



# Consultation distances

## Considering industrial risks in land-use planning in Germany

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# Scope

- Legal Framework
- German Land-use planning policy
- German LUP-Guidance (2005/2010)
- Consultation distance / Calculation methodology / Examples

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## Legal Framework Europe

### Main Seveso II Requirements on Land-use planning

#### Target of Art 12 SEVESO II Directive:

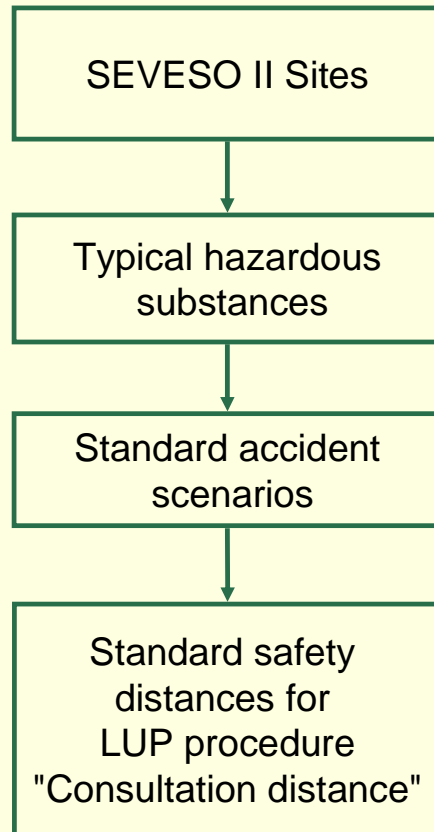
- Keep and maintain appropriate distances between Major Accident Establishments and residential areas, areas of public use, Nature Reserves, etc.
- Effective Consultation Procedure between the involved Authorities.
  - The procedures shall be designed to ensure that technical advice on the risks arising from the establishment is available, either on a case-by-case or on a generic basis, when decisions are taken.

# Legal Framework for Land-use planning in Germany

- **Major Accident Ordinance** implements Seveso II Directive in federal legislation
  - **Federal Pollution Protection Act** (§ 50 "Planning")
  - **Competent authority:** Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
  - The **Federal Building Code** sets the frame
    - in which areas building is allowed and
    - under which conditions a building permit may be approved
  - **Competent authority:** Federal Ministry of Transport, Building and Urban Affairs
- 
- LUP under Art. 12 Seveso Directive (96/82/EG) has to address both pieces of legislation
  - Executive authorities are the state (Länder) authorities at the local level
  - Experts of the "Seveso-authorities" give advice on industrial risks to the municipal and regional planning authorities
  - Stakeholders are industry, communities, planners, public, authorities etc.

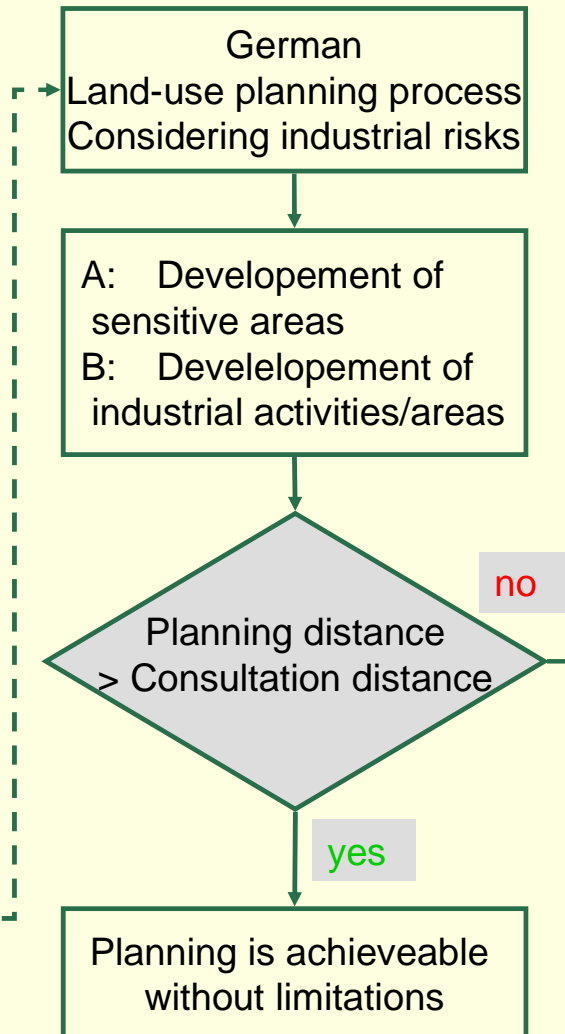
## Determination of CONSULTATION DISTANCES

