which security personnel at the plant explained were for defensive purposes.** "Our assessment of those particular placements was that while the presence of any explosive device is not in line

²⁶ Update 167 – IAEA Director General Statement on Situation in Ukraine, 59/2023, 21 June 2023 Vienna, Austria, <https://www.iaea.org/newscenter/pressreleases/update-167-iaea-director-general-statement-on-situation-in-ukraine>

²⁷ Update 167, 21 June 2023.

with safety standards, **the main safety functions of the facility would not be significantly affected.**"

"Now more than ever, **all sides must fully adhere to the IAEA's basic principles** designed to prevent a nuclear accident."

There are many concerning issues with this latest description of conditions at the Zaporizhzhia plant. As the IAEA Board in November 2022 made explicit, the DG and the IAEA should "continue to closely monitor the situation [in Ukraine], with a special focus on the safety and security of Ukraine's nuclear facilities and report to the Board on these elements, as required". And yet, the DG's communiques consistently fail to acknowledge that the plant is Ukrainian, and that the legal responsibility for the safety and security of the plant rests solely with Ukraine, including its national regulator. In language that can only be described as deeply concerning, the DG suggests that the safety and security threat to Zaporizhzhia emanates from its legal owners rather than the Russian armed occupiers, Rosatom and the broader Russian military. That is inexplicable and unacceptable.

Some of the obvious consequences of the emplacement of Russian military equipment, including explosive landmines, is that there has been damage to essential nuclear plant infrastructure. As the DG report to Board of Governors of November 2022 report details, "On 30 October, another landmine explosion cut the main power supply connection to one of the reactor units, once again underlining the fragile nuclear safety and security situation at the facility."²⁸ There are important and unexplained inconsistencies in the reporting of the IAEA when it comes to the risks posed by Russian landmines at Zaporozhzhia. The fact that Alexei Likhachev, the general director of Rosatom was able in July 2023 to cite IAEA reporting on Zaporizhzhia to dismiss Ukraine government warnings of the Russian mining threat to Zaporizhzhia shows there is a problem in how the IAEA is communicating.²⁹

In Communique 171, DG Grossi states that, "With military tension and activities increasing in the region where this major nuclear power plant is located, our experts must be able to verify the facts on the ground. Their independent and objective reporting would help clarify the current situation at the site, which is crucial at a time like this with unconfirmed allegations and counter allegations".³⁰ This issue arises several times in recent communiques. The implied message is that the safety and security risks to the plant is due in part to Ukraine's legitimate

²⁸ IAEA Nuclear Safety, Security and Safeguards in Ukraine, Report by the Director General, 10 November 2022, GOV/2022/66, see www.iaea.org/sites/default/files/22/11/gov2022-66.pdf

²⁹ Reuters, Russia says Ukraine's assertions on blowing up nuclear station are lies, 13 July 2023, see <https://www.reuters.com/world/europe/russia-says-ukraines-assertions-blowing-up-nuclear-station-are-lies-2023-07-13/>

³⁰ IAEA, Update 171 – IAEA Director General Statement on Situation in Ukraine, 5 July 2023, see <https://www.iaea.org/newscenter/pressreleases/update-171-iaea-director-general-statement-on-situation-in-ukraine#:~:text=%E2%80%9CWith%20military%20tension%20and%20activities,the%20facts%20on%20the%20ground>

efforts to regain its territory illegally occupied by the Russian military and that the military tension is a result of Ukraine's counter offensive in the Zaporozhzhia region. The actual root cause of the nuclear crisis is solely due to the Russian military occupation of Zaporizhzhia and that of Rosatom. Given the extremely limited scope for independent inspection at the Zaporizhzhia plant, it is more than questionable as to whether the experts have helped clarify important matters, in particular the actual military status of Russian forces at the plant.

