



Implementation of the Seveso Directive and IE-Directive in German law and its specifics in North Rhine-Westphalia

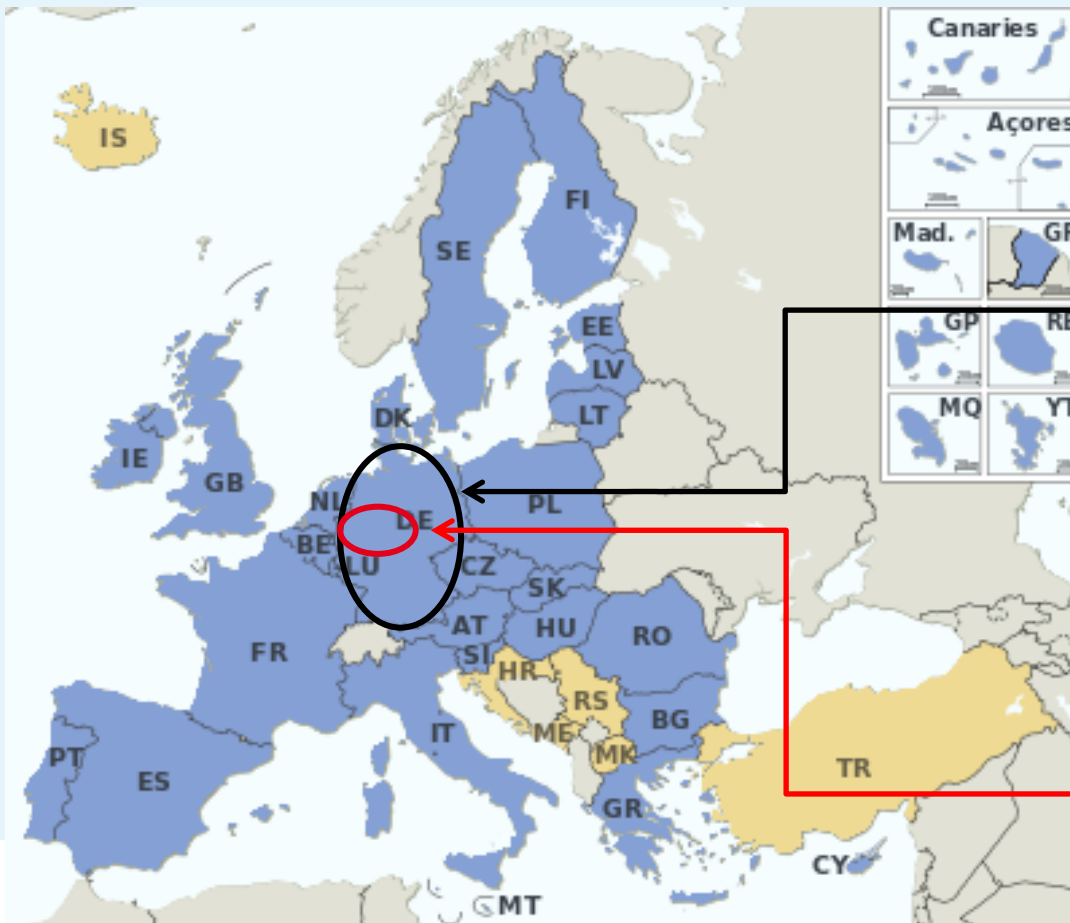
Meeting of the Israeli delegation with the Ministry of Environment, Agriculture,
Conservation and Consumer Protection of the State of North Rhine-Westphalia

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Head of unit: Plant safety, chemistry, genetic engineering, radiation protection precautions



Levels Of Administration



**European
Union**

**Member State
Germany**

**Federal State
North Rhine-
Westphalia**



North Rhine-Westfalia

Population

- 18 million inhabitants
- 515 EW / km²
- Rhine-Ruhr metropolitan region:
Europe's largest conurbation with 10
million inhabitants (third-largest)

Industry

- 50% of the german electricity generation
- 30% of the german chemical production
- Significant steel production

