

JURIDICAL SCIENCES

LEGAL CONSEQUENCES OF ELECTRIC POWER FACILITIES DAMAGE IN CONTEMPORARY UKRAINE

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Abstract

Article proposed are devoted to the problem of new form of military terror: shelling of electric power facilities in wartime Ukraine. The problem of damage to electric power facilities, in the context of economic and legal protection of the environment, is gaining prominence among the current problems of law in wartime is presented. In general maintained that in order to establish legislative measures to regulate environmental protection in the context of electricity production in the wartime, we support the key points presented by UNDP, in exclusion to the position on the nuclear energy of Ukraine. The author's recommendations for reforming the regulatory framework in the area under study are given.

Keywords: energy facilities, missile attacks, environmental damages, UNDP programme, recovery energy sources, international cooperation, wartime Ukraine.

Introduction. Full-scale military aggression of the Russian Federation on the territory of Ukraine presented the world with a new form of military terror: shelling of electric power facilities. The "legitimate" goals of Putin's imperial chauvinistic policy became peaceful transformers, power lines, units of thermal and nuclear power plants, which the history of world civilization has never known. In this regard, the study of the legal consequences for management and environmental protection, in the context of finding a fair balance and preventing both economic and environmental catastrophe, seems not only an urgent requirement of the day, but also an actual legal problem of assessing the consequences of aggression and bringing those responsible to justice.

Since the research topic represents current events, the scientific community has not yet had time to properly pay attention to it.

However, the problem of damage to electric power facilities, in the context of economic and legal protection of the environment, is gaining prominence among the current problems of law in wartime.

The purpose of these papers is to evaluate the level of environmental legal protection in the context of war economic activities in the field of energy, wartime damages' impact taking into account and a review of foreign doctrine in aforesaid field.

Materials and Methods. Presented papers has done with assistance of formal and compares methods as special and ontology, deduction, analysis ad synthesis as common, which led to obtain a new data and background for discussion and further investigations from contemporary scientific viewpoint. Thereof, research methodology is based on general scientific methods such as analysis, synthesis, induction, deduction, analogy and empirical methods - observation, comparison and so on and so forth.

Methodological basis of the survey, presumably, is a dialectical method, the introduction of which provides an opportunity to study the object and subject of

research in theirgnoseological unity, as well as the nature of medical law development and their impact, as cause and effect.

Results and Discussion. According to Ukrinform's report, in Ukraine, as a result of a Russian missile attack, there is damage to energy infrastructure facilities, power supply restrictions were applied in the Zhytomyr, Kharkiv and Odessa regions. On March 9, 2023, the 15th massive missile attack on the energy infrastructure by the Russians continued. Restrictions in all regions were preemptively applied to mitigate risks. The restoration of the power system, power supply gradually continues. Repair crews have already left to eliminate the effects of shelling and restore power. Earlier, due to a missile attack in Kyiv, power engineers used technological emergency power outages. At the same time, as a result of the attack, there is damage to energy infrastructure facilities [4].

Previously, on the anniversary of the seizure of Zaporizhzhya NPP by Russian troops, the Minister of Energy of Ukraine Herman Galushchenko emphasized that Russia's military aggression against Ukraine is unprecedented on the scale of destruction of civilian energy facilities and violation of international law in world history. The terrorist state must take political, financial, criminal and historical responsibility for crimes against humanity, nuclear terror and blackmail around the world, the destruction of the civilian energy infrastructure of Ukraine. Today is the year the Russians captured the largest Zaporizhzhya nuclear power plant in Europe. They turned it into a military base and use it to nuclear blackmail the whole world. Enemy missiles flew over nuclear power plants. In November 2022, a massive Russian missile attack on energy infrastructure facilities led to a blackout at all Ukrainian nuclear power plants: power units crashed and switched to diesel generators - power the last hope. "It was a real threat of a repeat of the Fukushima scenario and a nuclear disaster that would affect all of humanity. This is nothing more than nuclear terrorism," said German Galushchenko. Ukrainian energy infrastructure facilities have been in Russian crosshairs since the start of the

full-scale invasion. At the same time, from October 2022, the Russians headed for its complete destruction. About 50% of energy infrastructure was affected by shelling. "It's civilian infrastructure. Its deliberate destruction is a serious war crime. International Humanitarian Law, the Geneva Conventions and the Additional Protocols clearly prohibit attacks on civilian facilities, such as power plants and electrical networks," the Minister emphasized. Herman Galushchenko underlined that military criminals are military who fire at energy infrastructure, as well as energy, who advise on how to cause maximum damage and help occupy energy facilities. "Quick and non-standard solutions, assistance of the international partners and the heroic work of Ukrainian power engineers allowed Ukraine to win the battle on the energy front against Russia this winter. At the same time, the aggressor should be severely punished for his crimes," the head of the Ministry of Energy summed up [6].