In Communique 174 the IAEA DG reported that its ISAMZ staff had seen transport trucks in the turbine halls of units 1, 2, and 4, but "there was no visible indication of explosives or mines."³¹ As McKenzie reports the Ural and Kamaz utility trucks are multi-purpose, including for the carrying of munitions and other explosives. Neither in the communique or the IAEA September 2023 report to the Board of Governors does the IAEA clarify whether their staff were given access to the vehicles to inspect what if any cargo they contain. The language suggests they were only permitted an external visual inspection. Sources to the Greenpeace have made clear that no access to the vehicles and what they may or may not be carrying is granted to the IAEA ISAMZ staff by Russian armed forces or Rosatom. Such a superficial assessment of the status of military vehicles is obviously wholly inadequate in being able to reach any useful and accurate conclusion. Yet, in Communique 175, the IAEA DG Grossi report that, "In recent days and weeks, the IAEA experts present at the ZNPP have carried out inspections and regular walkdowns across the site, without seeing any heavy military equipment."³² There is no reason to question the accuracy of this statement but it is almost meaningless given the Russian imposed limited access, including prior notification, the small number of ISAMZ staff (prior to summer 2023 it was three, expanded to four), and the fact that the Zaporizhzhia site is the largest nuclear plant in Europe and the sixth largest in the world. Given all these factors it is not surprising that they have not seen heavy military equipment. The McKenzie report also highlights that the Zaporizhzhia plant performs both a tactical and strategic military role without the need for heavy military equipment, such as MLRs, being based on the actual site. They could be there but it's not necessary for the plant to still play a central role in Russian military operations.

Communique 175 also confirms what we already know, but the IAEA DG is unable to state – that Russia is in violation of the IAEA principles. The DG reports that, "the IAEA has been aware of the previous placement of mines outside the site perimeter and also at particular places inside. Our team has raised this specific finding with the plant and they have been told that it is a military decision, and in an area controlled by military".

Communique 180 continues the IAEA DG theme of either by accident or design of defacto normalization of what is a uniquely dangerous nuclear crisis at Zaporizhzhia, using language that presents the Russian occupiers or "ZNPP" as almost a neutral body struggling to manage the

³¹ IAEA, Update 174 – IAEA Director General Statement on Situation in Ukraine, 20 July 2023
Vienna, Austria, <https://www.iaea.org/newscenter/pressreleases/update-174-iaea-director-general-statement-on-situation-in-ukraine>

³² IAEA, Update 175 – IAEA Director General Statement on Situation in Ukraine, Vienna, Austria, 24 July 2023, see <https://www.iaea.org/newscenter/pressreleases/update-175-iaea-director-general-statement-on-situation-in-ukraine>

multiple safety issues as if they are disconnected from the Russian forces that have created the crisis. The Communique focusses much on the efforts of Rosatom management to secure essential cooling water supplies, which according to the IAEA was due to, “The collapse of the downstream dam on 6 June and the subsequent disappearance of much of the water in the Kakhovka reservoir”.³³ The dam did not collapse. Warned by President Zelensky in October 2022 of a Russian plan to flood Kherson by mining the dam,³⁴ it was destroyed on 6 June 2023 by explosives planted inside the base of the dam that structurally damaged the foundations, access to which was solely by those in control of the dam, the Russian military forces.³⁵

Communique 181 was issued on the one year anniversary of the first IAEA mission to Zaporizhzhia. While Greenpeace has deep respect for the commitment of the IAEA personnel who form the ISAMZ team, we have to disagree with the DG’s description of the effect of the mission and the current situation. Specifically, “having the IAEA permanently present at the ZNPP is of great value. There is no doubt that this presence was a game changer...The presence of the IAEA was essential in helping to stabilize the situation.” It is important to not exaggerate nuclear risks, but the situation at Zaporizhzhia cannot in any way be described as stabilized.

Communique 182 issued on 8 September 2023, repeats earlier warnings of increased military activity, “that could also pose a potential threat to nuclear safety and security at the site”.³⁶ The multiple explosions heard by mission staff lead the DG to be, “deeply concerned about the possible dangers facing the plant at this time of heightened military tension in the region”.³⁷ Yes, military conflict pose inherent threats to nuclear plant safety, but it is the Russian armed forces and Rosatom that pose the threat to safety and security of Zaporizhzhia. The Communique also repeats the assurance that though 15 vehicles were observed inside the turbine hall of reactor unit 1, no heavy weapons were observed.³⁸ The Communique fails to state the IAEA staff were not permitted to inspect inside the 15 military vehicles.

