

NFLA Policy Briefing No. 229b

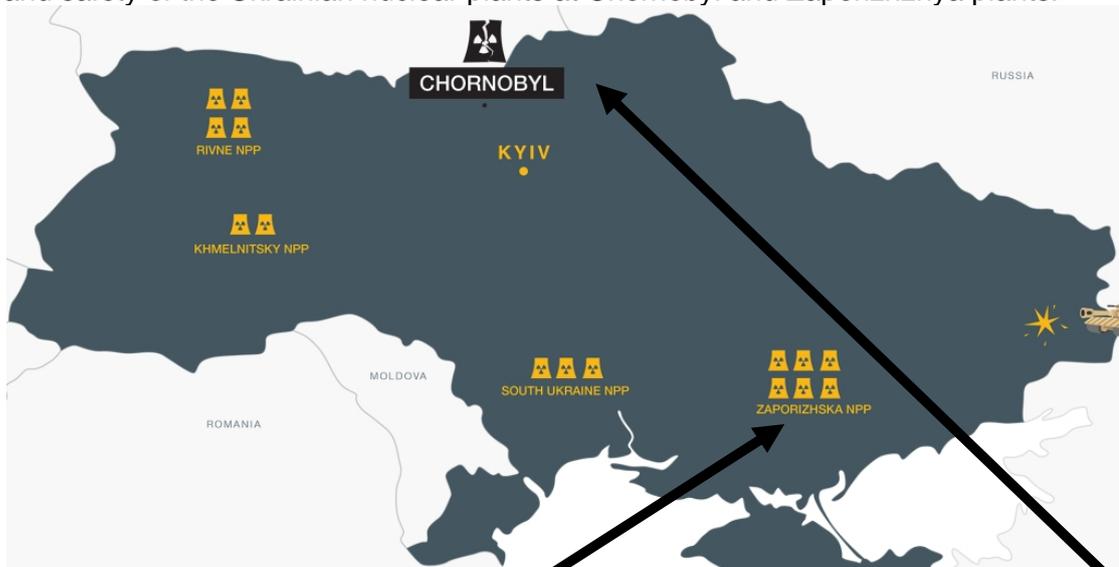
Nuclear Free Local Authorities
Councils working for a renewable, safe and peaceful future



Date: 9 March 2022
Subject: Update on the Ukrainian Power Plants

Introduction

This is an update on NFLA Policy Briefings No. 229 and 229a concerning the operational status and safety of the Ukrainian nuclear plants at Chernobyl and Zaporizhzhya plants.



**THE LOCAL GOVERNMENT VOICE ON NUCLEAR ISSUES:
41 YEARS WORKING FOR A RENEWABLE, SAFE & PEACEFUL
FUTURE**

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In reading the update, you wish to reflect on which of the 'seven pillars of nuclear security and safety' that need be applied to the operation of Ukrainian nuclear facilities, as outlined by the Director General of the International Atomic Energy Agency (IAEA) Rafael Mariano Grossi at a meeting with governors on March 2, have been breached or are in jeopardy:

The seven pillars are:

1. **The physical integrity of the facilities – whether it is the reactors, fuel ponds, or radioactive waste stores – must be maintained.**
2. **All safety and security systems and equipment must be fully functional at all times.**
3. **The operating staff must be able to fulfil their safety and security duties and have the capacity to make decisions free of undue pressure.**
4. **There must be secure off-site power supply from the grid for all nuclear sites.**
5. **There must be uninterrupted logistical supply chains and transportation to and from the sites.**
6. **There must be effective on-site and off-site radiation monitoring systems and emergency preparedness and response measures.**
7. **There must be reliable communications with the regulator and others.**

https://www.oecd-nea.org/jcms/pl_66360/nea-supports-the-iaea-7-pillars-of-nuclear-security-and-safety

Sobering stuff.

Wednesday 9 March:

MSN carried a report:

International Atomic Energy Agency says it sees 'no critical impact on safety' at Chernobyl

The International Atomic Energy Agency (IAEA) has said it sees “no critical impact on safety” at Chernobyl after reports that Russian forces had disconnected the nuclear power plant from the grid.

[#Ukraine](#) has informed IAEA of power loss at [#Chornobyl](#) Nuclear Power Plant, [@rafaelmgrossi](#) says development violates key safety pillar on ensuring uninterrupted power supply; in this case IAEA sees no critical impact on safety.

— IAEA - International Atomic Energy Agency (@iaeaorg) [March 9, 2022](#)

It also reiterated a previous statement in which it said that sufficient time has passed since the 1986 Chernobyl disaster that it can “maintain effective heat removal without the need for electrical supply”.

