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War in Ukraine: WENRA and HERCA conclusions on the consequences of a nuclear accident

The on-going war in Ukraine weakens the safety of the nuclear facilities in the country notably through deterioration of external infrastructures, damage on the sites, or degradation of the operators working conditions. This results in an increased risk of a nuclear accident, which could potentially lead to radioactive releases.

Even though Ukraine operates various types of nuclear facilities, recent assessments undertaken by several nations indicate that the most significant potential radiological consequences would be those from a nuclear power plant accident.

In 2014, to ensure the robustness of the emergency response across Europe following a severe accident at a nuclear power plant, HERCA and WENRA issued a report on the consequences of a severe accident and the type of protective actions that would be required to safeguard the population. This report sets out that:

- In case of a core-melt accident without loss of containment, it might be necessary to evacuate the population up to 5 km around the damaged nuclear power plant and shelter the population together with iodine ingestion up to 20 km;
- In case of an accident similar to Fukushima Daiichi, where containment integrity was lost, these zones would be increased to around 20 km and around 100 km respectively.

Such scenarios give orders of magnitude of impacts and of associated necessary protective actions. They confirm that, should a severe accident happen as a result of ongoing war, it would have significant radiological consequences in Ukraine. However, in case an accident occurs, additional real-time modelling would have to be performed, taking into account the actual situation and the local conditions (e.g. meteorological).

HERCA and WENRA remain committed, in close link with ENSREG¹, to contribute to a coordinated nuclear emergency response at the European level and provide any necessary support to the Ukrainian regulatory body, should an accident happen. This will be closely coordinated with the IAEA and make use of the established international information exchange mechanisms.

¹ EUROPEAN NUCLEAR SAFETY REGULATORS GROUP