The most recent Communique 183, issued on 15 September 2023, includes the statement, “They were also informed by the ZNPP about further drone attacks, on 11 September, in the nearby city of Enerhodar where many staff live with their families, causing minor damage to two buildings. The ZNPP informed the IAEA experts that there were no casualties reported at that

³³ IAEA, Update 180.

³⁴ Alexander Khrebet, Zelensky: Russia mines Kakhovka dam, threatens to flood Kherson Kyiv Independent, 20 October 2022, see <https://kyivindependent.com/zelensky-russia-mines-kakhovka-dam-threatens-to-flood-kherson/>

³⁵ Seismic signals recorded from an explosion at the Kakhovka Dam in Ukraine June 6th, 2023, Norstar, see <https://www.norsar.no/in-focus/seismic-signals-recorded-from-an-explosion-at-the-kakhovka-dam-in-ukraine>; James Glanz, Marc Santora, Pablo Robles, Haley Willis, Lauren Leatherby, Christoph Koettl and Dmitriy Khavin, Why the Evidence Suggests Russia Blew Up the Kakhovka Dam, New York Times, 16 June 2023, see <https://www.nytimes.com/interactive/2023/06/16/world/europe/ukraine-kakhovka-dam-collapse.html>

³⁶ IAEA, Update 182 - IAEA Director General Statement on Situation in Ukraine, 8 September 2023, see <https://www.iaea.org/newscenter/pressreleases/update-182-iaea-director-general-statement-on-situation-in-ukraine>

³⁷ IAEA, Update 182.

³⁸ IAEA, Update 182

time.”³⁹ To deconstruct these words. “ZNPP” is either the Russian armed forces, Rosatom or both. The language suggests that the “ZNPP” is concerned for the well fare of Ukrainian nuclear plant staff. It should not need restating but to be clear, this is the Russian armed forces and Rosatom that attacked, occupied the Zaporizhzhia nuclear plant and have terrorized thousands of Ukrainian nuclear plant workers and their families ever since March 2022. Recent reports of the scale of intimidation, torture and multiple violations of human rights conducted by the Russian occupiers of Zaporizhzhia nuclear plant put into grim context what IAEA Communique 183 is actually communicating.⁴⁰

Sanctions and IAEA cooperation with Rosatom

After nearly 20 months of Russian occupation of the Zaporizhzhia nuclear plant and more than one year since the establishment of the ISAMZ mission, all possible additional efforts must be made to reduce the risks of a major radiological event occurring at the plant which has the potential to significantly contaminate Ukraine and wider Europe.⁴¹ The IAEA Board of Governors has made robust verbal interventions on the Russian threat to Ukraine’s nuclear infrastructure, including the Zaporizhzhia nuclear plant. But more robust diplomatic and economic pressure must be applied.

An issue of direct relevance to Rosatom’s occupation of the Zaporizhzhia nuclear plant is the failure of the European Union and wider international community to impose sanctions against the Russian nuclear industry.⁴² While sanctions against Rosatom are not the responsibility of

³⁹ IAEA, Update 183 - IAEA Director General Statement on Situation in Ukraine, 15 September 2023, see <https://www.iaea.org/newscenter/pressreleases/update-183-iaea-director-general-statement-on-situation-in-ukraine>

⁴⁰ Truth Hounds, How Rosatom Turned Europe’s Biggest Nuclear Power Plant into a Torture Chamber and How the World Can Stop This, War Crimes Accountability Working Group of the Ukrainian-Canadian Bar Association, Olga Kosharna and Andriy Kobolyev, 19 September 2023, see <https://truth-hounds.org/en/cases/how-rosatom-turned-europes-biggest-nuclear-power-plant-into-a-torture-chamber-and-how-the-world-can-stop-this/>

