



# NUCLEAR PLANTS OF UKRAINE

Update issued by Skytek: at 12:00 GMT on 28 March 2022

## SUMMARY

With four active nuclear plants and 15 operating units, Ukraine ranks as the 7<sup>th</sup> country in the world and the 5<sup>th</sup> in Europe in terms of number of nuclear reactors operated.

The North part of Ukraine is home to the decommissioned Chernobyl facility, which was one of the first occupied target of the Russian invasion, on February 25<sup>th</sup>, 2022.

Reportedly, the plant was captured without fighting and engineers from Rosatom, Russia's state nuclear corporation, have been sent to supervise the plant that stores 20,000 spent nuclear fuel rods and the activity of dismantling the exploded reactor number 4, following the famous nuclear disaster dated 26<sup>th</sup> April, 1986.

Skytek expert team analysed recently acquired high resolution satellite imagery over the Chernobyl Nuclear Plant (Figure 1), confirming the absence of apparent damage to the infrastructure. Skytek will continue to use satellite imagery to monitor the condition of the plant.



Figure 1 - Chernobyl Nuclear Power Plant on February 27<sup>th</sup>, 2022

Among all of the active nuclear plants in Ukraine, the Zaporizhzhia plant at Enerhodar is the largest nuclear plant in Europe and among the largest 10 in the world, having six nuclear power units of 1,000 MW each.

The plant was built near the city of Enerhodar, on the southern shore of the Kakhovka Reservoir on the Dnieper River and is depicted in a satellite image of end of February 2022 in Figure 2 in a overview and Figure 3 for a closer detail.



Figure 2 -Zaporizhzhia Nuclear Plant general view on February 27<sup>th</sup>, 2022

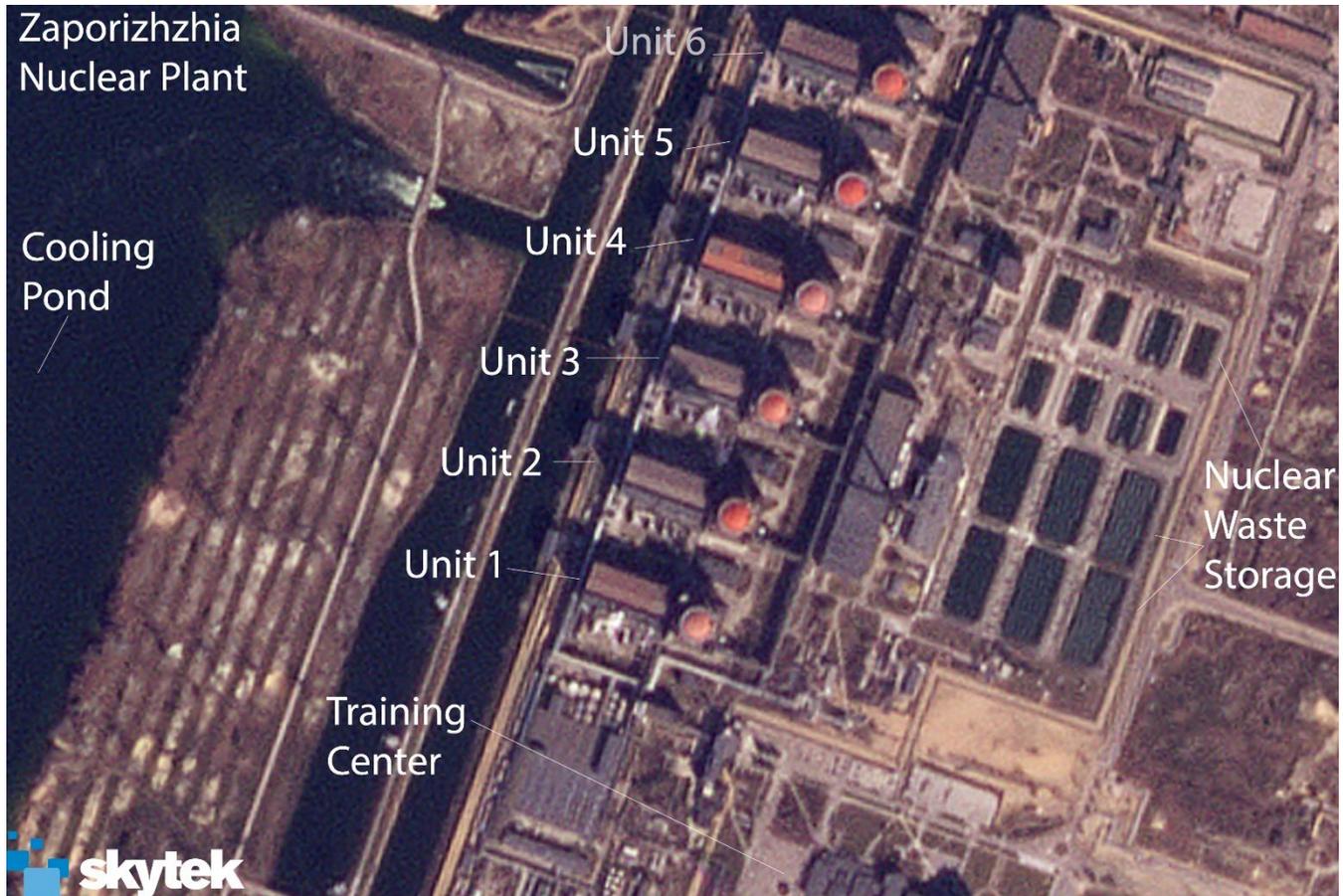


Figure 3 - Nuclear Power Reactors in detail at Zaporizhzhia, February 27th, 2022

Russian troops unfolded an attack on the city of Enerhodar on March 04<sup>th</sup>, 2022, which brought under fire the Zaporizhzhya nuclear plant, while Ukrainian technicians continued to supervise the plant's operations. Following these incidents, the International Atomic Energy Agency (IAEA), and Ukrainian nuclear authorities acknowledged that the Zaporizhzhya nuclear plant had fallen into Russian hands.

