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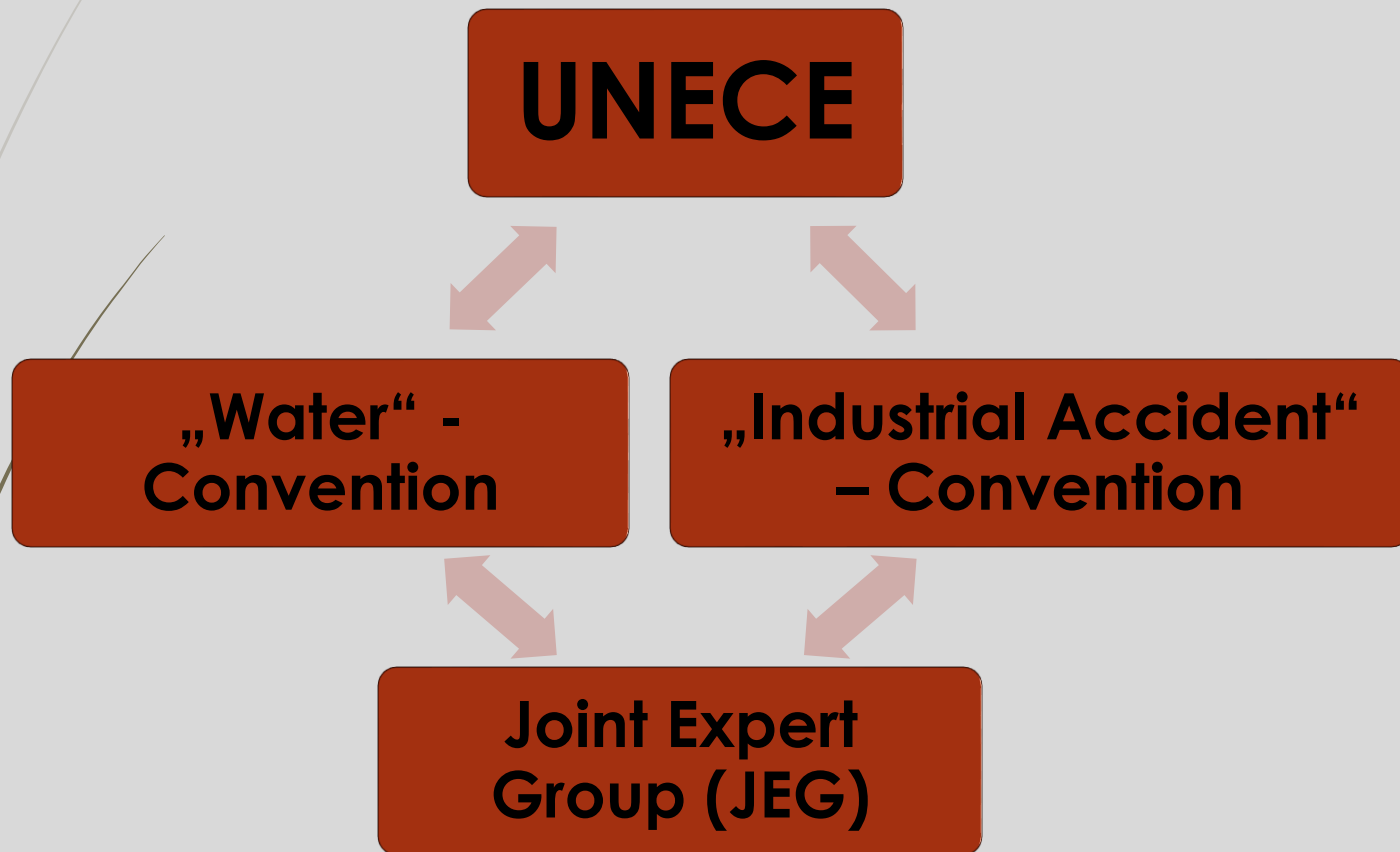
Federal Environment Agency

Dessau, Germany



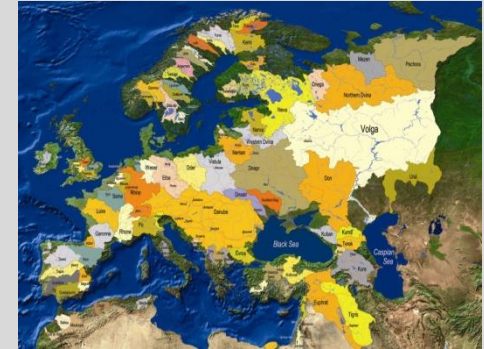
Prevention of accidental water pollution

UNECE Joint Expert Group (JEG)



Why JEG is important ?

