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Federal Environment Agency



UNECE Technical Assistance Project

Riskmanagement for the Danube Delta



Danube Delta



Deep Water Horizon

Safety Guidelines for Oil Terminals

International
Expert Group
2012 - 2013



Fire on Tanker – Germany, March 2011

Danube Delta Project

for

improving hazard and crisis management in
and between

Moldova, Ukraine and Romania

in cooperation with

**UNECE Convention on the Transboundary
Effects of Industrial Accidents**

Danube Delta Project

Effective cross-border cooperation on industrial safety is crucial, particularly when hazardous industry is located at transboundary watercourses.

Example: Oil Terminals in the Danube Delta



Danube Delta Project

Project to jointly work on:

- I. **Hazard management**
(prevention of industrial accidents, identification of hazardous industry)

- II. **Crisis management**
(response to accidents, warning systems)

- III. **After-care**
(evaluate joint response, lessons learned)

Phase I – Hazard management

In the first phase the project aims at:

- > harmonising procedures on prevention and safety standards
- > drafting an agreement on hazard and crisis management
- > **drafting safety guidelines for oil terminals (to be used by the whole UNECE region)**
- > training of inspectors



UNECE

Safety Guidelines for Pipelines

Principles & Recommendations

- UNECE-Parties
- Authorities
- Operators
- Technical Annex



Safety Guidelines/Best Practices for Pipelines

ECE/CP.TEIA/2006/11 – ECE/MP.WAT/2006/8

ANNEX

- **Design and Construction**
- **Pipeline Management System**
- **Emergency Planning**
- **Inspection**
- **Hazard/Risk Assessment and Land Use Planning**



UNECE Activities 2006 – 2008

Safety Guidelines for Tailing Management Facilities (TMF)



Safety Guidelines for Tailing Management Facilities (TMF)

I. Principles & II. Recommendations

- UNECE-Parties
- Authorities
- Operators
- Technical Annex



Hungary 2010,
Toxic Ajka alumina red sludge spill

Annex

Technical and Organizational Aspects

- **PRE-CONSTRUCTION AND CONSTRUCTION**
 - Dam Safety
 - Hazard Assessment
- **OPERATION AND MANAGEMENT**
 - General Management Aspects
 - Education and training
- **INSPECTIONS**
 - Facility Inspections
 - Inspections of Abandoned Sites
- **IDENTIFICATION, ASSESSMENT AND MANAGEMENT OF ABANDONED SITES**
- **EMERGENCY PLANNING**
 - Internal Emergency Planning
 - External Emergency Planning

Safety Guidelines for Tailing Management Facilities

Steps:

1. International Steering Group of TMF Experts

→ Draft “Safety Guidelines for Tailing Management Facilities”

based on: “Management of tailings and waste rock” (BRef-document EIPPCB, July 2004)

2. UNECE WORKSHOP

“SAFETY OF TAILING MANAGEMENT FACILITIES”