Traffic

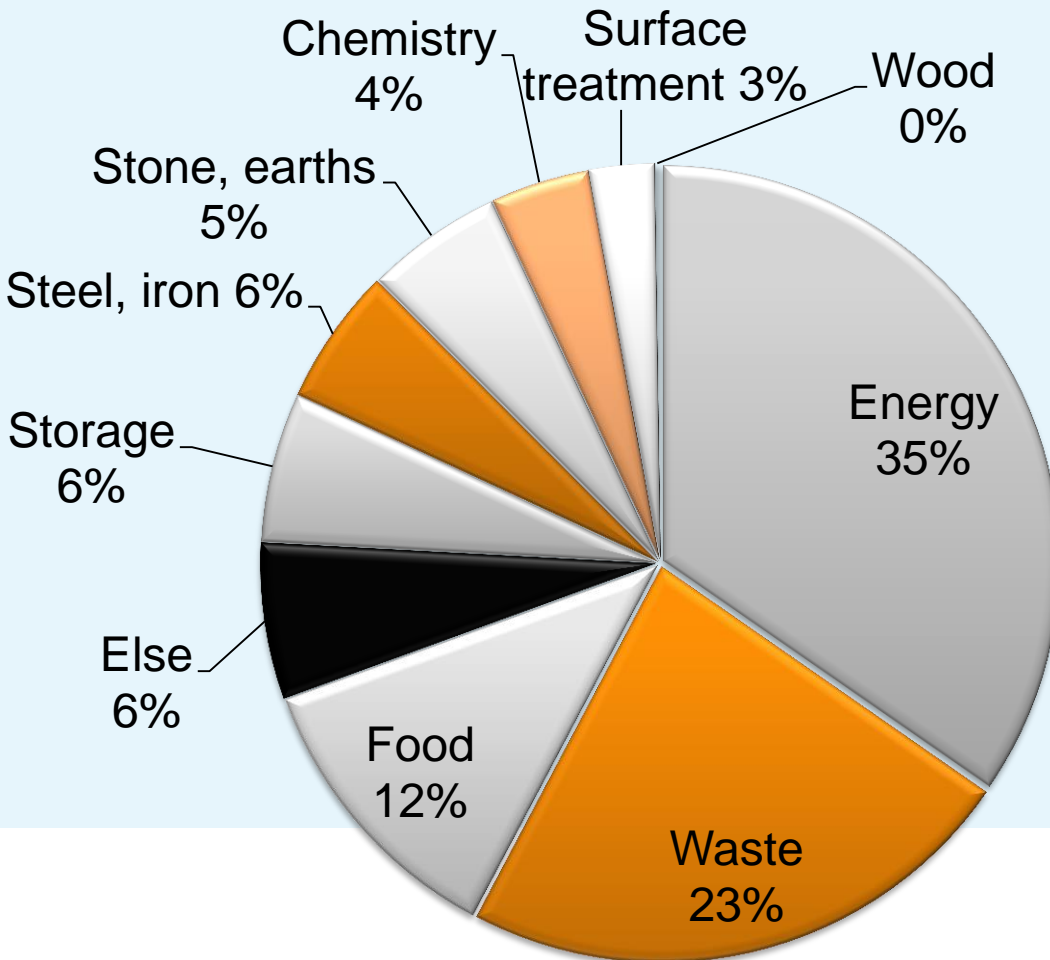
- 9.5 million cars / 0.8 million trucks
- High proportion of transit traffic