→ German Guideline (Federal Level)



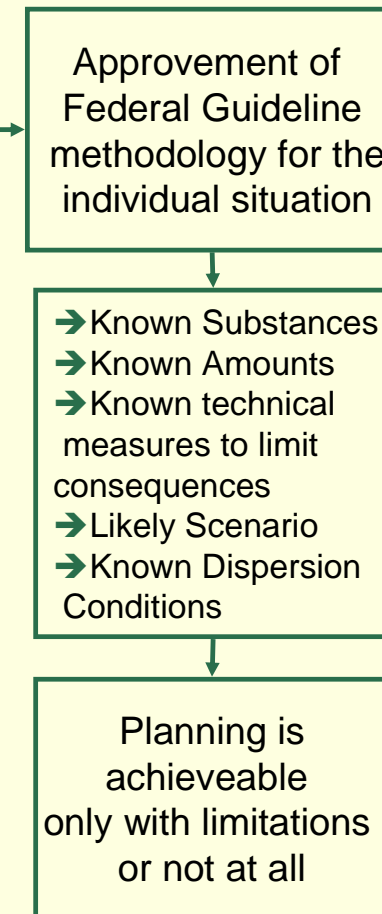
## Application of CONSULTATION DISTANCES in the planning process

→ Legally binding local planning (Municipal / Council)



## Individual Case Calculation of individual distances


→ German Guideline describes the methodology and the models to be used



## LUP Guidance SFK/TAA-GS-1 [2005]

[http://www.kas-bmu.de/publikationen/sfk\\_gb/sfk-taa-gs-1k-en.pdf](http://www.kas-bmu.de/publikationen/sfk_gb/sfk-taa-gs-1k-en.pdf) (short Version)

"Recommendations for separation distances between establishments under the Major Accident Ordinance and Areas requiring protection within the framework of Land-Use Planning"