Yerevan, Armenia, 12–13 November 2007

3. Site-Visit to TMF

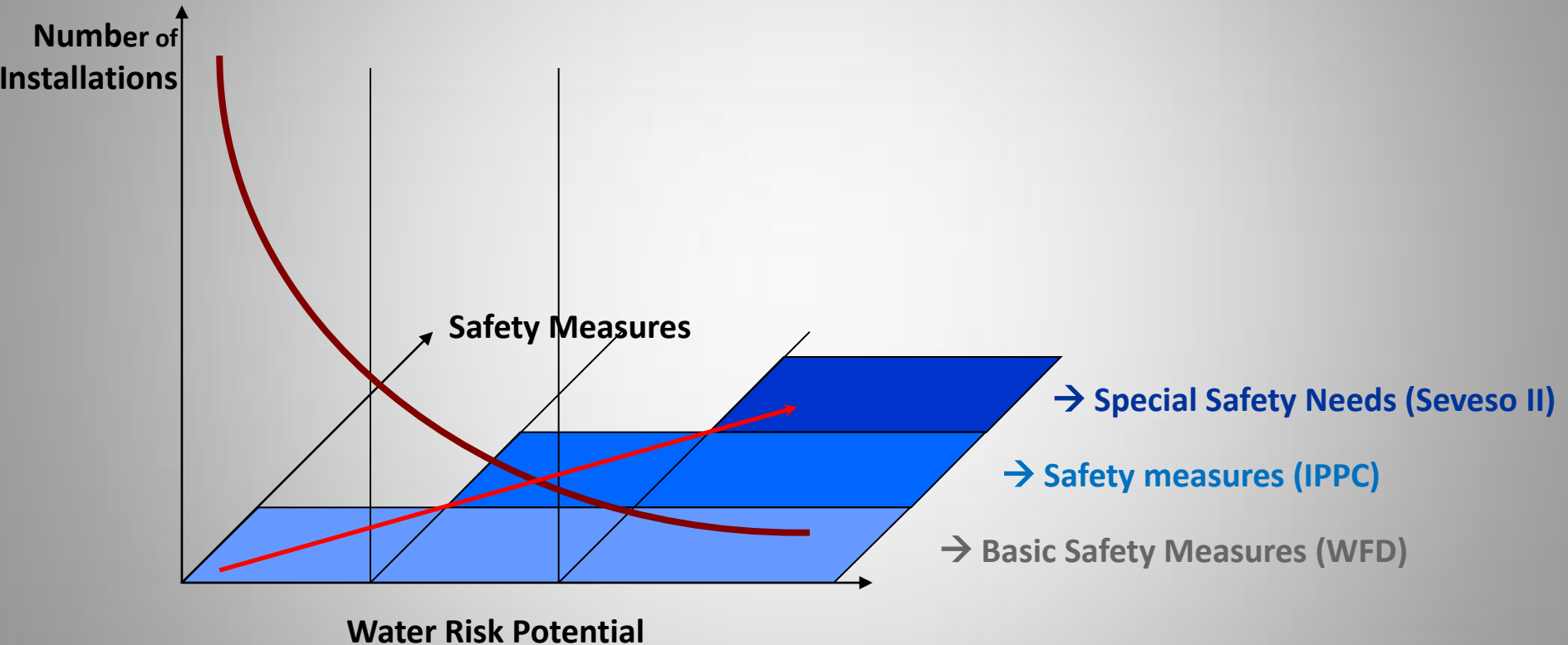
Ararat (Armenia), 14 November 2007

4. Comments from UNECE-Countries

→ Final Draft to be endorsed at the 5th CoP



Risk-Proportional Safety Measures



Safety Measures

Basic Safety Measures

(WFD, Art.11; 3 I)

Safety Measures

- WFD (Art. 11, 2)
- SEVESO- II (Lower Tier)
- IED (BRef)

