



# Identification of Hazardous Activities with transboundary impact – location criteria



UNECE Convention on the Transboundary Effects of Industrial Accidents

**Assistance Programme**





# Convention on the transboundary effects of industrial accidents

## Identification of hazardous activities

### Article 4. paragraph 1 of the Convention

The Party of origin shall take measures to identify hazardous activities within its jurisdiction.

Guidelines to facilitate the identification of hazardous activities for the purposes of the Convention (Guidelines for Location Criteria) (decision 2000/3 in ECE/CP.TEIA/2, annex IV)





# Location Criteria

## In which locations should we look for hazardous activities ?

### Air path:

Within 15 kilometres from the border for activities involving substances that may cause:

- fire or
- explosion or
- release of toxic substances into the air in the case of an accident





# Location Criteria

## Water path:

Along or within catchment areas of transboundary and border rivers, transboundary or international lakes, or within the catchment areas of transboundary groundwaters for activities involving:

- Toxic substances (category 4 of part I of Annex I)
- Very toxic substances (category 5 of part I of Annex I)
- Oxidizing substances (category 6 of part I of Annex I) and
- Substances dangerous for the environment (category 8 of part I of Annex I)

that may be released into watercourses in the event of an accident causing transboundary effects (path from activity to water course).



# Principles for using location criteria – air path

- Which scenarios are relevant for identification in the scope of first location criteria (air path)?
  - Fire (thermal exposure)
  - Explosion (thermal and pressure exposure)
  - Releasing of toxic substances into the air