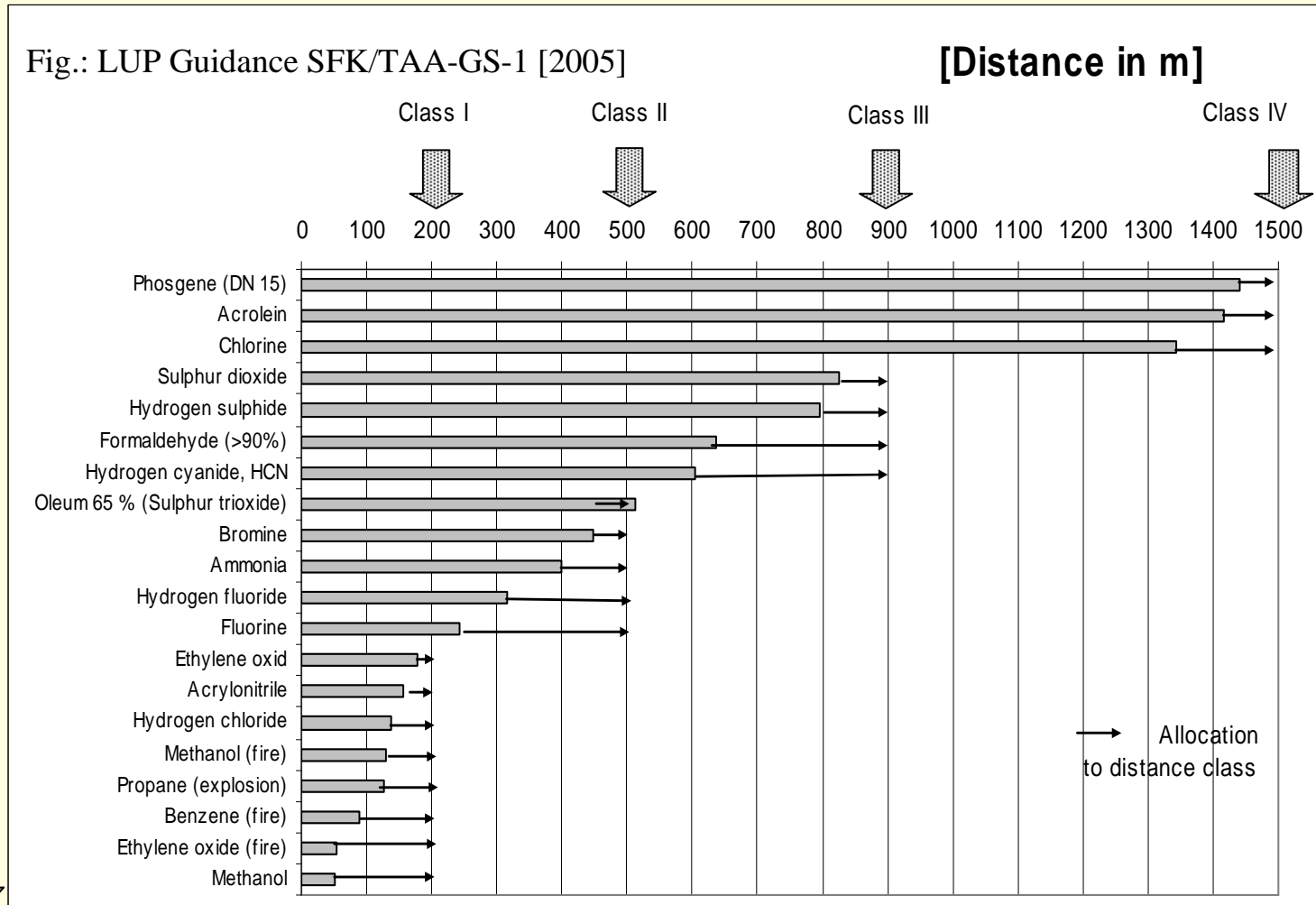
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Update in 2010

# Consultation distances in Germany –

## An instrument for considering industrial risks in land-use planning (Land-Use Planning without detailed knowledge of the installations)

(Separation distance recommendations for planning authorities)