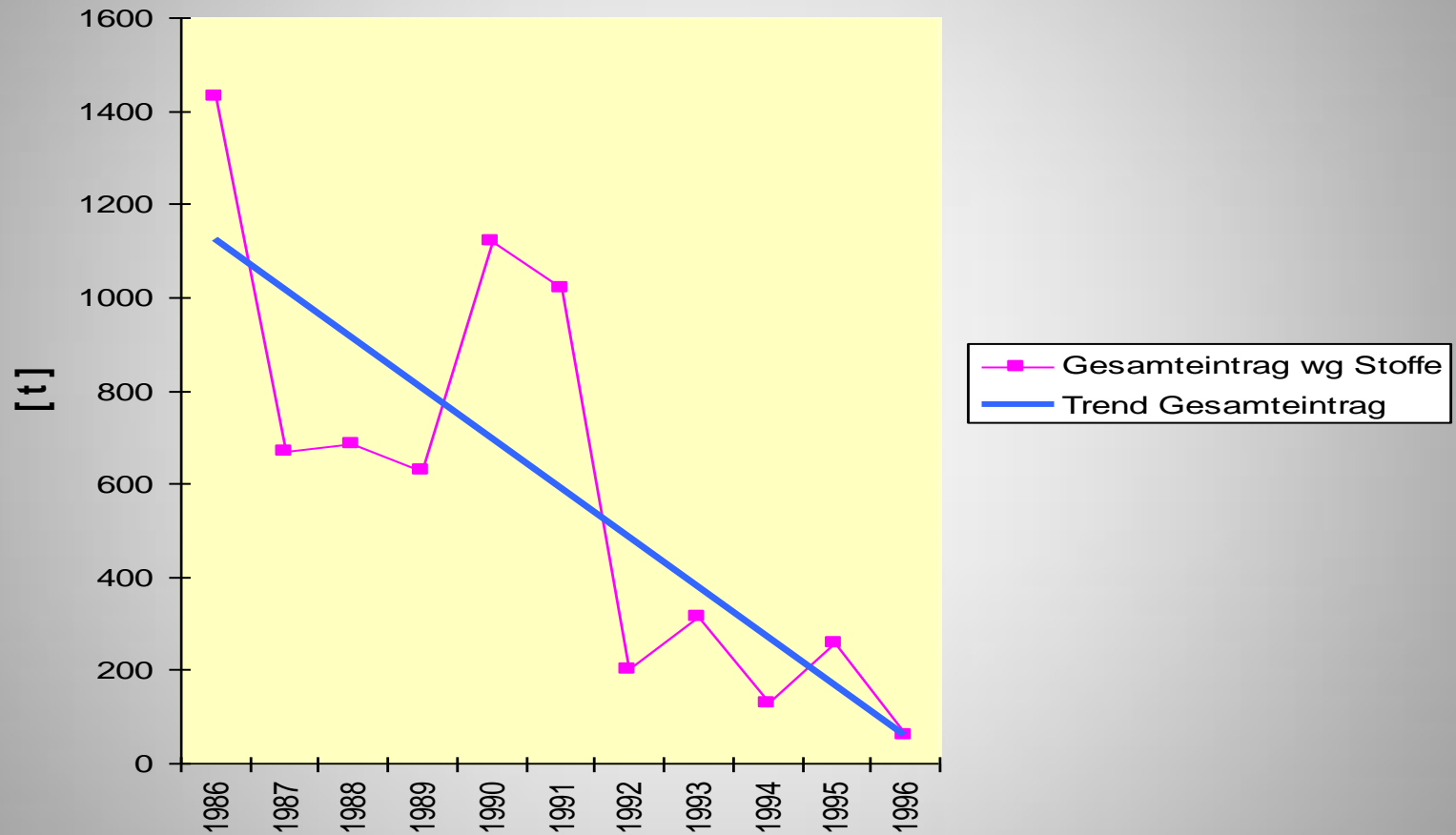
Special Safety Requirements

- SEVESO- II (Upper Tier)

Sandoz 1986



Hazardous Impact – Rhine



Safety Recommendations



Risk Areas

(Contaminated Sites, Tailing
Dams i.e.)