⁴¹ On 3 March 2022, the Board of Governors adopted a resolution on the safety, security and safeguards implications of the situation in Ukraine, which “[d]eplore[d] the Russian Federation’s actions in Ukraine” and expressed “grave concern that the Russian Federation’s aggression is impeding the Agency from fully and safely conducting safeguards verification activities”, IAEA, Nuclear Safety, Security and Safeguards in Ukraine Report by the Director General, 17 November 2022, GOV/2022/66 Date: 10 November 2022, <https://www.iaea.org/sites/default/files/22/11/gov2022-66.pdf>; Since when the IAEA Board has made clear it, “[d]eplore[d] the Russian Federation’s persistent violent actions against nuclear facilities in Ukraine” and expressed “grave concern that the Russian Federation has not heeded the call of the Board to immediately cease all actions against and at nuclear facilities in Ukraine”, IAEA Board of Governors resolution GOV/2022/58, adopted on 15 September 2022, see <https://www.iaea.org/sites/default/files/22/09/gov2022-58.pdf>

⁴² Greenpeace Germany, Russia’s Atomic Partners: Framatome, Siemens Energy And Rosatom: How European companies are supporting a criminal Russian state nuclear company – and why EU sanctions are needed to stop it, 17 July 2023, Shaun Burnie and Jan Vande Putte, see www.greenpeace.de/publikationen/Rosatom_Report_G.pdf; French nuclear industry maintains links with Russian giant Rosatom, 12 March 2023, https://www.lemonde.fr/en/energies/article/2023/03/12/french-nuclear-industry-maintains-links-with-russian-giant-rosatom_6019019_98.html; Greenpeace France, LaRussie, plaque tournante de l’uranium: Rosatom contrôle l’intégralité du transport d’uranium qui transite via la Russie, dont un large parti de l’uranium naturel importé du Kazakhstan et d’Ouzbékistan en France, March 2023, see

the IAEA Board, the governments they represent do have an obligation to do everything possible to pressurize Russia into ending its occupation of Zaporizhzhia and the wider Russian war. While condemnation through resolutions is important, it should only be a first step of many. And failure to enact any significant punishment of Rosatom for its illegal actions in Zaporizhzhia means the resolutions are almost empty rhetoric.

While Rosatom personnel and management, acting together with Russian armed forces, claim ownership of Ukraine's nuclear power plant, they also continue to trade internationally and directly benefit from active participation in IAEA events. For example, on the opening day of the 2023 General Conference, an IAEA workshop on nuclear material security was being hosted by the Russia at Obninsk, while on the 2nd October the IAEA will hold a training course on Physical Protection Inspections at Nuclear Facilities also at Obninsk., Russia. Meanwhile senior IAEA employee Deputy Director General (DDG) Mikhail Chudakov, continues to participate and promote Rosatom commercial events, including at Rosatom's annual international industry conference, International Forum ATOM EXPO 2022 which was held in the Russia Black Sea city of Sochi. Less than 600km from the Zaporizhzhia nuclear plant under Rosatom occupation. The conference was opened jointly by the Director of ROSATOM, Alexey Likhachev and IAEA DDG Chudakov. The IAEA DDG in his opening address stated, "events like Atom Expo in Russia is so important. Russia together with China are leading in large power plants construction. Russia is leading the construction of nuclear power abroad. In construction of Small Modular Reactors, and operating atomic ice breaker fleet. So, I wish you all good participation and to find good agreement and partnership, construct good partnership, during this great event."⁴³ Most recently the IAEA DDG spoke at the Rosatom sponsored Nuclear Power Plants V Expo & IX Summit conference 2023 in Istanbul in June 2023.⁴⁴ The endorsement and promotion of Rosatom's global commercial program by senior IAEA personnel is clearly in direct conflict with its role in Ukraine where the very same Rosatom are in illegal occupation of the Zaporizhzhia nuclear plant.

Given the horrific consequences of the Russian war unleashed on Ukraine, including the attack, seizure, occupation and brutal treatment of Ukraine personnel at Zaporizhzhia, business as usual is not an option for any party working with the Russian nuclear state. And that should apply to all branches of the IAEA. The Board should take immediate action to exclude all on-going Russian participation in IAEA events, and likewise IAEA personnel should no longer provide approval for Rosatom's business by ending their participation in Rosatom events.

https://cdn.greenpeace.fr/site/uploads/2023/05/Greenpeace-Rapport-La-Russie-plaque-tournante-du-commerce-uranium-mars-2023-1-1.pdf?_ga=2.35833448.998902806.1695811916-2136211108.1695811916