Reportedly, ammunition was detonated on the premises of the plant, and intense live firing sparked at a training centre building. Skytek expert team analysed recently acquired high resolution satellite imagery over the Zaporizhzhia Nuclear Plant acquired after the attacks (on 18<sup>th</sup> March, 2022), to establish the conditions of the plant following the events. Reportedly, the attack on the plant caused no significant damage, none of the six reactors was affected, and there was no radiation leak detected on site.

Out of six total reactors, only two are operational and under Russian control, although Rosatom, Russia's state nuclear corporation, stated they "are providing technical support (...) with the consulting assistance of Russian specialists."

The Zaporizhzhya plant is the first in Ukraine to use a dry spent fuel storage facility. The dry spent fuel elements are stored vertically in a waste storage facility located nearby the reactors (Figure 4) and must be kept ventilated by air.

The satellite imagery acquired on 18<sup>th</sup> March, 2022 indicates that the nuclear plant appears to be in good condition with no significant damage on site.

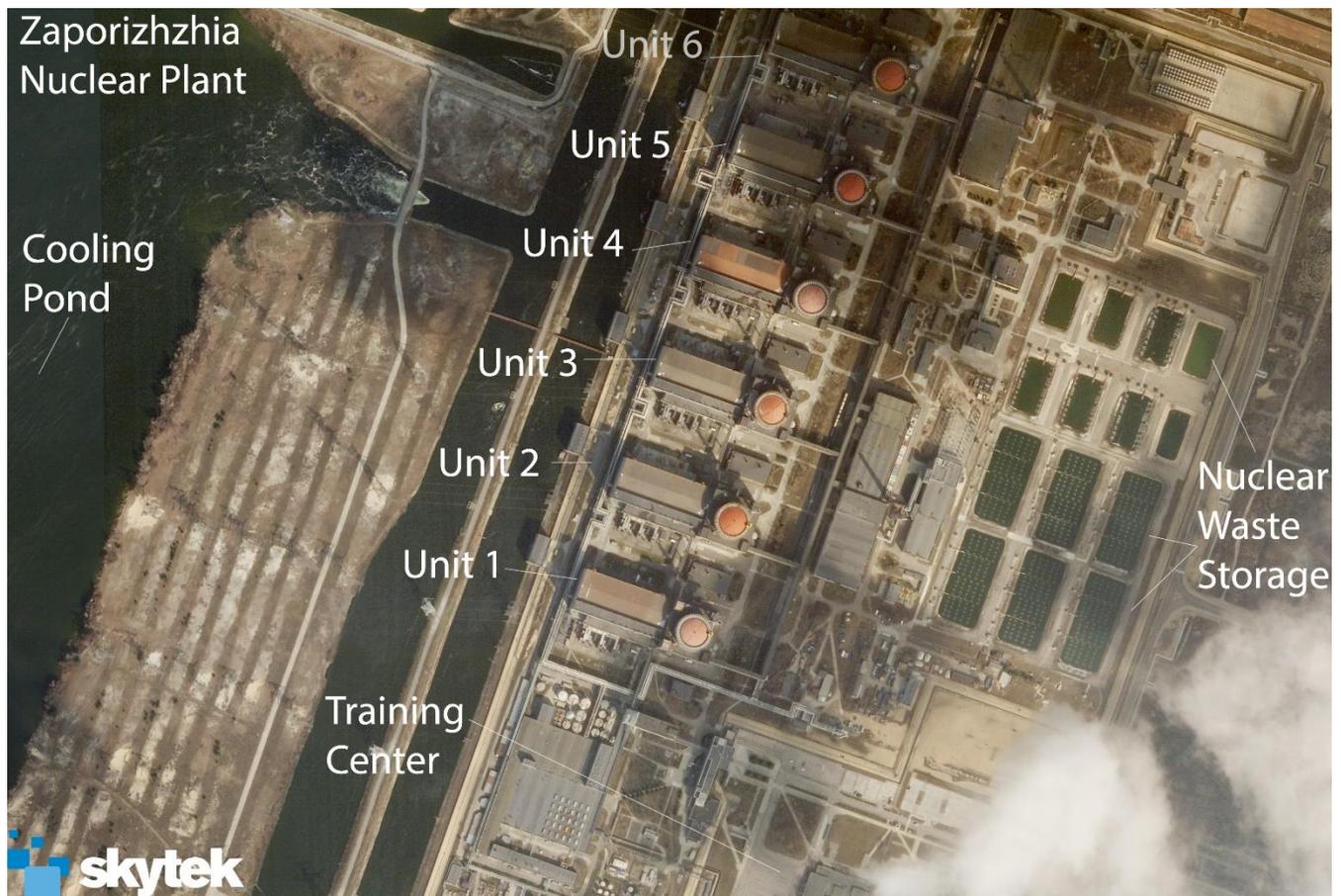


Figure 4 - Nuclear Power Reactors in detail at Zaporizhzhya, March 18<sup>th</sup>, 2022



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