



UNITED NATIONS
ОРГАНИЗАЦИЯ ОБЪЕДИНЕННЫХ НАЦИЙ

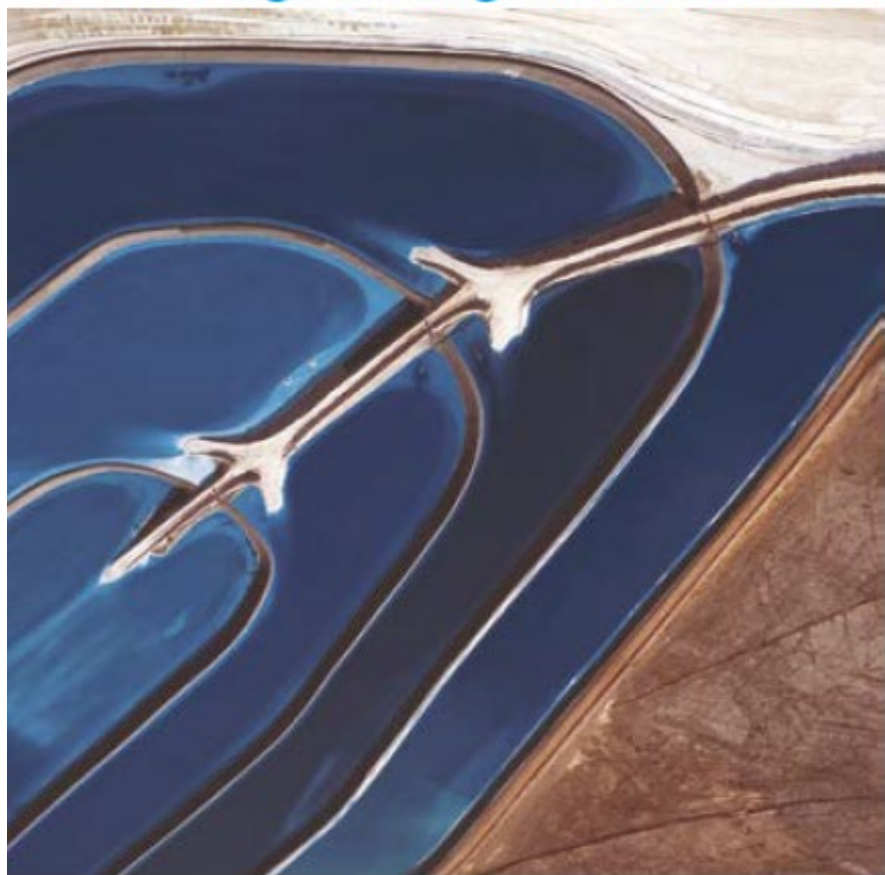
UNECE Safety guidelines and good practices for tailings management facilities



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Astana, 8.11.2018



Safety guidelines and good practices for tailings management facilities



Руководящие принципы и надлежащая практика обеспечения эксплуатационной безопасности хвостохранилищ



Why Safety Guidelines?

- Recent history confirms hazards and risks of TMFs
- Impacts of accidents have international consequences
 - Direct by human losses and environment pollution
 - Secondary by social disturbance, loss of confidence and opposition to mining activities
 - Widely by the loss of general industry reputation and by influencing national strategies
- Tailings involve complex problems and experience is costly – then we use collective international experience and knowledge
- Environment and safety are global issue

Awareness of TMF safety importance:

- Tailings should be changed from „Black swans“ and „Grey Rhinos“ to well understood phenomenon, to be controlled and their safety managed

Knowledge is the basement of safety

- Unknown / unknown hazards

Which types of uncertainty we have in hazard knowledge?

