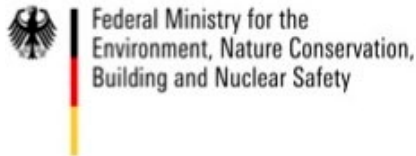


**Conference of the Parties to the Convention on the
Transboundary Effects of Industrial Accidents
Tenth meeting**



Geneva, 4–6 December 2018

**Report on the final workshop of the
project on Raising Knowledge among
Students and Teachers on Tailings Safety
and its legislative review in Ukraine
(Dnipro, Ukraine, 16–17 May 2017)**



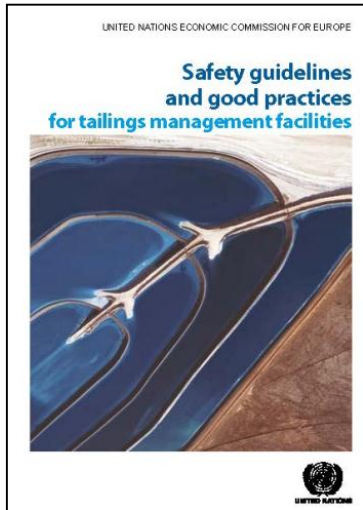
Prof. Dmytro Rudakov

**National Technical University “Dnipro
Polytechnic”, Dnipro, Ukraine**



Activities in this project are funded by the German Federal Environment Ministry's Advisory Assistance Programme (AAP) for environmental protection in the countries of Central and Eastern Europe, the Caucasus and Central Asia and other countries neighbouring the European Union. It is supervised by the German Environment Agency (UBA).

The base for the project



Improving the safety of industrial tailings management facilities based on the example of Ukrainian facilities (UBA project, 2013-2015)

Methodology to improve the safety of tailings management facilities (TMF Methodology) as a practical tool for the implementation of the UNECE Guidelines

TMF Methodology

“Tailings Hazard Index” (THI)

is intended for prompt preliminary evaluation of tailings hazard for the large number of TMFs

TMF Checklist

is developed for evaluation of the minimum TMF safety level

Raising Knowledge among Students and Teachers on Tailings Safety and its Legislative Review in Ukraine



Target country: Ukraine

Duration: 06/2016 – 11/2017

Funding and guidance: German Environment Agency

Beneficiaries: Ministry of Education and Science, Ministry of Ecology and Natural Resources

Implementing organisation: State Higher Educational Institution “National Mining University”, Dnipro

Results summarized at: Final Workshop held on May 16-17 2017 in Dnipro, Ukraine

Project Objectives

- **Raise the knowledge in the TMF safety among Ukrainian students in environmental and mining sciences and young university teachers dealing with education on environmental protection.**
- **Development of an educational course based on the TMF methodology**

Education



- **Improve the TMF safety level by addressing this issue on the legislative level in terms of how Ukraine fulfils its obligations under the EU-Ukraine Association Agreement, Directive 2006/21/EC on the management of waste from the extractive industries**

Legislative area



Trainings on Tailings Safety to Apply the TMF Methodology

**First Training
3–7 October 2016**

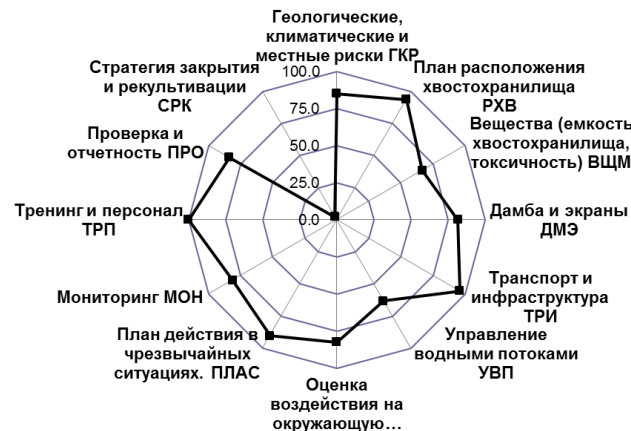
**Second Training
22–26 November 2016**

- Lectures on the TMF Methodology and Tailings Hazard Index
- Site visit to the TMF followed by filling in the TMF Checklist
- Presentation on TMF safety level evaluation



Training results

- Safety evaluation
- Testing of the Methodology
- Safety improvement program
- The on-line education course on TMF safety in the Moodle platform

