Analyses OSW

CENTRE FOR EASTERN STUDIES 13.02.2025 www.osw.waw.pl

Ukraine: controversial decision to purchase Russian-made nuclear reactors

Sławomir Matuszak

On 11 February, the Verkhovna Rada passed a law granting the nuclear power plant operator Enerhoatom the right to purchase two reactors manufactured by Atomstroyexport, a subsidiary of Rosatom, from the Bulgarian company BEH EAD. These reactors are intended for use in the third and fourth units of the Khmelnytskyi Nuclear Power Plant (KNPP). Additionally, the legislation mandates the government to update the expansion project's feasibility study (last conducted in 2018) and to draft a law permitting the construction of two new units.

The construction of the KNPP units was halted in 1990 due to a moratorium imposed by the Verkhovna Rada following the Chernobyl disaster. By that time, approximately 75% of the work on the third unit and around 30% on the fourth unit had been completed, but neither facility was preserved or maintained. The reactors that Enerhoatom intends to purchase were manufactured by Atomstroyexport under a 2008 agreement with Bulgaria for the construction of the Belene Nuclear Power Plant. Although Sofia abandoned the project in 2012, a 2016 ruling by the Court of Conciliation and Arbitration in Geneva compelled Bulgaria to purchase the two reactors for €600 million.

The decision to approve the purchase has sparked significant debate among Ukrainian experts and some opposition MPs. The primary criticism concerns the rationale for spending at least €600 million in the current challenging financial situation, particularly on Russian reactors. However, as President Volodymyr Zelensky has expressed clear support for the initiative, the transaction is likely to be finalised within the next few months.

Commentary

- **The decision contradicts the Ukrainian government's previous commitments to developing a decentralised electricity generation system** that would be more resilient to Russian missile strikes. Ukraine urgently requires flexible power generation facilities (such as small gas-fired power plants) with a capacity of 2–4 GW, to replace the plants destroyed in 2024 due to Russian attacks. Meanwhile, nuclear power units have minimal flexibility in adjusting their output. Even if the project proceeds as planned, the most optimistic estimates suggest that completion would take at least five years.
- **Concerns have been raised over the justification for spending such a large sum at a time when the energy sector has more urgent needs.** Enerhoatom likely has the funds for the reactor purchase due to a 60% increase in household electricity prices introduced

in June 2024. This price hike was driven by the need to secure additional funds for repairing damaged energy infrastructure, yet Enerhoatom has not paid dividends to the state. Meanwhile, the Ministry of Energy is engaged in negotiations to secure a grant for the purchase of 1 bcm of gas ahead of the next heating season. The actual price of the reactors also remains unclear. While the Bulgarian parliament approved their sale for at least €600 million, but the final cost could be significantly higher.

- **The enacted legislation raises several serious legal concerns.** It was passed in blatant violation of the Verkhovna Rada's rules of procedure, as even the Rada's Main Legal Department noted in its comments on the bill. To circumvent the requirement for a second vote, lawmakers took a bill that had passed its first reading in August 2024 (which was unrelated to nuclear energy) and entirely rewrote its content under the guise of an 'amendment'. It is difficult to justify that the decision to purchase the reactors was made before updating the project's feasibility study and before passing a law authorising the completion of the new units. Notably, despite lacking formal approval, Enerhoatom has already allocated 430 million hryvnias (approximately $10 million) for preparatory work on the third and fourth units of the KNPP. In January, the National Anti-Corruption Bureau of Ukraine (NABU) launched an investigation into the legitimacy of these expenditures.
- **The purchase of these reactors raises numerous technical concerns.** The current condition of the unfinished units, where construction was halted 35 years ago, remains uncertain. Although the 'Bulgarian' reactors are of the same WWER-1000 type as specified in the feasibility study, they have a different modification (V-466B instead of V-392B), raising concerns about their compatibility with Ukraine's currently operating units. Furthermore, the actual condition of the reactors, the parties responsible for their assembly and maintenance, and the provision of nuclear fuel remain unclear.
- **The decision also undermines Ukraine's efforts to secure Western sanctions against the Russian nuclear sector.** Ironically, in February 2023, the National Security and Defence Council of Ukraine sanctioned both Atomstroyexport and Rosatom.