→ **Water Accidents > 95 %
of all transboundary accidents !!**



Water and IAs Convention provide the legal framework for addressing the risk of transboundary water pollution arising from IAs

Lessons Learnt!

- Water accidents can lead to the complete loss of an aquatic ecosystem!
 - Accidents are extremely costly!
 - Safety is the most cost-effective way to run hazardous activities!
- Safe operation of hazardous facilities is economically and ecologically a **must**

- A minimum set of requirements to ensure a basic and harmonized level of safety for hazardous activities
- A common understanding of safety approaches and standards for specific sectors
- Assistance of national authorities and operators in ensuring an adequate safety level by means of trainings and seminars

Tools & Products

Top → Down

Safety Guidelines &

Bottom → Up

Checklists

JEG - Tools and Products

→ Safety Guidelines

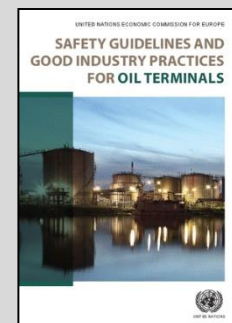
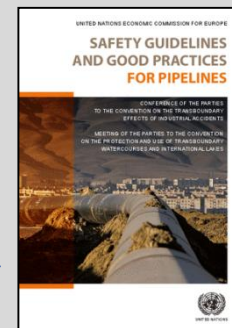
Accepted Good Practice
Procedures to ensure Conformity
with International Standards

→ Pipelines

→ Tailings Management Facilities

→ Oil-Terminals

→ Fire-Water Retention



JEG - Tools and Products

→ Checklists

Tools for Assistance (i.e. Training) of national authorities and operators in ensuring an adequate Safety Level

- Waterendangering Facilities
- Hazardous Industries (Seveso)
- Contingency Planning
- Tailings Management Facilities



JEG Activities 2017 -2018

- **2 Regular JEG Meetings**
- **4 Meetings of the Expert Group to develop the “Safety Guidelines for Fire Water Management and Retention”**
- **2 Transboundary Exercises (Odra, Danube)**
- **2 Technical Assistance Projects**

JEG Workplan 2017 -2018

1. Technical Assistance Projects to the Safety of TMF

- Cooperation with Universities, Ukraine, 2017
- TMF-Safety in Armenia and Georgia, 2018



2. JEG Cooperation with International River Commissions

2 Transboundary Exercises

- ICPO, Odra, Slubice, 2017
- ICPDR, Danube, Hungary 2018



3. Safety Guidelines for Fire Water Management and Retention



3. Safety Guidelines for Fire Water Management and Retention

Conclusion after the Joint UNECE Seminar to the 25th anniversary of the Sandoz accident (Bonn, 2011):

- Sufficient safety measure to prevent transboundary waters from spills of fire water are still not in place, endangering whole River Catchments, and demonstrating the need for a Strategy/Guidance to Fire Water Retention!
- Mandate to JEG by the 9th CoP



Guidelines/Best Practices for Fire Water Management and Retention

- Fire-Water Retention is a major element according to EU Seveso III Directive, in Annex II, Point 5., to restrict the effects of major accidents
- However nearly no EU country has specific regulations for Fire-Water Retention
- Non-EU countries, only Switzerland has developed a specific Guidance document



Guidelines/Best Practices for Fire Water Management and Retention

Part 1

Principles & General Recommendations

- UNECE-Parties
- Competent Authorities
- Operators



Guidelines/Best Practices for Fire Water Management and Retention

Part 2

Technical and Organizational Safety Aspects



Key Elements for Fire Water Management and Retention

1. Governments should provide leadership and create suitable **administrative and legislative frameworks**
2. The need for fire-fighting water management and retention is necessary **at all hazardous activities** (i.e. not only restricted to storage)
3. Fire-Fighting water is **dangerous to waters irrespective of the burned material** (even burned packaging material is contaminating fire-fighting waters to a water-endangering fluid)
4. Fire-Fighting water might not contaminate waters and soil and must be **retained completely and disposed adequately.**
5. Fire compartment areas have to be **as small as possible**

