

## **NGO comment on the EIA procedure for the planned lifetime extension of NPP Cernavoda-1/Romania**

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The signatories welcome this transboundary Environmental Impact Assessment (EIA) in the light of the discussion in the framework of the Espoo Convention concerning a binding EIA for NPP lifetime extension projects.

The Cernavoda-1 reactor is in operation since 1996. CANDU reactors have a design life of 30 years. The lifetime shall be extended from 2029 for 30 years according to an information from Nuclearelectricas's website. This would result in a total lifetime extension of even 33 years.

### **Alternatives:**

The Espoo Convention and the EIA Directive require the assessment of alternatives of a project. In the EIA documents, alternatives are only given for refurbishment options.

However, **we demand that the EIA report presents energy production alternatives to the lifetime extension.** 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 Romanian energy needs should be part of the EIA Report.**

### **Risks of long-term operation of the reactor type**

The design of the CANDU-6 reactors is from the 1970ies and already outdated, in particular the possibility of severe power excursions in the event of safety system failure and vulnerability to external hazards. The ageing of the pressure tubes is also a persistent problem for existing CANDU systems.

### **Risks of the site**

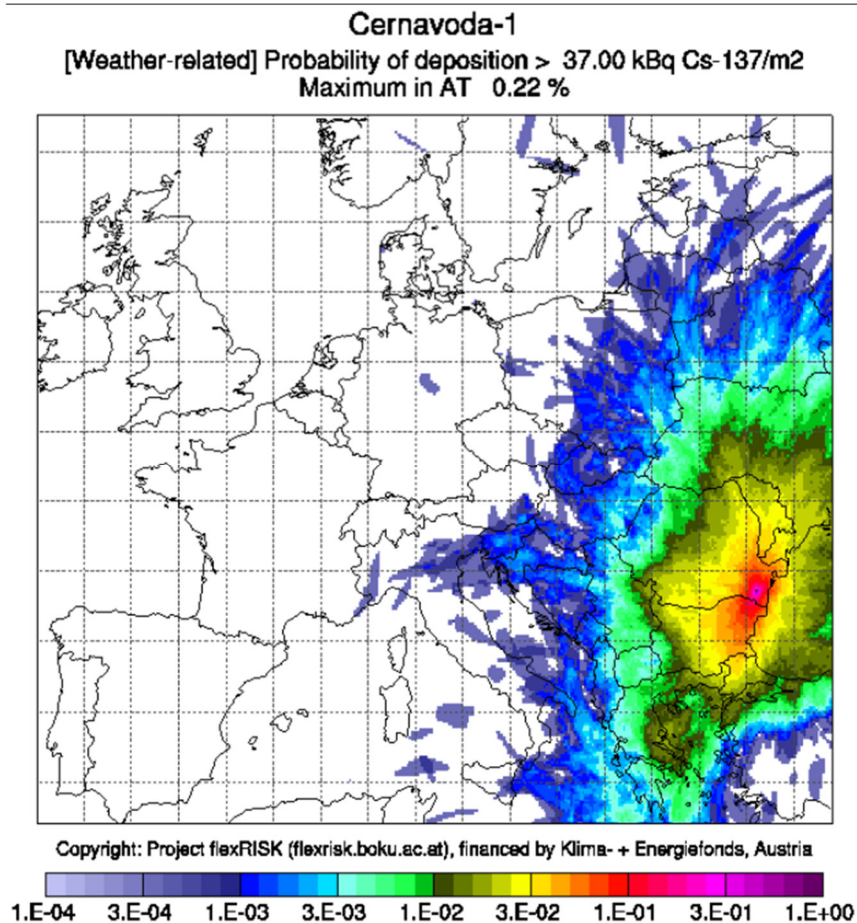
Romania is one of the most active seismic regions in Europe. The Cernavoda site is located in the Vrancea zone. The stress tests in 2011 found that this hazard was not appropriately recognised.

### **Risk of severe accidents**

The most important question is: Can an accident occur in the old NPPs 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 EIA Report needs to provide more data on the assessment of severe accident consequences; it is insufficient to restrict dose calculations to 100 km. Source term data need to be provided.

The research project flexRISK shows that a core disassembly with early containment failure in Cernavoda-1 could release a large part of its radioactive inventory, assessed with 8.16 PetaBecquerel Cs-137. The following flexRISK figure shows the weather-related risk for Europe to be contaminated with Cs-137 above 37 KiloBecquerel 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>; the weather-related risk for Austria is 0.22%. It is not enough to calculate doses for a distance up to 100 km.

Safety standards for new NPPs cannot be implemented for the old plants. The risk of a severe accident is increasing with the age of an NPP. But not only material and design problems occur. The risk of terrorist attacks has increased, and the old plants are not fit to withstand modern threats. Unfortunately, it cannot be excluded any longer that NPPs become targets in a war, especially if they are near the Russian border.

Due to climate change, the risk of flooding increased, Also, the risk of extreme weather events has increased.

**The EIA Report shall include an assessment of how the risk changes with increasing age of the plant and due to new threats like terror, war, and climate change phenomena.**

**The EIA Report shall also 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 lifetime extension or new-build, Romania should ensure its nuclear waste management: As of today, Romania 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

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