EUR 606 billion Gross domestic product





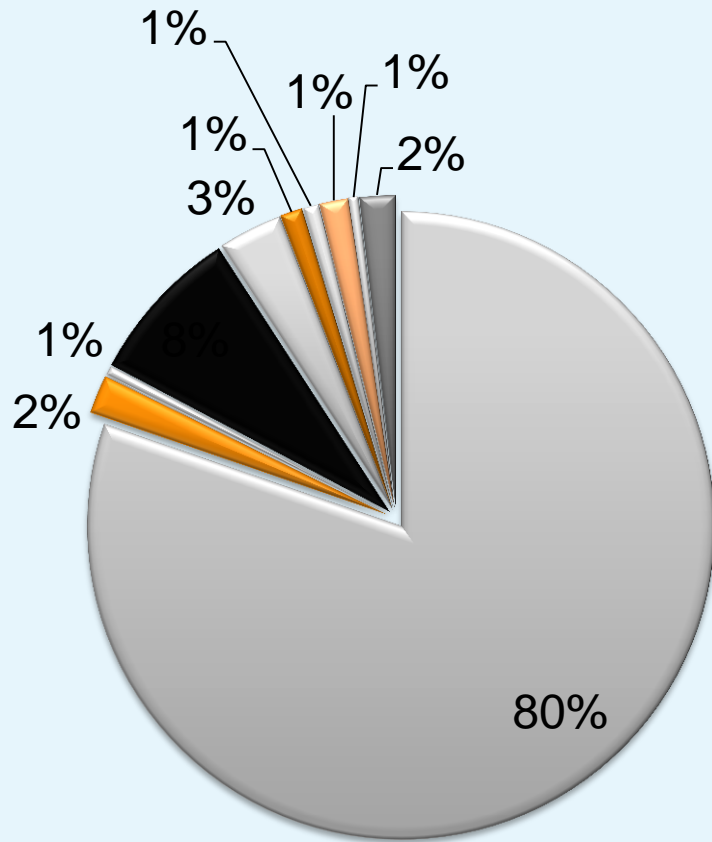
Industrial plants in NRW: 14884



Sector	Number of plants
Energy	5156
Waste	3438
Food	1749
Else	945
Storage	902
Steel, iron	834
Stone, earths	830
Chemistry	603
Surface treatment	392
Wood	35
Sum	14884



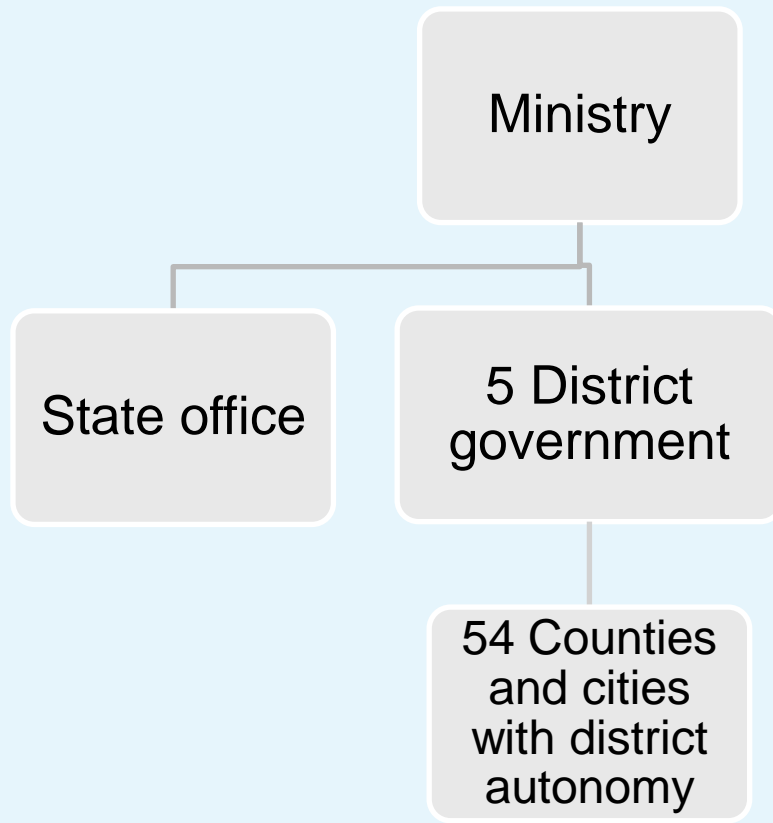
Chemical products, pharmaceuticals, mineral oil refining and further processing



Description	Number of plants
Manufacture of substances by chemical, biochemical or biological transformation without nuclear fuels	484
Handling of plant protection products, biocides or their active substances	12
Manufacture of medicaments based on plants or animal carcasses	3
Distillation, refining or other processing of petroleum oils or petroleum products	49
Manufacture of lubricants	20
Production of soot	7
Production of carbon (hard coal) or electrographite	5
Distillation of organic solvents	9
Melting of natural or synthetic resins	3
Production of varnish, lacquers or (printing) inks	11



Structure of authorities in NRW





Example: Legal basis Plant safety/ Immission control

EU
law

Seveso III Directive, CLP Regulation, IE Directive

Federal
law

Bundes-Immissionsschutzgesetz (BImSchG)
(Federal Immission Control Act)

12. BImSchV (StörfallVO), 4. BImSchV
(Federal Immission Protection Ordinance)

Land law

Landes-Immissionsschutzgesetz
(State Immission Control Act)

Erlasse
(Decrees)