Branches

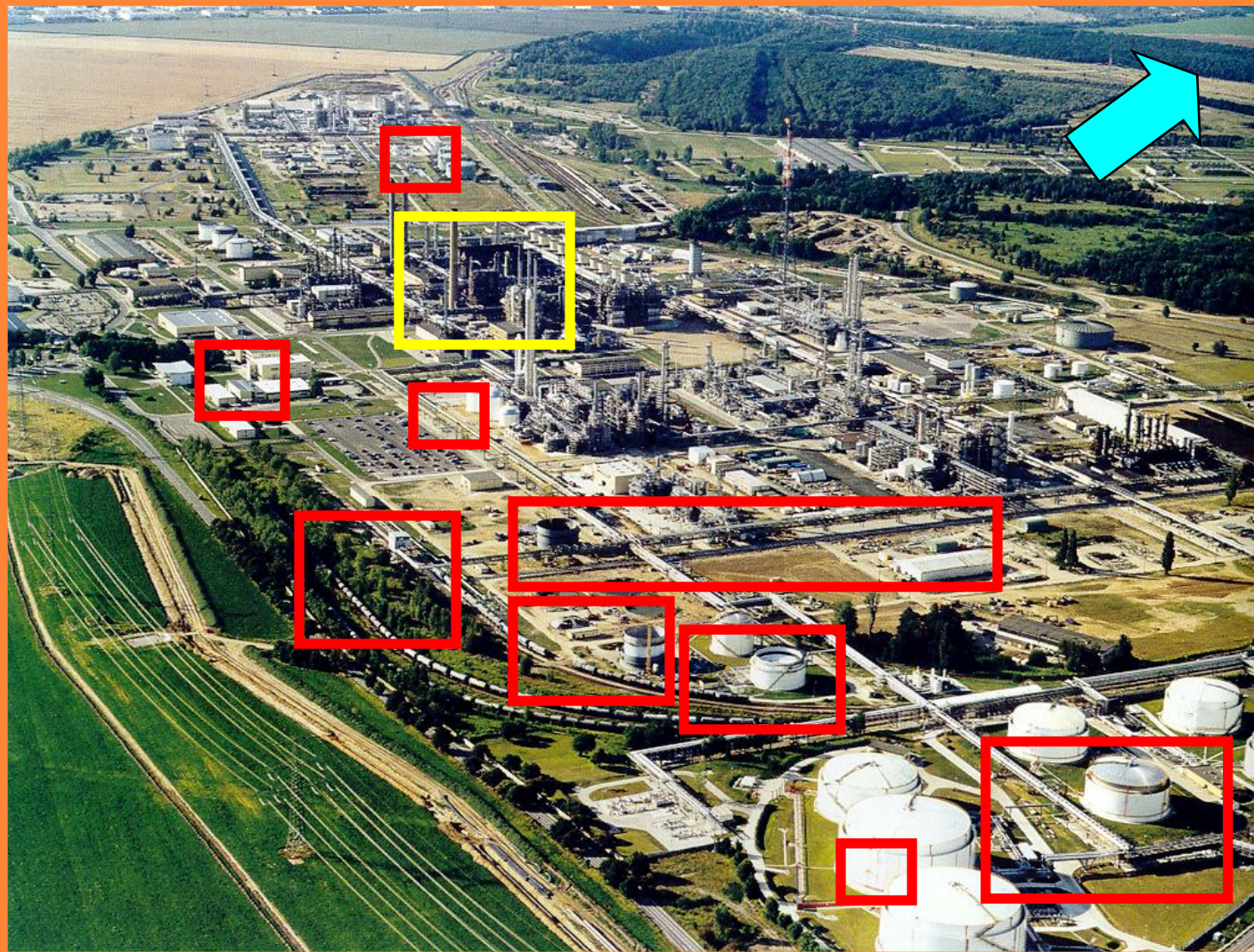
(Refineries, Pulp & Paper
i.e.)

Functional Units

(Storage, Transhipment, Fire
Fighting i.e.)

