

# FORMATE

## Full Operational Response to Major Accidents Triggered by natural hazards - Full Scale EXercise 2023

In Europe and around the world there are many vulnerable installations and critical infrastructures close to rivers, coastlines, located in earthquake prone areas or subject to other kinds of natural hazards. One decade after the Fukushima Disaster Natural hazards triggering technological disasters, or so called Natech events, are still not represented widely enough in emergency preparedness and response activities. Natech disasters as multi-sectorial emergencies pose a variety of simultaneous effects and require a high level of collaboration and coordination of stakeholders from various sectors.

The river Danube region connects ten European countries and is one of the lifelines for the exchange of goods in Europe. It is living environment for around 80 Mio. European citizens and basis for industrial production in many countries. Besides the anthroposphere the river Danube region is a natural habitat for a great variety of species protected by various national parks and European environmental protection initiatives. The cyanide spill at Baia Mare (RO, 2000) revealed the terrible consequences of a Natech event at an inland waterbody.

To improve and strengthen cooperation among European Member States in order to facilitate coordinated response to Natech events, the planned exercise will focus on multiple industrial accidents along in the river Danube region triggered by an intensive flooding event. The exercise will especially deal with the impact of CBRN events, like toxic spills or the release of radioactive material, triggered



by the flood event. UCPM Modules active in the field of CBRN hazards, as well as technical experts will get the opportunity to train in a multi-hazard environment together with local civil protection and emergency response experts in the scope of a full-scale exercise. The full-scale exercise is prepared and accompanied by a table top exercise as well as by a thematical conference on Natech risk management and emergency response.

**Coordinator:** Oberösterreichischer Landesfeuerwehrverband

**Participating CBRN Modules:** Austria, Germany, Netherlands, Romania

**Evaluation:** Universität der Bundeswehr München, Germany

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**The following scenarios have been triggered by the quickly escalating flood event:**

- one or more explosions followed by fires with the propagation of toxic clouds in the area of Linz
- multiple localized leaks of oil or liquid toxic products from the production sites at Chem-park Linz and Linz harbour
- a spread of some radioactive sources unsealed from the measuring devices of the industrial sites.
- water pollution of the Danube river strongly affecting the Traun/Donau floodplain forest area (Natura 2000) as well as drinking water sources in the area
- release of toxic waste (polycyclic aromatic hydrocarbons, heavy metal legacies, etc.) from brownfield areas in the industrial area of Linz
- displacement of several containers with different toxic substances from the container terminal of the Enns harbour
- emergency shutdown procedures have been started in the Linz steel-mill due to the heavily contaminated cooling water from the Danube river and the spread of the toxic cloud.

Since flooding scenario developed over several days plant and emergency personnel at the industrial sites was strongly involved in flood management activities and was directly affected by the escalating events. Emergency services from the city of Linz are fully stretched out, personnel active in securing the industrial sites has been directly hit by the escalating events in the Chem-park. Toxic clouds are spreading towards the town of Steyregg and Luftenberg, downwards the river Danube. Road connections to both towns are strongly affected by the flood event.

**Consequences are expected in particular on:**

- people living in the affected areas
- the environmental protection zones
- industrial operations in the area
- the drinking water network.
- the river Danube as main inland waterbody and critical transport infrastructure
- the water-cooling capacities of some industrial processes
- the capacity to consider absolute and relative emergencies due to the already severe involvement of local and national emergency services and organisations
- the ability to tackle an extensive industrial and environmental emergency in context of an ongoing flood event
- the safety on operational personnel due to size, extension and simultaneous occurrence of hazardous events

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