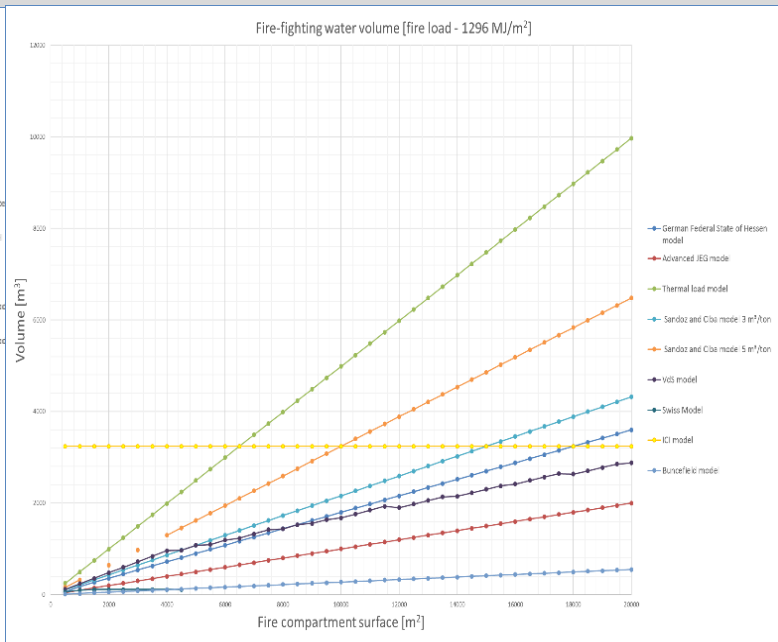
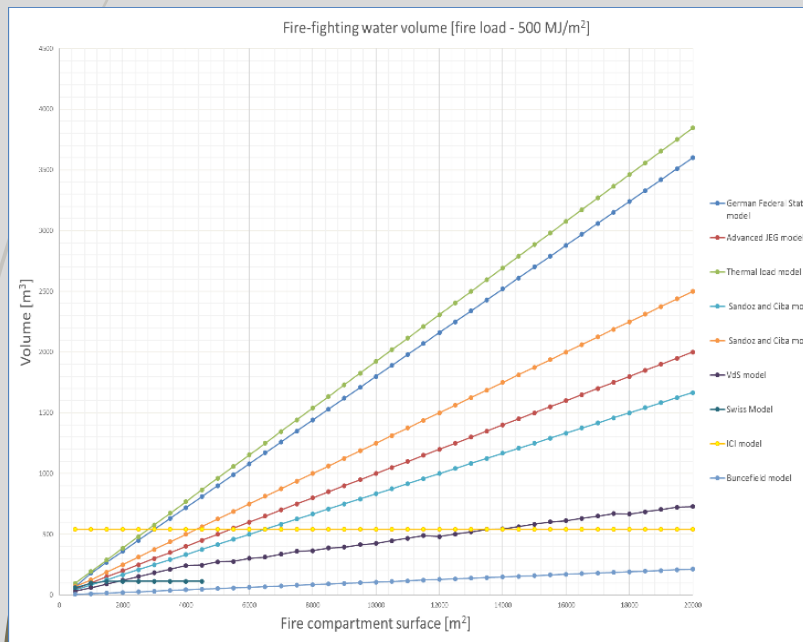
Dimensioning of Fire Water Retention

1. Several complex Models are available (German Insurance Companies (VdS 2557) or the Swiss Guidance for fire-water retention) which can serve as examples for **industrialized countries**
2. For **less industrialized countries** a rough and fast estimation according to a direct proportionality of the firewater retention volume needed to the largest fire-compartment area can be assumed (JEG-model resp. advanced JEG-Model)

Calculation of Fire-Water Retention-Volume according to different Models

Fire-Load $\sim 500 \text{ MJ/m}^2$

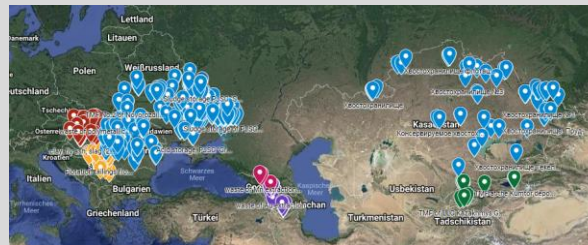
Fire-Load $\sim 1296 \text{ MJ/m}^2$



Outlook

JEG Workplan 2019 -2020

1. **Supporting existing Safety Guidelines with Checklists**
 - Pipelines (Belorussia?)
 - Oil-Terminals
 - Fire Water Retention
2. **JEG Cooperation with International River Commissions**
 - Transboundary Exercises
 - Testing the Checklist on Contingency Planning (ICPDR)
3. **Establishing the TMF-Methodology within the UNECE-Region**
 - TMF Pilot-Project with Kazakhstan/Kyrgistan (2020?)
 - TMF Pilot-Project within the Danube-Region (2019)



Thank you for your Attention!