River Commission	Recommendations - Title	Year of Publication
ICPR	<ul style="list-style-type: none"> - Definition of water polluting substances - Permission proceedings / Authorization process - Overflow safety systems - In-plant pipeline safety - Joint storage - Sealing systems - Split-flow wastewater containment - Transshipment - Fire prevention strategy - Plant monitoring - On-site Contingency Planning 	1992 – 1998
ICPE	<ul style="list-style-type: none"> - Recommendation on retaining the fire extinguishing water - Recommendation on how to improve the strategies and techniques to fight accidents jeopardising the Elbe River water purity - Recommendation on the basic outline of safety reports in context of the waters at risk - Company early warning and emergency plans – recommendation - Requirements for facilities handling substances hazardous to the water quality in flood prone or back water areas – recommendation - Overflow policies – recommendation - Organizational measures and material technical requirements for fighting accidental pollution by floating substances hazardous to water quality – recommendation - [Operating measures after incidents including water hazardous substances] - On-site Pipeline safety – recommendation - Basic requirements for technical facilities handling substances hazardous to water quality – recommendation - Recommendation for facilities used for the storage of harmful substances 	1993 1994 1996 1997 1998 1999 2000 (2000) 2001 2002 2004
ICPDR	<ul style="list-style-type: none"> - Recommendation safety requirements for contaminated sites in flood-risk areas - Recommendations on the Safety of Refineries - Safety recommendations for contaminated sites 	2001 2007 2007
ICPO	<ul style="list-style-type: none"> - Requirements for facilities handling substances hazardous to the water quality in flood prone or back water areas – recommendation 	2005
ICSMS	<ul style="list-style-type: none"> - Recommendation to the member states of the IKSMS for preventive measures for storage of oil and hydrocarbon in back water areas 	1995
UN ECE JEG	<ul style="list-style-type: none"> - Safety Guidelines and Good Practices for Pipelines - Safety Guidelines and Good Practices for Tailing Management Facilities 	2006 2008
Kura-river basin	<ul style="list-style-type: none"> - Safety of Tailing Dams – Recommendations - Safety recommendations (Check lists) for controlling the shutdown of dangerous industrial establishments: <ul style="list-style-type: none"> - permanent dosing down - temporary dosing down 	2006 2006
Neman	<ul style="list-style-type: none"> - Safety Recommendations for Pulp & Paper Industries 	2006

Hazard Management

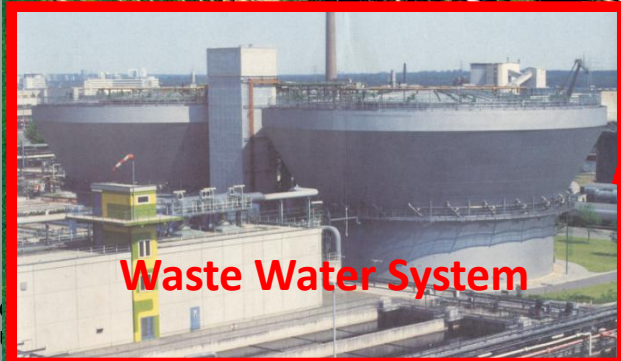
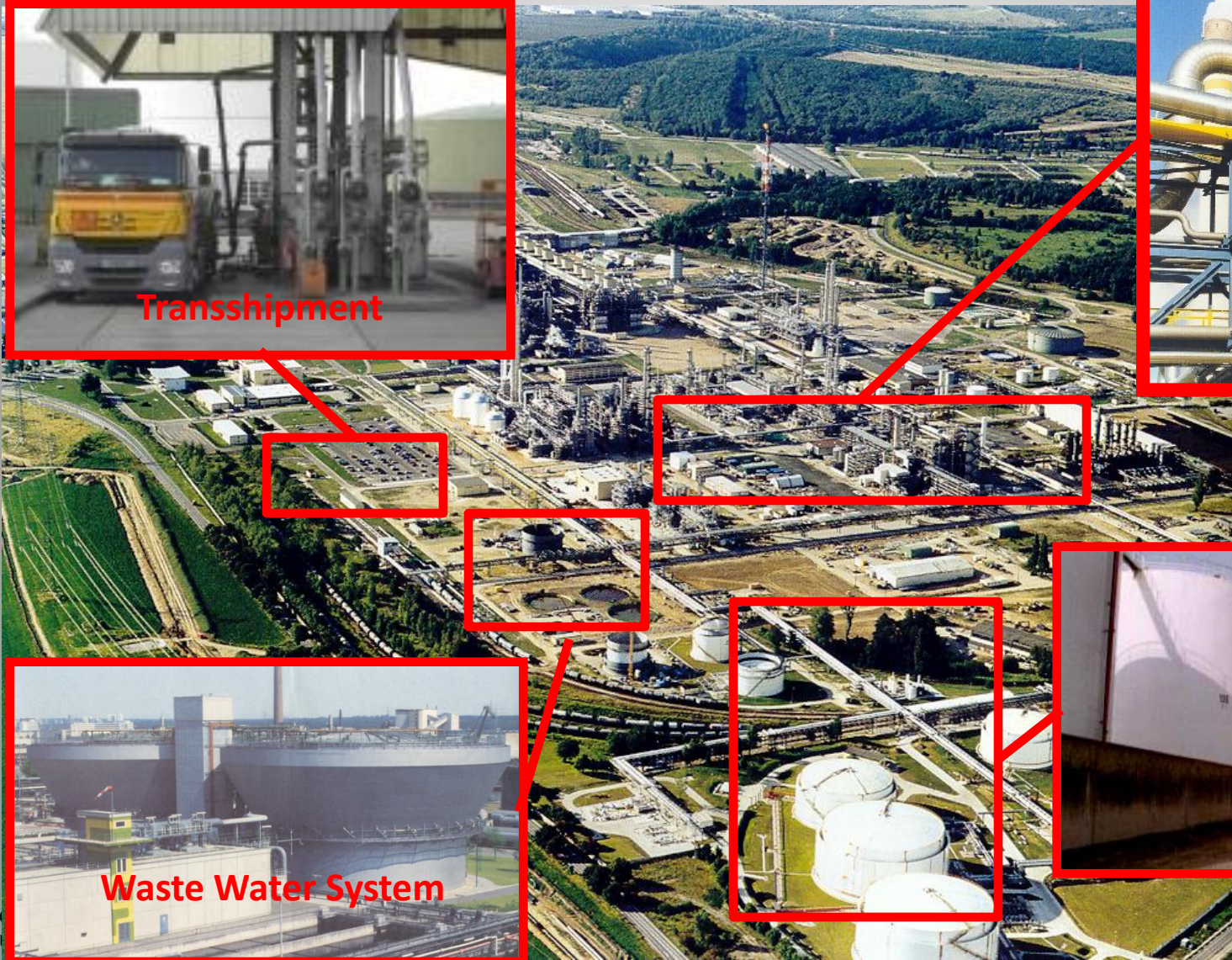
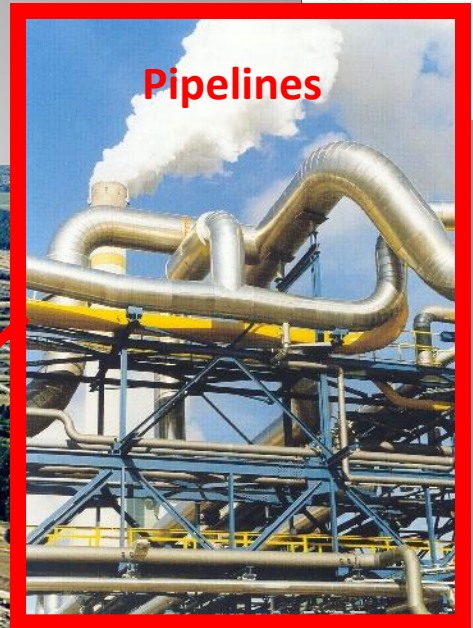