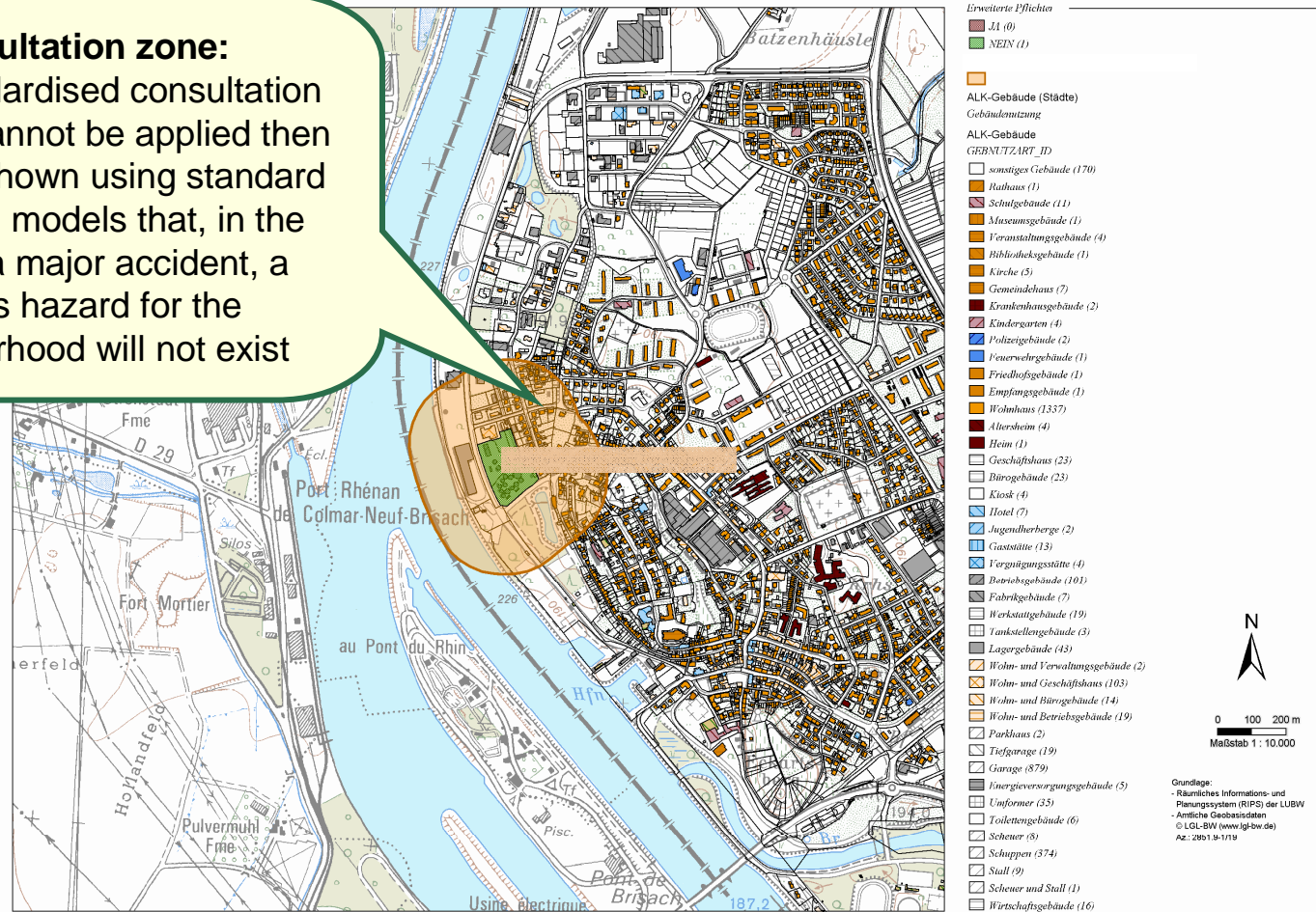
# Example 1: Tank storage near urban areas

Consultation distance: 200 m

Visualisation of the affected area is usually carried out using a geographic information system (GIS)\*.

## Consultation zone:

If the standardised consultation distances cannot be applied then it must be shown using standard calculation models that, in the event of a major accident, a serious hazard for the neighbourhood will not exist