⁴³ Rosatom, International Forum ATOM EXPO 2022, 21 November 2022, see <https://atomexpo2022.ru/broadcast/11>

⁴⁴ Nuclear Power Plants V Expo & IX Summit conference 2023 in Istanbul, June 2023, see www.nuclearpowerplantsexpo.com/pictures/

Conclusion

Greenpeace Germany commissioned McKenzie Intelligence Services because since February 2022 we have been deeply concerned by the multiple hazards and risks to the Zaporozhzhia nuclear plant posed by the Russian armed forces.⁴⁵ McKenzie have provided strong evidence of something we have been concerned about since last year: that the decision to attack and seize nuclear plants in Ukraine was both motivated by both strategic and tactical interests of the Russian government. The military threat to the plant exists at the plant itself, but also in the surrounding region and in particular to the off-site electrical grid. Through remote sensing analysis McKenzie has shown that over many months, Russian BM-21 and BM-30 Multiple Rocket Launchers have been operating 1-18km from the Zaporizhzhia nuclear plant site, with all the inherent risks to nuclear plant safety including the electrical grid. Its analysis of the military operations and hardware at the site, provides further damning evidence of the Russian armed forces occupation. The McKenzie report provides for the first time publicly comprehensive details of the Russian military operations at Zaporizhzhia and equally important, in the area around the nuclear plant. The people of Nikopol and wider region do not need Greenpeace to tell them that the Russian military are firing rockets at them. They have suffered that terror and reality since March 2022. However, the McKenzie analysis and images will hopefully provide useful evidence of the Russian military and Rosatom's criminal acts.

In the immediate context of the nuclear crisis today at Zaporizhzhia, the McKenzie report provides clear evidence, which Greenpeace concludes, demonstrates that Russia is in violation of all five IAEA principles announced by IAEA Director General Rafael Mariano Grossi in May 2023. This is something that the IAEA inexplicably has so far failed to conclude – despite its own clear evidence of Russian non-compliance. During the past year Greenpeace has become increasingly concerned by the communications of the IAEA in relation to the Zaporizhzhia nuclear plant. The McKenzie report has prompted us to assess more thoroughly the information contained in IAEA regular Communiqués. We can only assume that the language selected is carefully considered and deliberate. That is all the more concerning as the pattern over many months shows the IAEA DG running the risk of normalizing what is in fact a uniquely dangerous event in the history of nuclear energy. In what appears to be a misguided effort to demonstrate neutrality, the IAEA in multiple communications instead shows a willingness to accept Russian assurances and explanations, for example on the nature of landmines placed both outside and inside the perimeter fence. In failing to provide actual analysis and conclusions of what is

⁴⁵ Jan Vande Putte/Shawn Burnie, The vulnerability of nuclear plants during military conflict Lessons from Fukushima Daiichi Focus on Zaporizhzhia, Ukraine, 2 March 2022, Greenpeace International, see www.greenpeace.org/static/planet4-international-stateless/2022/03/6805cdd2-nuclear-power-plant-vulnerability-during-military-conflict-ukraine-technical-briefing.pdf; and Jan Vande Putte/Shawn Burnie, "The vulnerability of nuclear plants during military conflict Yuzhnoukrainsk (South Ukraine) Nuclear Power Plant Safety and security risks - lessons from Fukushima Daiichi, 9 March 2022, Greenpeace International, see www.greenpeace.org/static/planet4-international-stateless/2022/03/559dfc6b-nuclear-power-plants-in-military-conflict-yuzhnoukrainsk-south-ukraine-briefing.pdf

observed on the ground, the IAEA is not delivering the necessary informative documentation that the legitimate owners of the Zaporozhzhia nuclear plant, the Ukrainian government, as well as IAEA Board members, must have. In failing to repeatedly and clearly explain the context of a mission team operating at Zaporozhzhia under very limited and controlled access, the IAEA DG has instead chosen to repeatedly communicate a combination of ambiguous language and unreliable assurances - for example that no landmines or explosives were observed.