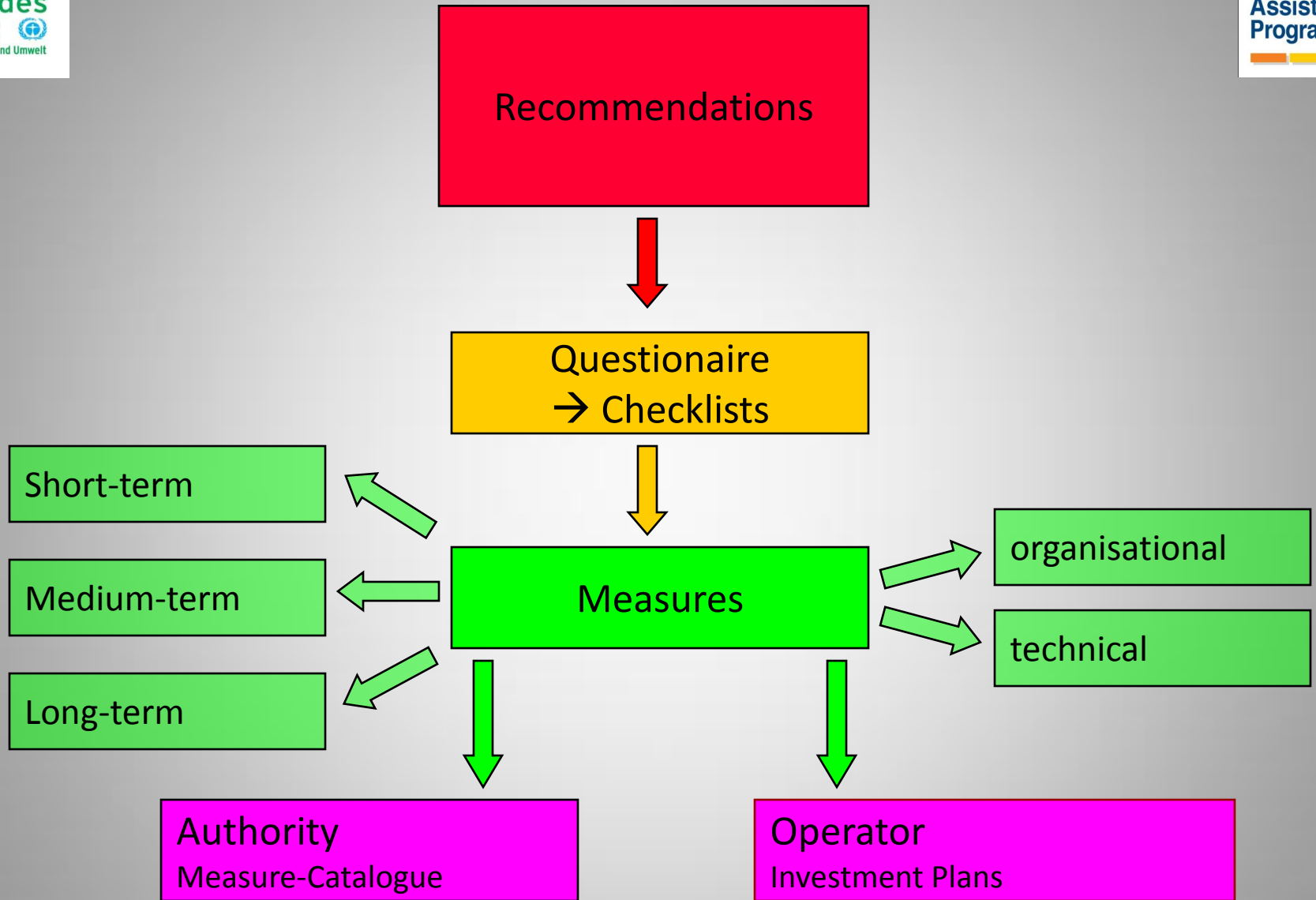
**Functional
Units**

**Risk
Areas**

Branches

1. Step: Functional Units of the Installation





Контрольные списки



Федеральное ведомство по окружающей
среде
Федеративная республика Германии

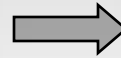
№ 2 Устройства, предотвращающие переполнение

для изучения и
оценки
состояния
промышленных
объектов,
имеющих
вещества,
представляющие
опасность для
воды



Methodology: Checklists according to safety recommendations of Joint River Bodies

Recommendations
Рекомендация



Checklists
Чек- листы



**Legally Binding
Guidelines**
**законодательно-
обязательные
руководства**



Living Document
«живой документ»

Training Programmes for Inspectors

Basic Safety Measures

Objektive

Training on the site

27 – 29 September 2011

- Oil Terminal, Galati, Romania
- Oil Terminal, Giurgulesti, Moldova



Safety Guidelines for Oil Terminals

Principles & Recommendations

- UNECE-Parties
- Authorities
- Operators

Technical Annex

- Basic Safety Measures
- Advanced Safety Measures



Safety Guidelines for Oil Terminals

TECHNICAL ANNEX

- **Design and Construction**
- **Functional Units**
- **Management System**
- **Emergency Planning**
- **Inspection**
- **Hazard/Risk Assessment and Land Use Planning**

Thank You for Your Attention

