

Ukraine – Nuclear Power Plant Safety Upgrade Programme

For more information

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A decision from the European Bank for Reconstruction and Development (EBRD) regarding a EUR 300 million loan for Ukraine's nuclear power plant safety upgrade programme is scheduled for 18 December 2012. The safety upgrade programme includes upgrades to all 15 of Ukraine's nuclear reactors. Twelve of the fifteen nuclear units currently in operation were designed to finish operations before 2020. The safety upgrade programme is therefore designed for nuclear reactors that face the end of their designed lifetime.

There are a number of reasons why this project is an unsuitable investment for the EBRD.

The safety upgrade programme is outside the scope of the bank's mandate

The EBRD has a mandate to "*foster the transition of Central and Eastern European countries towards open market-oriented economies and the promotion of private and entrepreneurial initiative*". The proposed loan to Energoatom, the monopolistic state owned nuclear power operator, does not fulfill even the most core principle of all EBRD operations.

The safety upgrade programme **in its current design is an inseparable part of the lifetime extension plan** for the units whose projected lifetime ends in the very near future, including South Ukraine nuclear power plant Unit 1 in December this year, Zaporizhzhia Unit 1 in December 2014 and South Ukraine Unit 2 in December 2015.

South Ukraine Unit 1 is now lagging behind schedule in terms of fulfilling the conditions necessary for prolonging its operating license, including implementing measures from the safety upgrade programme². It is therefore

¹ Basic document of the EBRD, p.5;

² According to the report on the periodic safety review of the South Ukraine nuclear power plant Unit 1 from October 2012, four of fourteen safety factors reports were still not yet approved by the state

likely that the unit could be stopped in January 2013, and then EBRD money will be used to prepare this expired unit for re-starting operations. Moreover the EBRD has no policy guidance in this area i.e. whether or not to support upgrade measures that lead to re-starting an already shut-down unit.

The South Ukraine nuclear power plant faces a problem with reliable cooling water supply, which is a key for nuclear safety. Due to design errors in siting the plant, the South Ukraine nuclear power plant lacks enough water to properly cool all three units, and in warm months only two units can be cooled³. The South Ukraine energy complex has created water shortages in the region, and the river downstream from the power plant has been turned into a swamp. The closure of the Unit 1 would decrease pressures on the Pivdenny Buh river and will save millions in taxpayer money planned for the further expansion of the Olexandrivske water reservoir.

The safety upgrade programme in its current design will not guarantee improved nuclear safety

Currently prepared safety upgrade programme is not designed to guarantee safe operation after the original design life expires. The option of operations exceeding the design period has not been assessed. In the main Ecological Assessment report, prepared for safety upgrade programme, only impacts within design life time were analyzed.

Supporting nuclear power prevents the effective development of renewable energy sources and diminishes incentives to decrease the energy intensity of the Ukrainian economy.

The safety upgrade programme sustains the dominance of nuclear energy in Ukraine's electricity mix. Energoatom currently produces about 47 per cent of all

nuclear regulator. Three of these, including the technical condition of systems and equipment, reactor ageing and equipment qualification and probabilistic safety analysis are still under rework by Energoatom.

³ Informational and analytical review of EIA materials for lifetime extension of South Ukraine nuclear power plant Unit 1, Kiev, 2012.

electricity in Ukraine, selling at extremely low tariffs established by the state (0.025 EUR/KWh), preventing reform of the energy market based on decentralised energy sources and free market principles. While EBRD renewable energy and energy efficiency investments in Ukraine are welcomed, these initiatives are fruitless if at the same time the EBRD continues its support for keeping nuclear units running. Support like the safety upgrade programme allows Energoatom and the Ukrainian government to keep nuclear electricity tariff below full production costs.

The EBRD has already attempted unsuccessfully with its K2R4 loan to have the Ukrainian government align the nuclear electricity tariff with the full costs of production,⁴ and we do not see any reason for the EBRD to succeed this time.

Conclusions

There are still a number of open issues with safety upgrade programme that were not properly addressed, thus the proposed loan cannot ensure that nuclear safety in Ukraine is improved.

The only scenario in which EBRD funding for Ukraine's nuclear sector is justified and will improve nuclear safety is the one that decreases the country's dependency on nuclear energy i.e. the decommissioning of old units.

In order to enable such a scenario, we recommend the EBRD focus its further work with Energoatom on:

- Ensuring all conditions of the previous loan for safety modernisation at the K2/R4 are implemented in full. This should be a condition for further work on the safety upgrade programme loan if the EBRD is to maintain its leverage on Energoatom and Ukraine;
- Excluding South Ukraine Unit 1 from the safety upgrade programme and preparing the technical part of a decommissioning plan for this unit. This should be a precondition for the EBRD to continue work on the safety upgrade programme loan;

⁴ In 2012 (7 years after K2R4 loan) nuclear electricity tariff does not cover fully the cost of the safety upgrades, it doesn't even cover all reactor maintenance costs (Official correspondence from NEC Energoatom to NECU from 3.03.2012)

We believe that open safety issues concerning also stress test result implementation, the comparably low funds suggested as being sufficient for modernization and the fact that current practice of safety modernization programmes cannot provide for reactors in Ukraine to reach safety levels comparable with EU standards and common practice need to be answered by the Ukrainian side.