# Relevant scenario



**DISCHARGE**

**DISPERSION**

**EXPOSURE (HEAT, PRESSURE AND TOXICITY)**





# FIRE scenario: example natural gas

## Thermal radiation





# EXPLOSION scenario: example

LPG

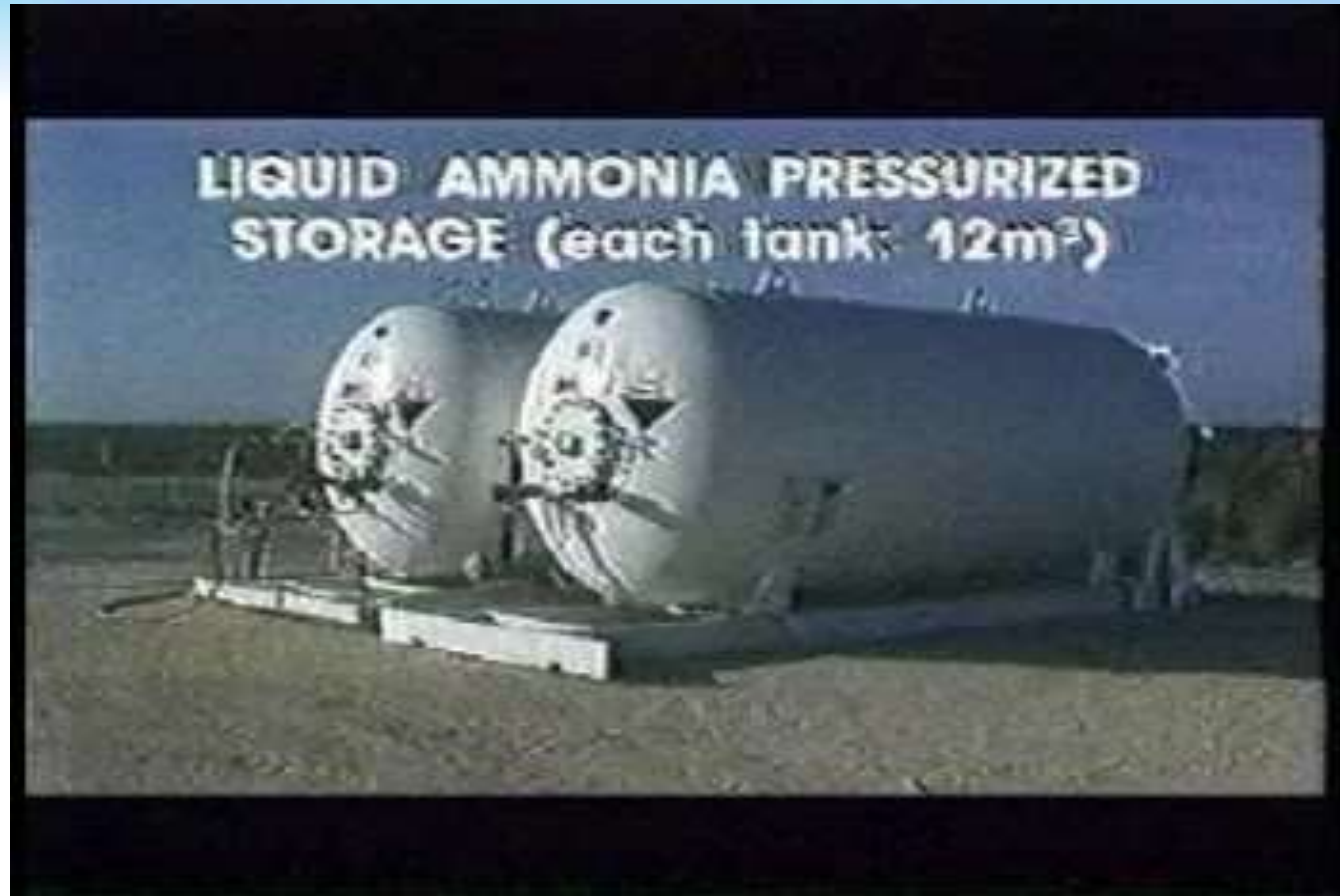
Thermal radiation and  
overpressure



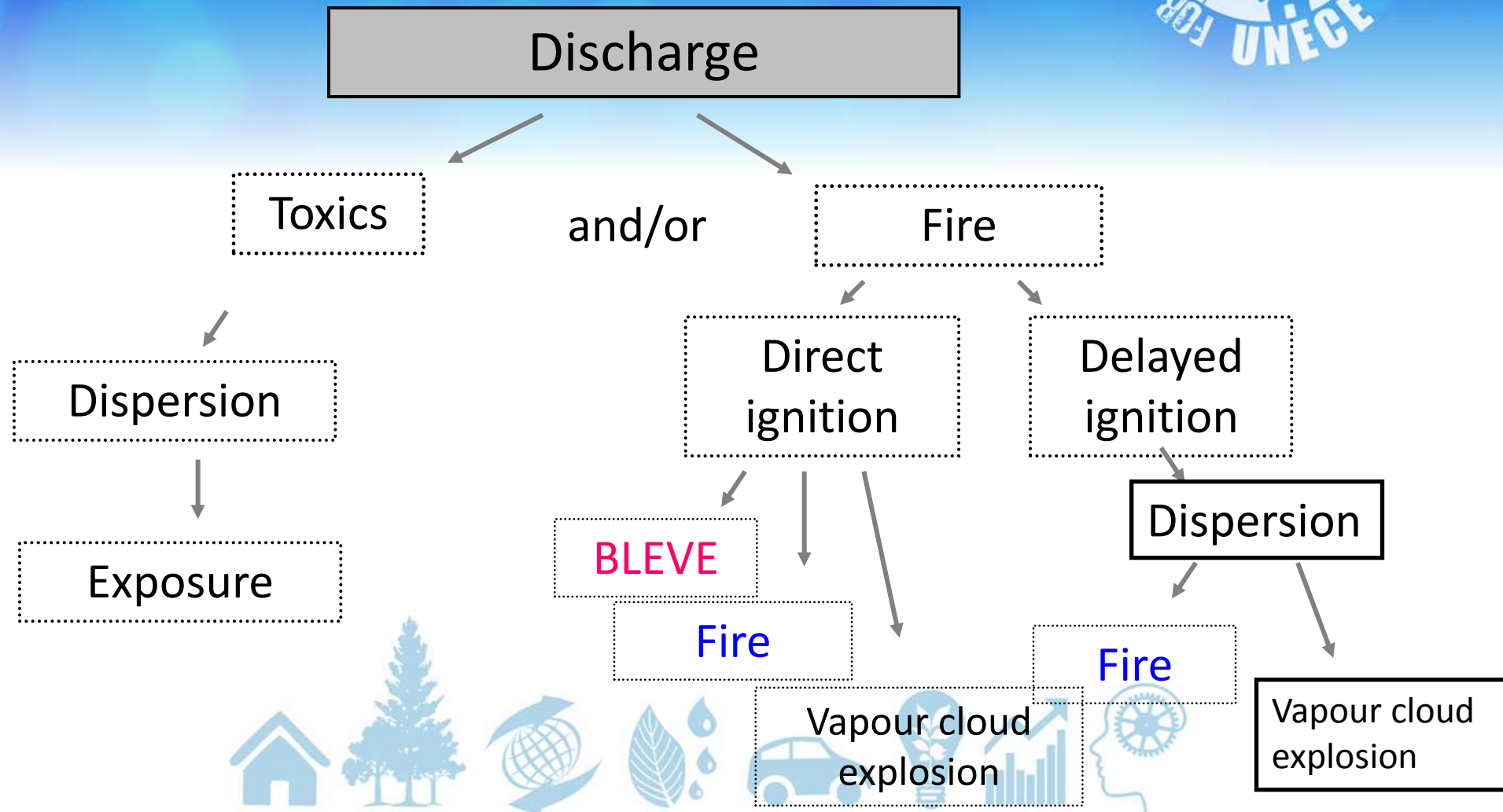




# TOXIC scenario: health effects



# Accidents scenarios in a diagram

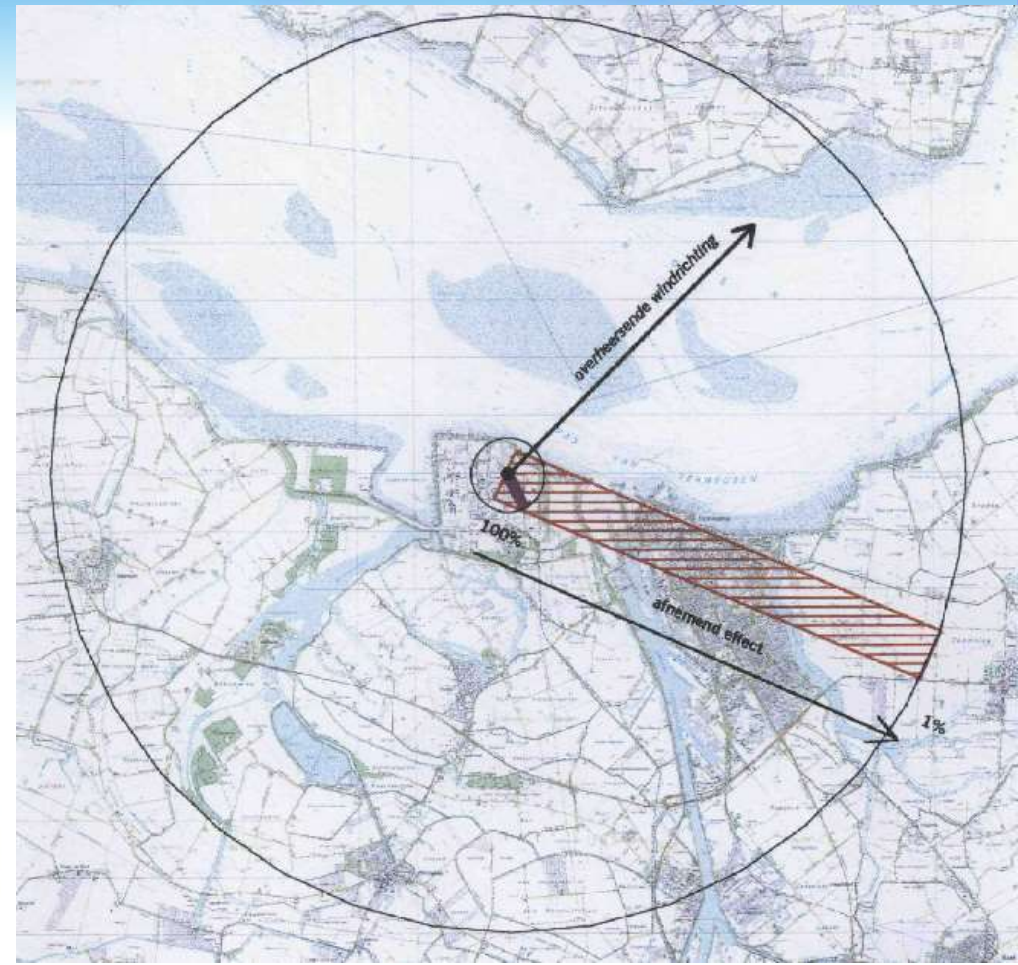




# Applying location criteria on a map



- **Consequences Modeling**
- **Maps with identification of damage distances at the territory**







# Identification of hazardous activities – water path



- Party of origin should decide if some activity can cause transboundary effect in the case of releasing the hazardous substance into the water path in the case of an accident
- Evaluation – in consultation with joint bodies, based on simple criteria, including existing warning and alarm systems and distance from location of hazardous activity to the border
- Risk assessment, if needed







# Identification of hazardous activities – water path



The Joint ad hoc expert group on water and industrial accidents recommended that distance between the location of the hazardous activity and the border should correspond to approximately a flowing period of two days of average flow velocity.