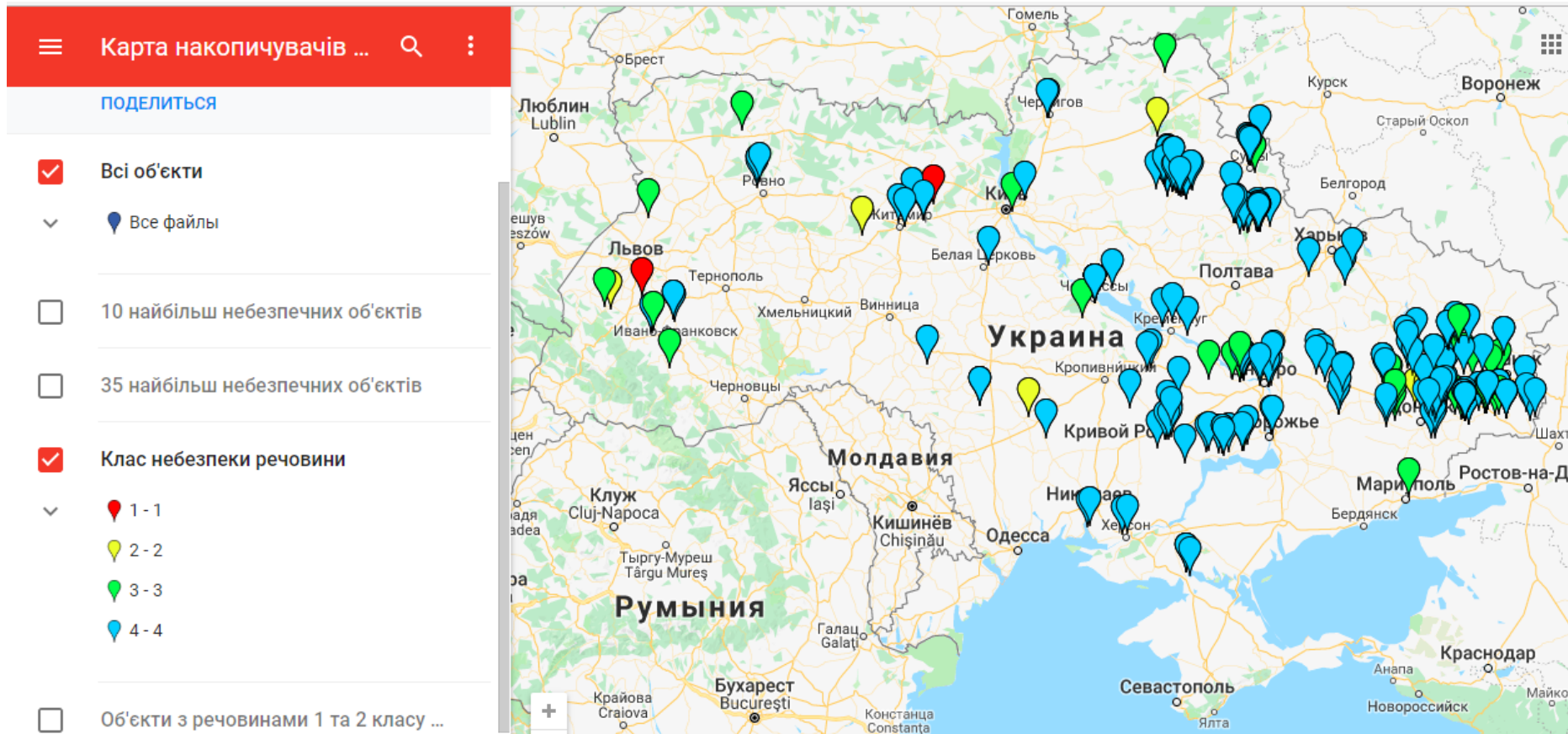


TMF safety level

Credibility 85%
Overall safety evaluation 77%

Mapping of TMFs in Ukraine

The map of 344 tailings facilities ranked by their hazard (tailings capacity and toxicity) has been created in **Google Map** and presented at Round Table for competent authorities (Kyiv, February 7, 2017) as a practical tool for implementation Directive 2006/21/EC provisions.



<https://www.google.com/maps/d/viewer?amp%3Busp=sharing&mid=1RFomCn9uKponcHnFrK3XG997AEU&ll=48.74972991354911%2C30.694941406249995&z=6>

Results of the legislative project component

gained in cooperation with the project subcontractor LLC Ecoplatform (Kyiv)

1

- The analysis of Ukrainian legislation compliance with the requirements of Directive 2006/21/EC on the management of wastes from extractive industries

2

- The Roadmap of Directive 2006/21/EC implementation through the instrumentality of UNECE Safety Guidelines and Good Practices for Tailings Management Facilities in the national legislation

3

- Recommendation of Round Table of competent authorities to use the amended Ukrainian version of the TMF Methodology for inspection bodies.

Thank you for your attention!

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Theoretical base for the project

THI is the **tailings hazard evaluation method** using five key parameters of TMF operation that clarify TMF capacity, material toxicity, status, natural/geological conditions and dam stability

$$THI_{Extended} = THI_{Cap} + THI_{Tox} + THI_{Manag} + THI_{Site} + THI_{Dam}$$

