

## International workshop on Increasing capacities to prevent, prepare for and respond to accidental water pollution from tailings facilities

– hosted by Slovakia and organized by UNECE, in cooperation with the Joint Expert Group on Water and Industrial Accidents (JEG) –

### Introduction

Dramatic accidents and failures of industrial facilities worldwide have been the cause of severe impacts on both human health and the environment. As a consequence of such events, rivers, lakes, groundwater, and ecosystems may be significantly polluted and harmed not only in the national context but also in the transboundary basins. Unprecedented damage might entail extremely high costs for remediation, as hazardous substances from contaminated sites can be released into nature, more often into the water, posing an acute danger to the environment and human beings. Some of the chemical substances are long-lived or mobile. Although industrial safety conditions have been significantly improved over recent decades in many countries thanks to strict requirements and measures, the safety level of a number of industrial facilities, including tailing management facilities (TMFs) and solid waste landfills, is still lower than it should be, mainly due to economic constraints (available funds), lack of trained human capacities and not enough inspections/controls. In recent decades, several large-scale accidents have drawn the general public's attention to the need to increase awareness about the risks connected to industrial activities and technological systems. This situation is compounded by the increasing severity and frequency of extreme weather events under climate change, with a likely effect on industrial safety and water bodies, adding to the risk of the “natural-hazard triggered technological events” (Natech), which are projected to increase. Notably, the damage of the Stolice tailing dam in 2014 in Serbia after heavy rains showed the need to improve the level of protection of tailings dumps. The 2014 heavy rains also impacted Bosnia and Herzegovina, Croatia and Romania, meaning that these kinds of events might also pose high transboundary risks. National governments play a key role, as they are in charge of developing prudent regulations and ensuring constant monitoring and inspections of such facilities.

Recognizing the importance and risks of accidental water pollution at the national and transboundary level, the Contracting Parties to the *Convention on the Transboundary Effects of Industrial Accidents* (Industrial Accidents Convention) and to the *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (Water Convention), serviced by UNECE, decided to cooperate on issues related to industrial safety and the prevention of accidental pollution through [their Joint Expert Group \(JEG\)](#). The JEG has developed [Safety guidelines and good practices for tailings management facilities](#), contributed to the development of a related [TMF Methodology](#) with a Tailings Hazard Index, Tailings Risk Index and Checklist Methodology, and prepared the [Checklist for contingency planning for accidents affecting transboundary waters](#), among other normative products. These have been used and promoted in countries through UNECE Assistance and Cooperation Programme projects, integrated into the [Online Toolkit and Training for Strengthening Mine Tailings Safety](#) and recommended for use through [the 2030 Road map for action to strengthen mine tailings safety within and beyond the UNECE region. At the Conference of the Parties \(CoP\) to the Industrial Accidents Convention at its twelfth meeting \(29 Nov- 1 Dec 2022\)](#), CoP endorsed the road map which outlines concrete actions countries should take to enhance safety and adopted [decision 2022/1 on Natech risk management in the UNECE region and beyond](#). The JEG has also supported the organization of international response exercises and promoted the exchange of information and awareness on accidental transboundary water pollution.

The CoP welcomed with appreciation the work carried out by the JEG. It endorsed the JEG activities for the 2023-2024 biennium and included these in its workplan for 2023-2024, such as the organization of the workshop on preventing accidental water pollution, early warning and alert systems, including identification and exchange of good practices and collection of examples of Natech accidents affecting transboundary waters. Slovakia, also a member of the JEG, volunteered to take the lead for the organization of the event and act as a host country following the CoP. The exchange of information and experience between the Contracting Parties and other interested stakeholders, particularly through joint seminars, workshops and meetings, will contribute to the capacity building of the experts dealing with industrial safety and prevention of water pollution, and to the implementation of [the 2030 Road map](#) and the [CoP decisions 2020/1 on mine tailings safety](#) and [2022/1 on Natech risk management](#).

### Workshop objectives and description

The 2024 JEG workshop will be a natural follow-up and build on the results [of the JEG seminar on emerging risks in accidental water pollution: focus on natural hazard-triggered accidents](#) (Budapest and online, 5 October 2022). Similar workshops were regularly organized since 2019.

The workshop aims to draw attention to environmental threats (e.g. TMFs, sludge ponds) that might pose a high risk to human health and the environment if not adequately dealt with, emphasize the importance of safety inspections and controls as a key to accident prevention, and study lessons learned, TMFs life cycle and the actual remediation of selected hotspots. Additionally, the workshop will provide a forum to identify and exchange good practices and examples of implementation of preventive and contingency measures that aim to minimize risks and the adverse impacts of accidents, as well as to share examples of actual natural hazard-triggered technological (Natech) accidents affecting transboundary waters. Finally, the workshop will further enhance cooperation between Contracting Parties to both the Water and Industrial Accidents Conventions and any other interested country.

TMF safety is closely intertwined with the prevention of accidental water pollution because the accidents at industrial facilities (e.g. leakages, dusting, radioactive waste and radon from open tailings) can cause severe damage and considerable water pollution within transboundary river basins. Watercourses have the potential to carry hazardous substances and tailings to very far distances up to coastal areas and the sea. Thus, one potential risk is the release of hazardous substances into the environment, which can have severe consequences for human lives, ecosystems and the environment.