In November 2022 and a few months into the IAEA mission at Zaporizhzhia nuclear power plant, the IAEA DG was asked, when you went to inspect, you could go anywhere? His response was, "Yes, we are the IAEA. We are known as the nuclear watchdog. There are areas that were limited. But all the things we needed to see we could see."⁴⁶ During the past year it is clear that the IAEA maybe a watchdog, but in terms of its operations at Zaporizhzhia, it is on a short leash with the Russian armed forces and Rosatom firmly holding the other end. To be clear, the sole cause of this crisis is the Russian government, armed forces and Rosatom. But the pretense that the IAEA is able to function effectively at Zaporizhzhia under current conditions and that it preventing a nuclear disaster at Zaporizhzhia needs to end. It serves no one's interest, other than the illegal Russian occupiers.

The IAEA DG stated on the one-year anniversary of the first IAEA mission to Zaporizhzhia that, "In order to prevent a nuclear accident that could affect people and the environment, it continues to be of paramount importance that the five basic principles for the protection of the Zaporizhzhia Nuclear Power Plant are respected and adhered to."⁴⁷ Due to the obstruction of Russian forces and Rosatom, the IAEA personnel at Zaporizhzhia have had only limited access to areas of the nuclear plant, with significant prior notification required. Even with full access, a four-person team of experts would have a near impossible task of fully verifying conditions at the enormous and complex Zaporozhzhia site. Clearly, they have not been able to conduct full inspections of the nuclear site. The IAEA itself admits that under such conditions it is not possible to verify compliance with the five principles. Yet, the DG continues to signal that the principles are currently 'respected and adhered to.'

As the McKenzie report shows and Greenpeace concludes, Russian military forces and Rosatom are violating all five IAEA principles. By their very presence at Zaporizhzhia nuclear plant they are incapable of compliance so long as their illegal occupation continues. That is the heart of the matter and no selection of diplomatic language, obfuscation and massaging of information will change that reality. Implying, as some of the IAEA Communiques have done so, that the risk to nuclear safety and security at the nuclear plant is in some way due to the Ukrainian counter offensive, rather than as a result of Russia's attack and occupation, is perverse.

⁴⁶ CBS, Ukrainian nuclear power plant Zaporizhzhia may be world's most dangerous place now, Sixty minutes 21 November 2022, see <https://www.youtube.com/watch?v=Q9d0AHStrAI>

⁴⁷ IAEA, Update 181 - IAEA Director General Statement on Situation in Ukraine, 1 September 2023, see <https://www.iaea.org/newscenter/pressreleases/update-181-iaea-director-general-statement-on-situation-in-ukraine>

Since March 2022, the IAEA Board has been strong in its condemnation of Russian aggression and occupation of Zaporizhzhia. However, leading member states on the Board have failed to take decisive and effective measures against the Russian nuclear industry and Rosatom. To the contrary, some leading IAEA Board member states have actively blocked the imposition of sanctions against Rosatom⁴⁸ and have continued to tolerate Russian participation in IAEA programs. Meanwhile, the IAEA in its uniquely difficult mission at Zaporizhzhia, unfortunately is failing to meet the objectives of its mandate, is overstating the impact of its role and what it can do, and is failing to provide the required essential information and analysis that would help increase pressure on the Russian government. If the IAEA is currently incapable of complying with its mandate due to Russian behavior then the DG should clearly state as such to the Board. The next step is to review the scale and scope of the IAEA mission, and to work with member states, and in particular the government of Ukraine, to institute whatever measures that will bring all possible pressure to bear on the Russian armed forces and Rosatom at the plant and to bring about an early end to the current military occupation of the Zaporizhzhia nuclear plant.

Impressum

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⁴⁸ TeleSurFrance, Hungary Against Sanctions on Russian Nuclear Energy, 15 February 2023, see <https://www.telesurenglish.net/news/France-Hungary-Against-Sanctions-on-Russian-Nuclear-Energy-20230214-0021.html>; Politico, French-Russian nuclear relations turn radioactive, 20 April 2023, see <https://www.politico.eu/article/french-russian-nuclear-relations-radioactive-rosatom-sanctions/#:~:text=The%20French%20foreign%20ministry%20told,of%20nuclear%20safety%20and%20security.%E2%80%9D>; TASS, France backs Hungary on removing Russian nuclear sector from sanctions — Hungarian FM, 14 February 2023, see <https://tass.com/world/1576353>