Short history of what leads to the Seveso directive

September 21, 1921 (18. 13. 5681) Oppau (Germany): Incident at the company BASF

- Explosion of ammonium nitrate
- Cause ultimately unexplained
- Explosion caused a crater of 125 m x 90 m x 19 m in size on the site of storage building O 110
- 565 fatalities
- Over 2000 injured
- 900 destroyed flats



Short history of what leads to the Seveso directive

June 1, 1974 (11. 9. 5734)

Flixborough (England):

- Incident at the company NYPRO
- Problems at the reactor 5
- Bridging from reactor 4 directly to reactor 6

- Entire plant destroyed
- 28 dead, 88 injured
- In 0.25 km² about 2000 buildings destroyed



Short history of what leads to the Seveso directive

July 10, 1976 (12. 11. 5736)

Seveso (Italy):

- Incident at the company Icmesa
- Continuous side reaction in the production of trichlorophenol due to early shutdown of the stirrer
- Release of 2.5 kg 2,3,7,8-Tetrachlorodibenzo-dioxin within a radius of 17 km²
- 3300 animals die, people suffer from chloracne and skin inflammations, danger of cancer diseases



As a reaction to all these and many other accidents, the European Union issued

**Council Directive 82/501/EEC of 24 June 1982
on the major-accident hazards of certain
industrial activities**

Seveso I



Short history of what leads to the Seveso II directive

December 3, 1984 (9. 3. 5745)

Bophal (India):

- Incident at the company Union Carbide Corporation
- Release of methylisocyanate during maintenance work
- 3,800 to 25,000 dead
- up to 500,000 injured
- high environmental impact due to mercury and carcinogenic substances to this day



Short history of what leads to the Seveso II directive

November 1, 1986 (29. 1. 5747)

Basel (Switzerland):

- Warehouse for Herbicides, fungicides, insecticides, flammable solvents, organic mercury compounds
- Major fire in a chemicals warehouse with 2 x 2500 m² storage area
- Highly toxic combustion gases more than 10,000 m³ of contaminated extinguishing water flowed into the Rhine
- massive fish mortality (400 km)
- Phosgene release is just being prevented.



Amendments of the Seveso (I) Directive:

- Alignment of the list of applicable dangerous substances with the CLP Directive
 - Strengthening the provision of information to and consultation with the public;
 - Tighter standards for inspections

Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances

Seveso II



Short history of what leads to the Seveso III directive

January 30, 2000 (23. 5. 5760)

Baia Mare (Hungary):

Gold processing plant

- **Dam burst** of a tailings pond (sedimentation basin)
- **300 000 m³ of sodium cyanide lye** mixed with **heavy metals** are released into the environment, including the rivers Tisza (Theiß) and Danube (Donau)
- Enormous fish mortality, drinking water and soil poisoning



Short history of what leads to the Seveso III directive

13 May 2000 (8. 9. 5760)

Enschede (Dutch):

S.E. Fireworks

- Fireworks stored illegally in a workroom set on fire
- Explosion of several bearings for fireworks
- 23 deaths, 947 injuries, 1250 homeless people



Short history of what leads to the Seveso III directive

September 21, 2001 (4. 1. 5762)

Toulouse (France):

Grand Paroisse (fertilizer factory)

- Detonation of 390 - 450 t ammonium nitrate (not in compliance with specifications)
- At 190 m distance from the “center” of detonation explosion overpressures of > 200 mbar
- 30 dead, 2500 injured



Short history of what leads to the Seveso III directive

Dezember 11, 2005 (10. 3. 5766)

Buncefield (England):

TOTAL Depot

- Substance release + explosions + major fire in a fuel depot by overfilling a tank with petrol
- Destruction of 20 tanks and numerous buildings in the area, 43 injured – the fire lasted 4 days.



Amendments of the Seveso (II) Directive:

- New or clarified definitions
- The list of substances covered by the Regulations has been updated and aligned to the CLP Regulation
- Stronger requirements for the provision of public information, including a duty for lower-tier establishments to provide public information.

