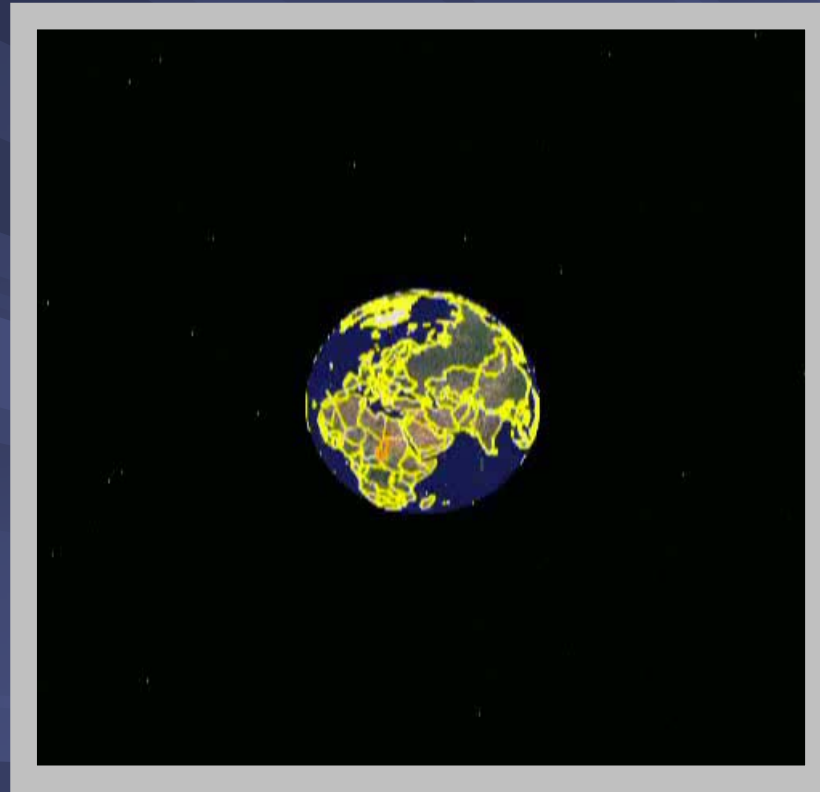


WORKSHOP ON THE SAFETY OF TAILING MANAGEMENT FACILITIES



Yerevan, Armenia
12–13 November 2007

SESSION III:

Discussion on the improvement of the guidelines



Safety Guidelines for Tailing Management Facilities

- **Principles**
- **Recommendations**
 - **UNECE-Parties**
 - **Competent Authorities**
 - **Operators**

Annex

Technical and Organizational Aspects



PRINCIPLES

7. **Governments should provide leadership** and create minimum administrative frameworks to facilitate the development and safe operation and decommissioning of the TMF
8. The **operators of TMF have primary responsibility** for ensuring safety of TMF and formulate and apply safety management procedures, as well as utilize technology and management systems to improve safety and reduce risks
9. TMF should be planned, constructed, operated and closed applying “case by case” or “**site by site**” approach, as a result of a different geological and hydro geological conditions
10. Only **competent personnel** should be engaged in the design, construction, operation/management, closure of TMF

PRINCIPLES

11. **Systems approach** to managing TMF safety should be acknowledged and the high-quality life-cycle “planning – construction – operation - closure” should be ensured
12. **Understanding of processes in the life-cycle** of a TMF should be developed at the design stage of TMF and it should be further refined through practice and simulations
13. The safety of TMF depends especially on **persons responsible** for tailing dams planning and design (and approval), operators, government inspectors, rescue services and professionals in closure and rehabilitation, they should be therefore **adequately trained**

PRINCIPLES

14. TMF should be operated on the basis of an **operation manual**
15. TMF should be classified depending on the **risk-hazard assessment**
16. **Land-use planning** considerations should be taken into account in view of TMF placing and indented post-operational use
17. For TMF which pose a potential risk to neighbouring communities and land-uses due to their size or presence of hazardous materials, **information to and involvement of these communities and individuals** should be ensured for the purpose of drawing up an emergency plan that the community understands.