IAEA says heat load of spent fuel storage pool and volume of cooling water at [#Chornobyl](#) Nuclear Power Plant sufficient for effective heat removal without need for electrical supply. IAEA update from March 3: <https://t.co/x5lIduZQOn>

— IAEA - International Atomic Energy Agency (@iaeaorg) [March 9, 2022](#)

The 3 March statement reads:

'Due to time elapsed since the 1986 Chornobyl accident, the heat load of the spent fuel storage pool and the volume of cooling water contained in the pool is sufficient to maintain effective heat removal without the need for electrical supply.'

Meanwhile, James Acton, a nuclear expert at the Carnegie Endowment for International Peace, said that while the loss of power at the site was concerning, “mitigations should be straightforward”.

He tweeted:

The loss of power at Chernobyl is concerning but it is extremely unlikely that spent fuel pools there will empty because of evaporation (which could lead to fuel melting). This process is slow and mitigations should be straightforward. (1/n) <https://t.co/GUVcBkFcd7>

— (((James Acton))) (@james_acton32) [March 9, 2022](#)

He also said the risks at Ukraine’s operational nuclear power plants were “much higher than at Chernobyl”.

<https://www.msn.com/en-gb/news/world/russia-ukraine-war-civilians-evacuated-from-enerhodar-amid-calls-for-ceasefire-to-allow-chernobyl-repairs-live/ar-AAUONNV?ocid=msedgntp>

The Guardian carried the following report from Agence France-Presse in Kyiv:

Chernobyl power supply cut but IAEA says ‘no critical impact on safety’

Power has been cut to the Chernobyl power plant, the site of the world’s worst nuclear disaster, but the UN’s atomic watchdog said there was “no critical impact on safety”.

The plant “was fully disconnected from the power grid” Ukraine’s energy operator Ukrenergo said in a statement on its Facebook page, adding that military operations meant “there is no possibility to restore the lines”. It said that there was also no power to the site’s security systems.

The UN atomic watchdog, the International Atomic Energy Agency (IAEA), said in a tweet that while the development “violates (a) key safety pillar”, in this case it saw “no critical impact on safety”.

On Tuesday the IAEA had said that the site was no longer transmitting data and voiced concern for staff working under Russian guard. The situation for the staff “was worsening”, the IAEA said, citing the Ukrainian nuclear regulator.

The defunct plant sits inside an exclusion zone that houses decommissioned reactors as well as radioactive waste facilities.

Ukrainian foreign minister, Dmytro Kuleba, tweeted on Wednesday that “reserve diesel generators have a 48-hour capacity to power” the plant but added that “after that, cooling systems of the storage facility for spent nuclear fuel will stop”.

More than 2,000 staff still work at the plant as it requires constant management to prevent another nuclear disaster.

The IAEA Director General, Rafael Grossi, on Tuesday called “on the forces in effective control of the site to urgently facilitate the safe rotation of personnel there”. He also repeated his offer to travel to Chernobyl or elsewhere (*ed: as he did several times in previous days*) to secure “the commitment to the safety and security” of Ukraine’s power plants from all parties.

[https://www.theguardian.com/world/2022/mar/09/chernobyl-power-supply-cut-completely-after-russian-seizure-warns-ukaine](https://www.theguardian.com/world/2022/mar/09/chernobyl-power-supply-cut-completely-after-russian-seizure-warns-ukraine)

Tuesday 8 March:

Ukraine told the IAEA that it was becoming increasingly urgent and important for the safe management of the Chornobyl Nuclear Power Plant to rotate the same shift of some 210 technical personnel and guards who have been working and sleeping there since 23 February, the day before Russian forces took control of the site. Staff have access to food and water, and medicine to a limited extent. However, the situation for the staff was worsening.

The Ukrainian regulator asked the IAEA to prepare a plan for replacing the current personnel and for providing the facility with an effective rotation system.

The handling of nuclear material at Chornobyl has been put on hold for the time being, the regulator added. The site, located in an Exclusion Zone, includes decommissioned reactors as well as radioactive waste facilities. The regulatory authority said it could only communicate with the plant via e-mail.

The Director General also indicated that remote data transmission from safeguards monitoring systems installed at the Chornobyl NPP had been lost. The Agency is looking into the status of safeguards monitoring systems in other locations in Ukraine and will provide further information soon.

Regarding the status of Ukraine’s operational nuclear power plants, the regulator said eight of the country’s 15 reactors were operating, including two at the Zaporizhzhya plant controlled since last week by Russian forces, and that the plants’ personnel were working in shifts. Radiation levels at the sites were normal, it said.

<https://www.iaea.org/newscenter/pressreleases/update-15-iaea-director-general-statement-on-situation-in-ukraine>

Monday 7 March:

Ukraine told the IAEA that a new nuclear research facility producing radioisotopes for medical and industrial applications had been damaged by shelling in the city of Kharkiv, The national nuclear regulator said the incident did not cause any increase in radiation levels at the site.