# Identification of hazardous activities – water path



- The distance is made up of three components:
  - path from the hazardous activity to a water course
  - path from the water course to an international/transboundary water course
  - path from the international/transboundary watercourse to the border





# Identification of hazardous activities – water path



Look at **the way** substances could enter the water path in a **“worst case”**

- directly, i. e. flowing at the surface or into groundwater
- indirectly, e. g. via drainage system

Look at **the quantity** of substances that could enter the water path in a **“worst case”**

To look adequately at these elements you should have in mind a **few possible scenarios**

For this purpose you should have enough **knowledge about hazardous activity**





# Identification of hazardous activities – water path



On the basis of these assumptions:

- Estimate the time between release and entry into water
- Estimate whether relevant for the Convention and document gained data for later consultations







# Identification of hazardous activities – water path

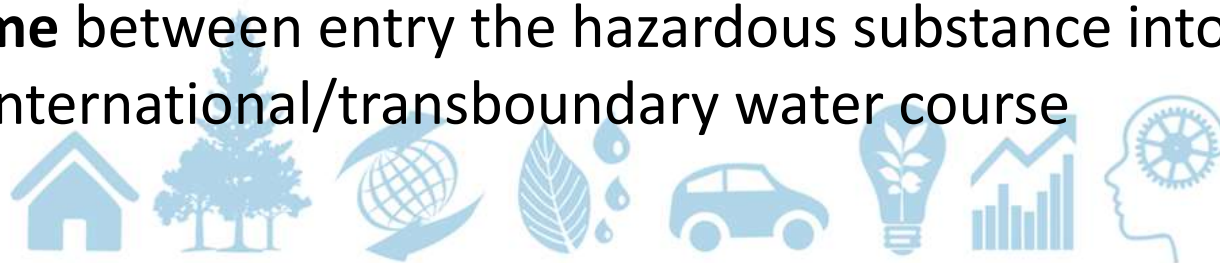


Look at the **distance** between the water course and international/transboundary water course

Look at the **natural retentions** between the water course and international/transboundary water course

Look at the **existing national river warning and alarm systems and contingency plans** to be activated

Estimate the **time** between entry the hazardous substance into water course and entry into international/transboundary water course





# Identification of hazardous activities – water path



Look at the **distance** between international/transboundary water course and the border

Look at the **existing international river warning and alarm systems and contingency plans** to be **activated**

**Estimate the time** between entry the pollution into international/transboundary water course and reach the border

**Estimate the total time** between accident and effects at the border

Look at the **possible effects**





# Summary



## Identification of the hazardous activities under the Convention

### Look at:

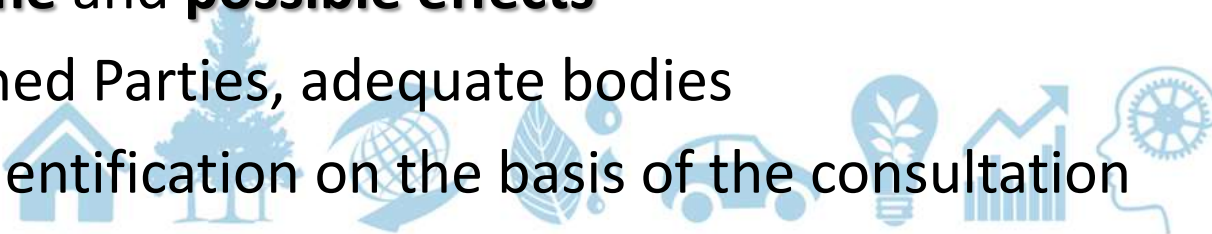
- activities meeting the **substance/quantity criteria (Annex I)**
- **catchments areas**
- **the possibilities** of industrial accidents
- **the distances, the natural retentions**, etc.

For applying location criteria - **use of modeling tools** in assessing the movement of the pollution

**Estimate** the **time** and **possible effects**

**Consult** concerned Parties, adequate bodies

**Improve** your identification on the basis of the consultation





**Please note**

**You have complied with your obligation only  
after you have**

**NOTIFIED THE CONCERNED PARTIES !**







# Thank you for your attention!

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