II. RECOMMENDATIONS

20. **These guidelines constitute a minimum set of requirements to ensure a basic level of safety** for Tailing Management Facilities. They highlight all the aspects to be considered at the governmental level to achieve acceptable level of safety through applying different policies, measures and methodologies.
21. These guidelines should be read also in the **context of existing international guidelines, recommendations and standards** concerning tailing dams, and using internationally assessable information sources.
22. Below are recommendations to the UNECE member countries, competent authorities and Tailing Management Facilities operators. **The technical and organizational aspects, listed in the annex, are an integral part** of these guidelines and good practices.

A. Recommendations to UNECE member countries

23. UNECE member countries should **designate competent authorities at the national, regional or local level** that are given access to the necessary competences for the tasks foreseen in these recommendations.
24. UNECE member countries should initiate a **national inventory of closed, abandoned or orphaned TMF** that may constitute a risk to human health or the environment.
25. **National inventories** of closed, abandoned or orphaned TMF should consider both **current impacts and risks for future** acute (accidents and spills) or long term (leaching) negative effects.....

B. Recommendations to competent authorities

- 27.** Competent authorities should **verify** the TMF **monitoring** performed by the operator
- 28.** Competent authorities should **ensure** that TMF **operators develop internal emergency plan** and provide necessary information and cooperate on **preparing external plans**
- 29.** Competent authorities shall **develop emergency plans** in association with community groups, local authorities and rescue services and apply them off-site TMF in case of major accidents
- 30.** Competent authorities should **ensure that external emergency plans are reviewed, and tested periodically** and where necessary, revised and updated

B. Recommendations to competent authorities

31. Competent authorities should **apply methodologies for risk assessment and identification** at the closed, abandoned or orphaned TMF using a step by step approach, starting with a basic screening of sites, whereby resources are gradually directed towards sites with the highest risks.
32. Based on the risks identified, competent authorities should **make plans for risk reduction measures and/or monitoring (early warning)** for the closed, abandoned or orphaned TMF
33. Competent authorities should **train the inspectors** on the ongoing basis, ...
34. The **non-mining professionals** dealing with EIA and land-use planning should be **trained on the tailing issues**

B. Recommendations to competent authorities

35. Competent authorities should **encourage and engage in a “train the trainers” programme** the existing educational institutions so that they reach the necessary capacities for training the company and government staff. Where possible, use can be made of **international training programmes** offered by various national and UN institutions.

C. Recommendations to TMF Facilities Operators

36. All TMF should have an **operating and management plan that is available to all personnel and to government inspectors**. All documents relating to planning, design and construction should be maintained in an accessible way, with records kept permanently for reference at the future time.
37. TMF operator should **regularly monitor** the TMF (maximum capacity/freeboard, pore pressure, groundwater level, functioning of the drainage system, surface water diversion, dam movements and slope stability) ...
38. TMF operators should **draw up and implement internal emergency plans and apply** them inside TMF whenever major accidents occurs or uncontrolled event occurs could lead to a major accident

C. Recommendations to TMF Facilities Operators

39. TMF operators should **review, test, revise and update periodically the internal emergency plans**
40. TMF operators should **cooperate with competent authorities** in preparing the external emergency plans
41. TMF operators should **train their personnel**, reinforce and revise personnel's knowledge on safety

Annex

Technical and Organizational Aspects



Annex

Technical and Organizational Aspects

I. PRE-CONSTRUCTION AND CONSTRUCTION

II. OPERATION AND MANAGEMENT

III. INSPECTIONS

IV. EMERGENCY PLANNING

I. PRE-CONSTRUCTION AND CONSTRUCTION

1. Licensing

2. Environmental Impact Assessment and Land Use Planning

3. Dam Safety

4. Hazard/Risk Assessment

II. OPERATION AND MANAGEMENT

- 1. Management**
- 2. Education and training of personnel**
- 3. Management of abandoned sites**

III. INSPECTIONS

- 1. Facility inspections**
- 2. Education and training for inspectors**
- 3. Inspections of abandoned sites**

IV. EMERGENCY PLANNING

1. General Aspects
2. Internal emergency planning
3. External emergency planning
4. Emergency planning for abandoned sites

Next Steps

- **Steering Group of TMF Experts**
- **Comments from UNECE-Countries**
- **5th CoP/MoP**
“UNECE Safety Guidelines for TMF”