The facility in north-eastern Ukraine is used for research and development and radioisotope production. Because the nuclear material in the facility is always subcritical and the inventory of radioactive material is very low, the IAEA's assessment confirmed that the damage reported to it would not have had any radiological consequence.

On 27 February, Ukraine said missiles hit the site of a radioactive waste disposal facility in the capital Kyiv but there was no radioactive release. That came a day after an electrical transformer at a similar disposal facility near Kharkiv was damaged. On 4 March, when the site was taken over by Russian forces, Ukraine said the training centre of the Zaporizhzhya plant was hit by a projectile, causing a fire that was later extinguished.

In addition, the regulator said there continued to be no communication with enterprises and institutions using Category 1-3 radiation sources in the eastern port city of Mariupol, including its Oncological Centre. Therefore, their safety and security could not be confirmed. Such radioactive material can cause serious harm to people if not secured and managed properly.

Ukraine's regulator also informed the IAEA that it was currently impossible to deliver spare parts or medicine to the Zaporizhzhya plant, a day after the country said plant management was now under orders from the commander of the Russian forces controlling the site. Plant personnel were, however, able to rotate.

<https://www.iaea.org/newscenter/pressreleases/update-14-iaea-director-general-statement-on-situation-in-ukraine>

Framework for the Safety and Security of Ukraine's Nuclear Power Plants must be Agreed, IAEA Director General Tells Board of Governors – released by Miklos Gaspar, IAEA Office of Public Information and Communication



IAEA Director General Rafael Mariano Grossi delivers his remarks at the opening of the 1614th Board of Governors meeting today at the Agency headquarters in Vienna, Austria. (Photo: D. Calma/IAEA)

“We see what is happening on the ground in Ukraine. This time, if there is a nuclear accident, the cause will not be a tsunami brought on by mother nature. Instead, it will be the result of human failure to act when we knew we could, and we knew we should.”

These were the words of warning with which Director General Rafael Mariano Grossi opened the regular session of the IAEA’s Board of Governors in Vienna.

“The military operations at nuclear power facilities of Ukraine have caused unprecedented danger of a nuclear accident, risking the lives of people living in Ukraine and in neighbouring countries, including Russia,” he said.

He reiterated the IAEA’s readiness to assist with the safety and security of Ukraine’s nuclear facilities and called on parties to agree a “feasible framework to re-establish the commitment to nuclear safety”.

“We must avert a nuclear accident in Ukraine. Let us not hide behind “all” or “nothing-at-all” solutions,” he said, adding he was ready to travel to wherever needed to secure the agreement.

Mr Grossi briefed the 35-member-board on the safety and security situation at Ukraine’s nuclear sites – two of which are under the control of Russian military forces.

Talking of the situation at the Zaporizhzhya plant, Europe’s largest, Mr Grossi stated: “Russian forces now control the management of the plant and the approval of technical decisions made by the Ukrainian operators. This is not a safe way to run a nuclear power plant. Nor is it safe or sustainable for internal and external communications to have been disrupted and cut off, as it has been reported to us by the Ukrainian operator and regulator. I am deeply concerned about this turn of events.”

<https://www.iaea.org/newscenter/news/framework-for-the-safety-and-security-of-ukraines-nuclear-power-plants-must-be-agreed-iaea-director-general-tells-board-of-governors>

Sunday March 6:

Ukraine informed the IAEA that the Zaporizhzhya plant management is now under orders from the commander of the Russian forces that took control of the site. Any action of plant management – including measures related to the technical operation of the six reactor units – requires prior approval by the Russian commander.

In a second serious development, Ukraine has reported that the Russian forces at the site have switched off some mobile networks and the internet so that reliable information from the site cannot be obtained through the normal channels of communication. There are major problems in communicating with staff operating the plant, with the phone lines, e-mails and fax, were not functioning anymore. Mobile phone communication was still possible, but with poor quality.

Despite the communication issues, the regulator was able to provide updated information about the operational status at Zaporizhzhya. Radiation levels there remained normal. Of the six reactors, Unit 1 is in planned maintenance until mid-2022, Unit 2 now operates at full

capacity, Unit 3 is in a cold shutdown state, Unit 4 is operating at near full capacity, Unit 5 is cooling down for a cold reserve state, and Unit 6 is in cold shutdown.

Operational teams at the plant are rotating in three shifts. But there were problems with availability and supply of food, which was having a negative impact on staff morale.

Communications were lost with all enterprises and institutions in the port city of Mariupol that use Category 1-3 radiation sources and there was no information about their status, the regulator said. Such radioactive material can cause serious harm to people if not secured and managed properly.

<https://www.iaea.org/newscenter/pressreleases/update-13-iaea-director-general-statement-on-situation-in-ukraine>

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