### Target audience

The key audience includes government officials (including policy and decision makers) dealing with the prevention of, preparedness for and response to industrial accidents and accidental water pollution as well as transboundary cooperation, representatives of river basin organisations and operators, willing to improve their knowledge on TMFs safety and prevention of accidental water pollution, regulatory and legal framework in this area, the existing mechanisms on how to prevent, prepare and respond to water pollution from TMFs.

### Date, format and venue

The one-day workshop will be held in Bratislava, Slovakia, on 23 April 2024. The exact venue will be determined at a later stage by the lead Party Slovakia which is hosting the event. The workshop will be held in-person and online, with English-Russian simultaneous interpretation. A maximum of 50 participants can attend the workshop in person, while additional participants can attend online. In-person

participants are invited to join a reception at the end of the workshop day. Further details will be provided at a later stage.

Back-to-back with the workshop, an on-site visit to a nearby TMF may be organized in the morning of 24 April 2024, depending on available funding (tbc). In addition, a half-a-day meeting of the JEG will be held after the on-site visit (for JEG members only).

### Preliminary workshop agenda

9:30 – 10:00 **Opening by high level representatives** of: 1. Ministry of Environment of Slovakia, 2. Ministry of Foreign Affairs of Slovakia, 3. UNECE, 4. JEG Co-Chairs

10:00 – 11:00 **Session 1: International and national regulatory frameworks on tailings safety and the prevention of accidental water pollution and their practical application**

*The session will cover international and national legal and policy frameworks and how they address TMF hazards/risks and Natech risks. In particular, it will showcase the experience of countries from different regions in this respect and elaborate on multi-level cooperation between all stakeholders (national and local authorities, operators and the public) and national and local actions. The session will focus on the Industrial Accidents and Water Conventions, serviced by UNECE, their various tools and guidance materials. In particular, the session will address the following questions: How are the [Safety guidelines and good practices for tailings management facilities](#) (UN/UNECE, 2014) translated into local actions and operational measures? How do the countries apply the [Guidelines to facilitate the identification of hazardous activities for the purposes of the Convention](#) (UNECE, 2004)? How do countries apply nationally in their legislation international commitments, such as those resulting [from the 2030 UNECE Road Map on strengthening mine tailings safety \(2022\)](#) and [the related TMF Decision \(2020\)](#)? What are limitations or gaps of existing regulatory and policy frameworks?*

11:00 – 11:30 **Coffee break**

11:30-12:30 **Session 2: Role of transboundary basin organizations in the prevention and mitigation of accidental water pollution**

*Transboundary basin organizations are important players in building cooperation between riparian countries and improving governance of multi-sector and multi-hazard risks. Hence, the session will be dedicated to presenting information on how transboundary water bodies address challenges related to mining and accidental water pollution. Regular update of a basin-wide catalogue of hazardous industrial, abandoned and mining sites is an essential task to be accomplished for better preparedness, prevention and response to associated risks. In identifying the high risk potential accident hot spots the transboundary basin organizations are a proper platform for data sharing, exchange of experience, know-how transfer as well as joint and/or coordinated monitoring, planning and implementing measures by the riparian countries.*

12:30 – 14:00 **Lunch**

14:00 – 15:30 **Session 3: TMFs life cycle and monitoring/controls of TMFs, including early warning systems**

*The session will cover issues of aging of TMF constructions and instrumentation. It will discuss approaches for monitoring TMFs, including through space-born technology and*

*early warning systems, and present how to integrate the risk management processes into the company's management, its strategy and planning and reporting processes. As such, this part of the workshop will lay the foundations for another workshop planned for 2025, which will be specifically focused on early warning systems.*

**15:30 – 16:00 Interactive session 4: Discussion on financing of TMFs: operation, maintenance, supervision and reclamation**

*During this session the participants will be asked to reply to a number of questions using their mobile phone, such as: “What motivates investors to become more active players in TMF management?” or “Companies do not have direct financial return from the design, construction, operation and rehabilitation of the tailings management facilities, it may be tempting to assign insufficient managerial and financial resources to the design, operation, management and/or closure of tailings dams –, hence, how to avoid this situation?”. The responses to the questions will be shown live and are expected to stimulate the discussion.*

**16:00 – 16:30 Coffee break**

**16:30 – 17:00 Session 5: Tailings and water pollution risks and tools to mitigate them**

*Technological or natural hazards could lead to large scale accidents and water pollution. Adapting to climate change and managing the risks of natural and technological hazards in transboundary basins has become critical, as the frequency and intensity of extreme weather events are on the rise in the wake of the changing climate. Hence, the session will briefly cover the most pertinent risks, and approaches and methods used to decrease such risks, including risk assessment or modelling of industrial water pollution impact, or decontamination measures. It will also summarize the main outcomes of the workshop.*

**17:00 – 17:30 Closing remarks**

**18:30 Informal reception hosted by Ministry of Foreign Affairs and/or Ministry of Environment**