

## NGO comment on the EIA procedure for the planned NPP newbuild of NPP Khmelnytsky 5&6/Ukraine

12 June 2025

The signatories welcome the possibility to submit a statement in this transboundary Environmental Impact Assessment (EIA).

### Alternatives

The Espoo Convention requires the assessment of alternatives of a project. In the EIA report, alternatives are given for reactor construction at other nuclear sites in Ukraine (South Ukraine, Rivne). Due to water supply the Khmelnytsky site was assessed as the optimal site.

However, **we demand that the EIA report presents energy production alternatives to nuclear power**. In response to the climate crisis, energy efficiency and energy saving measures have to be the most important options for an alternative scenario, new electricity production should be based on renewable energies with its steadily decreasing costs and faster availability.

**A long-term prognosis of the Ukrainian energy needs should be part of the EIA report.**

### Security

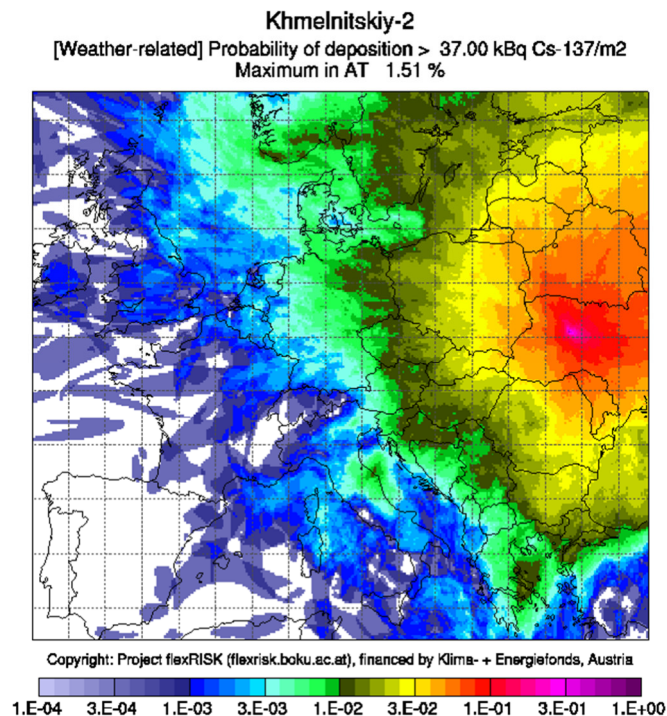
Any new NPP needs to be as secure as possible against acts of war and terrorism, this is especially true for the Ukraine. **What measures will be taken to ensure that the NPP will not be vulnerable to drone attacks, to cyber-attacks and to other acts of war?**

### Risk of severe accidents

The most important question is: Can an accident occur in the NPP that has significant impacts on the surrounding areas, and also on other countries?

Even if a severe accident has a very low probability, the risk is not eliminated.

The research project flexRISK assesses weather-related risks of severe accidents. For Khmelnytsky-2, a steam generator tube rupture accident was assessed with a release of 54.46 PBq Cs-137. The following flexRISK figure shows the weather-related risk for Europe to be contaminated with Cs-137 above 37 kBq Cs-137 per m<sup>2</sup> in case of such an accident happening.



Under unfortunate weather conditions, many countries in Europe could suffer a high Caesium contamination of more than 37 kBq/m<sup>2</sup>; f.e., the maximum weather-related risk for Austria, which is in a distance of more than 1,000 km to the Khmelnitsky site, is 1.51%.

This flexRISK assessment underlines that it is by far not enough to calculate contamination or doses for a distance up to 30 km like it is done in the EIA report on Khmelnitsky 5&6.

Moreover, in the EIA report a source term of 11,7 TBq Cs-137 for a beyond design based accident (DEC) is provided (p. 239). This source term is too low. According to Sholly et al (2014<sup>1</sup>), the Cs-137 inventory of an AP1000 is 4.18E+17 Bq. In case of a DEC with a containment bypass resulting from steam generator tube failure, 27.2% of the Caesium Group are expected to be released, corresponding to 1.14E+17 Bq Cs-137 (114 PBq). This source term would be even higher than in the above introduced flexRISK results.

**The EIA Report shall include accident calculations with the highest source term for which the risk is not zero, and dispersion calculations for all of Europe.**

### **Nuclear waste management**

Before any new-build, Ukraine should ensure its nuclear waste management: As of today, Ukraine is far from having a final repository for spent fuel.

We are looking forward to receiving information if and how our recommendations are integrated in the EIA decision.

With best regards

<sup>1</sup> [http://www.risk.boku.ac.at/download/pub/2014/ISR\\_report\\_source\\_terms\\_poland.pdf](http://www.risk.boku.ac.at/download/pub/2014/ISR_report_source_terms_poland.pdf)