Chubik A. constituted that Ukraine in today's war for its existence opposes the unprecedented methods and scale of attacks on energy sector. Experience of confrontation includes many years of cyber attacks, as well as the physical destruction of critical infrastructure facilities at the top of their use during the cold season. As a result of 33 massive missile attacks, more than 47% of the energy infrastructure suffered various degrees of destruction, namely 44% of nuclear generation (including occupied nuclear power plants), 78% of TPP capacities, 66% of block CHPs, 12% of hydroelectric power plants, 75% of wind generation and more than 20% of solar power plants [10].

As presented UNIAN agency, the Russian occupiers have carried out dozens of missile and drone attacks on Ukraine's critical infrastructure since October 2022. According to official data, a total of 255 enemy missiles and drones hit energy infrastructure. Of these, more than two hundred are in the facilities of the high-voltage network of NPC Ukrenergo. However, according to Dmitry Sakharuk, Executive Director of DTEK energy holding, digital indicators of Russian attacks on the Ukrainian power system may actually be much greater. Thus, since the beginning of the full-scale invasion of Russian armed groups on Ukrainian soil, our country has lost 44 percent of nuclear generation and three quarters of the capacity of TPP: some part has been occupied, the other - destroyed. Because of this, the generating capacity of domestic power plants has fallen significantly [3].

National Energy Company of "Ukrenergo" stated that 365 days Ukraine confronts the Russian occupiers and seeks its independence. Ukrainian energy has held an energy front since the beginning of the Russian invasion. In the fall, all Ukrainians stood side by side with them on this front. Russians dropped more than 1200 missiles and drones on the power system of our country. More than 200 of them hit the target. 50% of power plants and more than 40% of the network have been significantly affected. About 12 million Ukrainians were without light every hour. The enemy, losing to the heroic Armed Forces in battle, tried to destroy our power system and plunge the country into darkness and cold. Russian energy terror and blackmail was chosen

as one of the main means of warfare. Ukrainian energy did not allow the enemy to carry out criminal intentions. This winter confrontation was won by Ukrainians. We won the battle, but our fight is still ongoing [2].

A new UNDP report on the assessment of damage to the energy sector of Ukraine after months of targeted attacks offers a sober assessment of the existing situation in the industry and outlines a strategic path to recovery and sustainability. The report, compiled shortly before the destruction of the Kakhov Dam, shows that the Ukrainian energy system remains extremely vulnerable and continues to operate in an emergency mode with a reduced and limited margin of strength, overcoming the consequences of damage that exceeded US \$10 billion. The power system of Ukraine continues to operate in an emergency mode, which affects both the electricity supply and the generation of electricity. The results of the report show that 42 of 94 (45%) key high-voltage transformers in government-controlled territories have been damaged or destroyed by rocket attacks or drone strikes since the beginning of the current stage of the war. More than half of these transformers suffered repeated shelling, which prevented attempts to repair them. Electricity generation capacity has shrunk to nearly 50 percent of pre-2022 levels, according to the report. Of the nearly 37GW available, more than 19GW has been destroyed, damaged or seized since February 2022. The situation is complicated by a significant reduction in maneuvering capacity, in particular, the loss of more than 67 percent of thermal generation capacity. These large-scale damages have significantly affected energy supply during the last winter and continue to threaten the stability of Ukrainian consumers' access to electricity. UNDP's Permanent Representative to Ukraine, Jako Silje, noted that the report's findings highlight the urgent need for swift, coordinated and strategic action. "The UNDP assessment is a compelling argument for aligning immediate responses with the medium-term goals of the National Energy Strategy," he said. – "The actual loss of obsolete coal generation should be seen as an opportunity to accelerate the green transition and decentralization. We have already begun cooperation with several local governments to ensure their urgent energy supply needs, as well as to prepare the basis for financing the development of a more ecological and sustainable energy infrastructure. "The report suggested a number of clear and practical recommendations to help make the energy sector more sustainable and environmentally friendly than before. UNDP uses these guidelines in its collaboration with stakeholders at the national and local levels to restore the energy sector. The following recommendations include: (a) dispersion of generation capacities across the country and decentralization of the power system to increase its stability and adaptability; (b) introduction of modern high-manure and more environmentally friendly generating capacities to enhance the maneuverability of the power system; (c) increase the share of renewable energy sources in the power system, use of large potential of clean and sustainable energy; (d) initiating a gradual reduction and final abandonment of coal use in accordance with Ukraine's commitments to reduce CO₂ emissions and contribute to global climate

change mitigation efforts; (e) explore further opportunities to improve the utilization of nuclear and hydro-power capacities and maintain optimal energy balance [8].