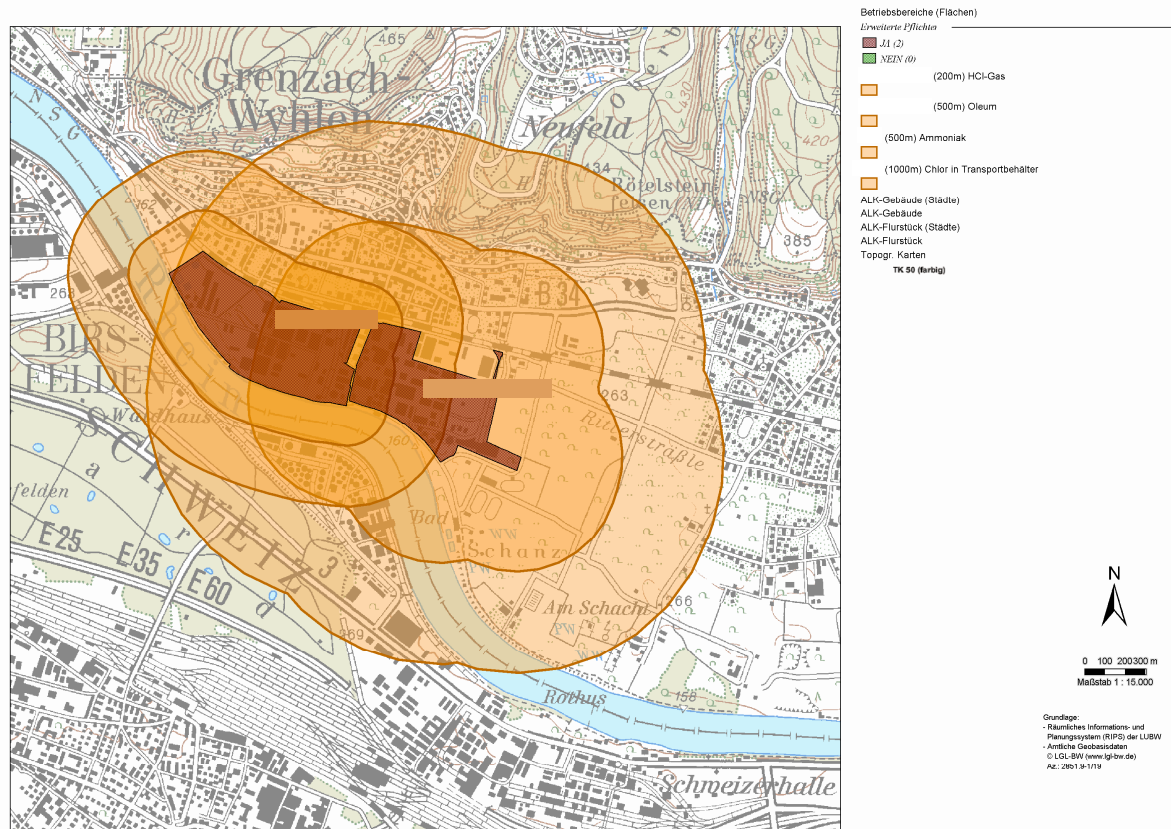


\*GIS-System of the environment administration in Baden-Württemberg



## Example 2: Chem sites near borderline Germany to Switzerland

Consultation distance: 500 m (Oleum), 1000 m (Chlorine in gas cylinders)



For the transboundary consultation on land-use planning by Seveso and Seveso-like establishments this approach has been a useful, **informal** basis for the discussion

# Federal Guideline on LUP [2005/2010]

**Deterministic approach chosen** (in harmony with the major hazards legislation as practiced in Germany)

**Standardised scenarios** for the release of hazardous substances in a major accident and methods for the calculation of the toxic gas dispersion, and the fire and explosion effects

## **Calculation of Consultation Distance for typical industrial substances:**

Representative leak : 490 mm<sup>2</sup> (DN 25)

Reasons: Long term operating experience; analysis of the German major accidents in the last 20 years, legal framework for major hazards legislation in Germany

## **Standard calculation method for case by case procedure**

Systematic analysis of the installations and technical requirements leads to an individual source term for the release of dangerous substances. Minimal leak is set to 80 mm<sup>2</sup> (DN 10)

Endpoint values adopted to assess risk tolerability for Land-use planning in Germany		
Toxic	Thermal radiation	Overpressure
ERPG 2* / AEGL 2 (60min)	1,6 kW/ m <sup>2</sup>	0,1 bar

\*ERPG: Emergency Response Planning Guidelines; American Industrial Hygiene Association (AIHA)

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# Conclusions

- In carrying out their land-use planning responsibilities the municipal and regional authorities must consider a variety of objectives. Not only the demands of environmental protection and industrial safety, but also those of economic development and infrastructure must be addressed
- In Germany experience has shown that a simple and generally accepted method for determining the consultation distances within the land-use planning process is an important part of achieving acceptance of the final Land-use planning decision.

**Thank you for your attention**

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