Recognition / understanding

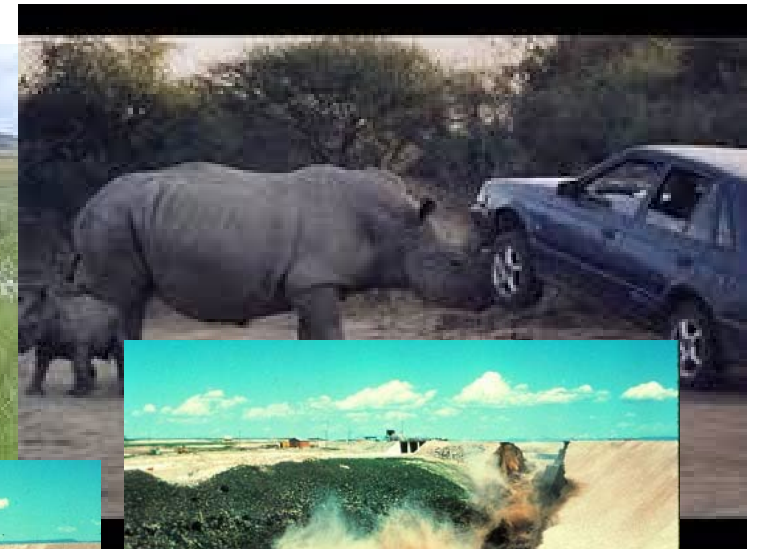
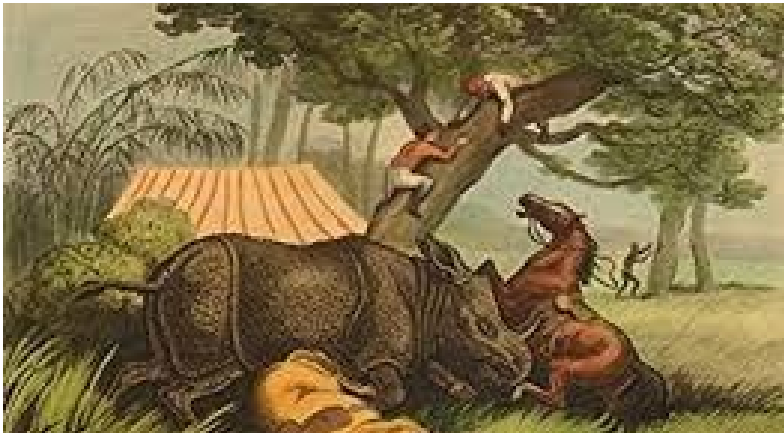
- Known / known hazards
- Known / unknown hazards
- Unknown / unknown hazards



Tailing accidents are not black swans but grey rhinos

What are grey rhinos?

- We know the problem, we even understand that it may be serious, but we underestimate how much and that it may hit us



Grey Rhino at
Teton Dam,
1976



The main objective of the UNECE Safety guidelines and good practices for tailings management facilities is to share internationally knowledge how to deal with TMF risks and to profit from lessons learned by others.

Then, Guidelines are living document which may be improved by you as well.

Philosophy of Guidelines:

- Justice in safety
- Advanced risk management principles applied
- Priorities setting
- All crucial stakeholders involved
- Whole life cycle of tailing facilities
- Both prevention and preparedness steps involved
- Technical and organizational aspects involved and combined
- Continual improvement and education
- Information support (bibliography) for advanced TMF risk management

All crucial stakeholders involved in Recommendations (Chapter A.3)

- Member countries (policy setting, legislation)
- Competent authorities of MC
- Inspection
- Management of TMF
- Staff and operators
- General population (according Aarhus Convention)

Whole life cycle of TMF covered;

- Planning
- Sitting
- Licencing
- Standard operations
- Closure and rehabilitation
- Abandoned TMF and „orphans“
- Accidents management
- Time horizon in centuries

Structure of Guidelines:

PART A – INTRODUCTION, PRINCIPLES

- Chapter A.1 Introduction
- Chapter A.2 Safety principles for tailings management facilities
- Chapter A.3 Recommendations
 - Recommendations to member countries
 - Recommendations to competent authorities
 - Recommendations to tailings management facility operators

Structure of Guidelines II:

PART B – TECHNICAL AND ORGANIZATIONAL ASPECTS

Chapter B.1 Pre-construction and construction

- Licensing
- Environmental impact assessment and land-use planning
- Hazard identification and risk assessment
- Dam safety

Chapter B.2 Operation and management

- Management
- Education and training of personnel
- Education and training of inspectors

Chapter B.3 Facility inspections

Chapter B.4 Identification, assessment and management of abandoned sites

- Assessment of and priority tasks for abandoned sites
- Management of abandoned sites

Chapter B.5 Emergency planning

- Internal emergency planning
- External emergency planning
- Emergency planning for abandoned sites

Emergency: What is needed in the case of accident ?
How we will react? Who is in danger? Warning exists?



Conclusions

- UNECE Safety guidelines and good practices for tailings management facilities are useful tool for experience transfer and knowledge sharing
- General principles or risk management are employed
- Guidelines are harmonized with international strategies as UNISDR Sendai Framework, UNEP APELL, OECD Guiding principles for chemical accident safety etc.
- Experience has shown, that the implementation is more effective when experienced external experts assist

Thank you for the attention