Kolosov I.V., in this context, draws attention to the fact that all existing nuclear power plants at the end of the war should be decommissioned and mothballed. Despite significant economic costs and considerable stress on the electricity market, this step is the only correct and absolutely necessary to ensure the safety of all mankind. After all, to date, all operating nuclear reactors in Ukrainian nuclear power plants - Russian-made. Thus, a state with a terrorist-authoritarian regime of power has all the array of technical, design and technological information, which keeps the existence of the entire human civilization under threat. According to the scientist, updates also need legal regulation of the Exclusion Zone. From the world's largest landfill of nuclear waste, it is necessary to stop making a tourist object. This is dangerous for people's health, and also attractive for collaborators and spies of the enemy state. We are convinced that the policy of the "passage yard" regarding both the Exclusion Zone and satellite cities of operating nuclear power plants should be suspended. Given the challenges of modernity and the realities of Horde geopolitics, we must return to the legal regime of closed satellite cities, with increased control, checkpoints, detailed checks of documents, admission to such cities or places exclusively for work or research needs, if there are supporting documents or by invitation from humanitarian needs, notarized [5, p. 601-603].

Separately, should be focuses on renewable energy sources. According to the Razumkov Center's data, most of the currently installed renewable energy facilities in the country are concentrated in the southern and southeastern regions of Ukraine, where active hostilities have been continuously taking place over the past 6 months. According to various experts, as of August 2022, 30-40% of renewable power plants in these regions or about 1 120-1 500 MW of installed capacity have already been affected in one way or another. For example, according to the Ukrainian Wind Energy Association, since the beginning of the large-scale war, more than 3/4 wind power capacities have been stopped in Ukraine, that is, out of a total of 1,673 MW, currently about 1,462 MW of Ukrainian wind farms are not operating, and 5 wind turbines in the Kherson region, installed at the Mirna, Sivash and Novotroitsk wind farms, are currently not operating. Due to damage to 330 kW, power lines in Melitopol also do not work almost 600 MW of wind power capacity in the Zaporozhye region. It should be emphasized that this damage indicator may be greater, since today the level of damage at those stations that are under the occupation of Russian terrorists without the possibility of physical access to them is unknown. However, it is known for certain that RES assets worth more than US \$5.6 billion are located in the active warfare zone, and more than US \$3.6 billion in regions neighboring the areas where active hostilities are underway. 1.8 MW of bioenergy capacity in Chernihiv suffered damage, while bioenergy stations with a total capacity of 2 MW were found

in the occupied territories of the Donetsk region, namely, in Volnovakha and Mariupol, that is, 3.8 MW out of 245 MW installed at the end of 2021, do not currently supply electricity to the power grid. The issue of repayment of debt to producers with RES was temporarily postponed, and the percentage of payments for supplied electricity in 2022 was limited for the duration of the military condition to 15% of the weighted average "green" tariff for 2021 for producers of electricity from solar radiation; up to 16% - for wind power producers; up to 35% - for producers producing electric energy from hydropower; up to 40% - for producers engaged in the production of electric energy from biogas; and up to 60% for producers producing electric energy from biomass. The corresponding Order of the Ministry of Energy of Ukraine No. 140 of March 28, 2022, which actually established the above minimum levels of payment for "green" electricity, obliged the State Enterprise "Guaranteed Buyer" to also direct 60% of the balance of funds to repay the debt to SE "Energoatom" and 40% to repay the debt to NEC "Ukrenergo." Even though RES producers, in particular solar and wind power producers, never received full payment for electricity delivered in 2021 and continued to incur operating costs for the maintenance of their power plants, had financial obligations both to the state of Ukraine and its personnel, and before international investors, they still did not complaint with such financial policies in the RES sector and state decisions. [1;7;9].

Conclusions.

1. Losses from missile attacks by the Russian army on Ukrainian energy facilities can be conditionally divided into direct economic, further economic, socio-demographic and environmental. Such a classification is mediated by the fact that energy suppliers suffer losses from damage/destruction of generating capacities, the care of future investments, the population suffers from cold, diseases and difficulties of medical care, and nature - from diesel fuel pollution from generators and additional emissions of carbon oxide.

2. In this regard, the domestic legislator to the insult pays few attention to the legal consequences of violation of environmental legislation. Moreover, it allows to establish financial restrictions leading to the degradation of recoverable energy generation, which is implied as friendly to the environment.

3. In general, in order to establish legislative measures to regulate environmental protection in the context of electricity production in the wartime, we support the key points presented by UNDP, in exclusion to the position on the nuclear energy of Ukraine. In this part, we fully uphold the position of I.V. Kolosov, outlined above.

However, problems of overcoming the environmental consequences of undermining the Kakhovskaya hydroelectric power station and the rationality of its restoration, further operation of dry storage facilities for spent of nuclear fuel in a military conflict circumstances should be devoted to subsequent scientific research and author's investigations.

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