Council Directive 2012/18/EU of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently

Seveso III



Basic structure of the German Seveso III implementation

Content (Seveso III)

Abstract:

- Classification of dangerous substances and mixtures according to the “CLP Regulation”
- Implementation of a Security management system (SMS)
- Emergency planning
- Land-use planning (settlement of industrial plants)
- Rules for monitoring and inspections
- Provision of public information
- Public participation (in the approval procedure)



Basic structure of the German Seveso III implementation

Example: Classification of the sites (Betriebsbereiche) into 2 classes according to the criterion of substance quantity and hazard:

**Lower class
(Column 2)**

**Upper Class
(Column 3)**

PART 1 <i>Categories of dangerous substances</i>		
This Part covers all dangerous substances falling under the hazard categories listed in Column 1:		
Column 1	Column 2	Column 3
Hazard categories in accordance with Regulation (EC) No 1272/2008	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	
	Lower-tier requirements	Upper-tier requirements
Section 'H' – HEALTH HAZARDS		
H1 ACUTE TOXIC Category 1, all exposure routes	5	20
H2 ACUTE TOXIC	50	200

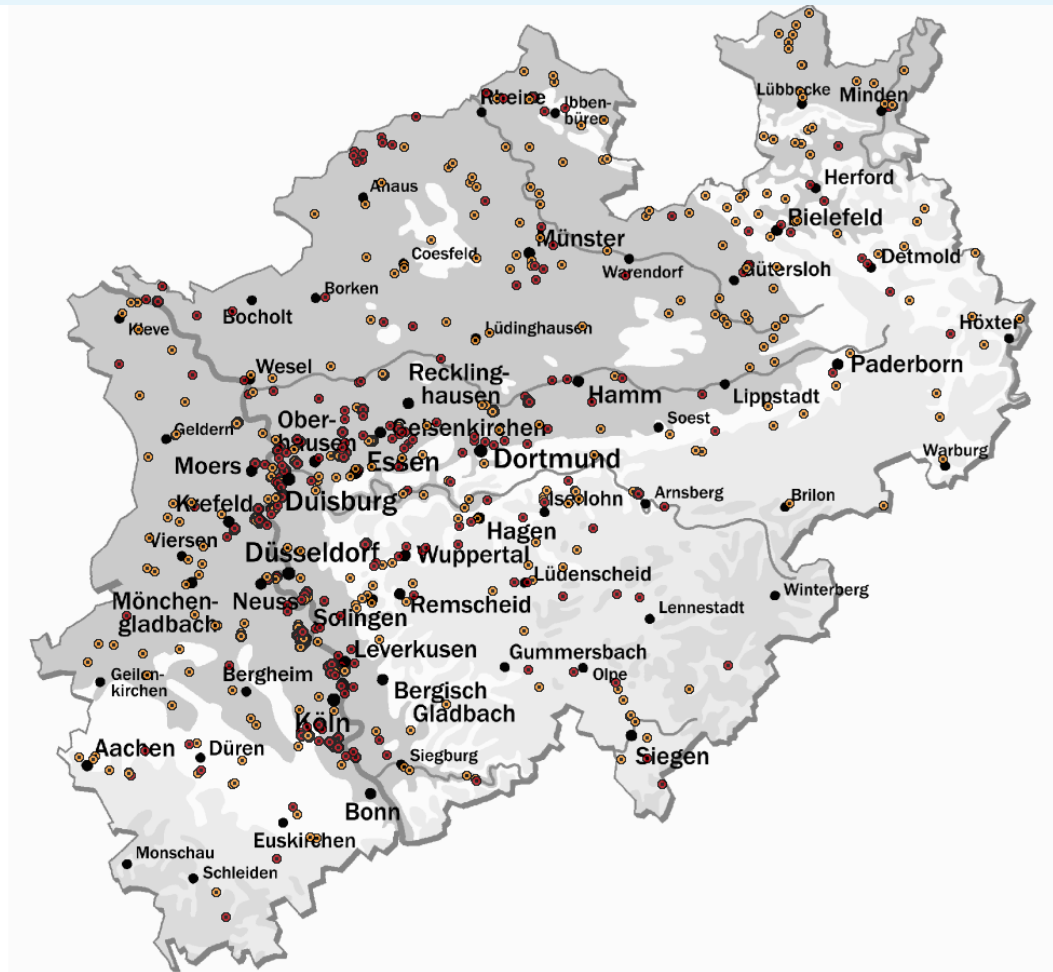


Seveso-III Sites in Germany, NRW and EU

- Germany: 3653
 - upper tier: 1154
 - lower tier: 2499
- North-Rhine Westphalia: 630
 - upper tier: 309
 - lower tier: 321
- EU: 12075
 - Upper tier: 5028
 - Lower tier: 6823

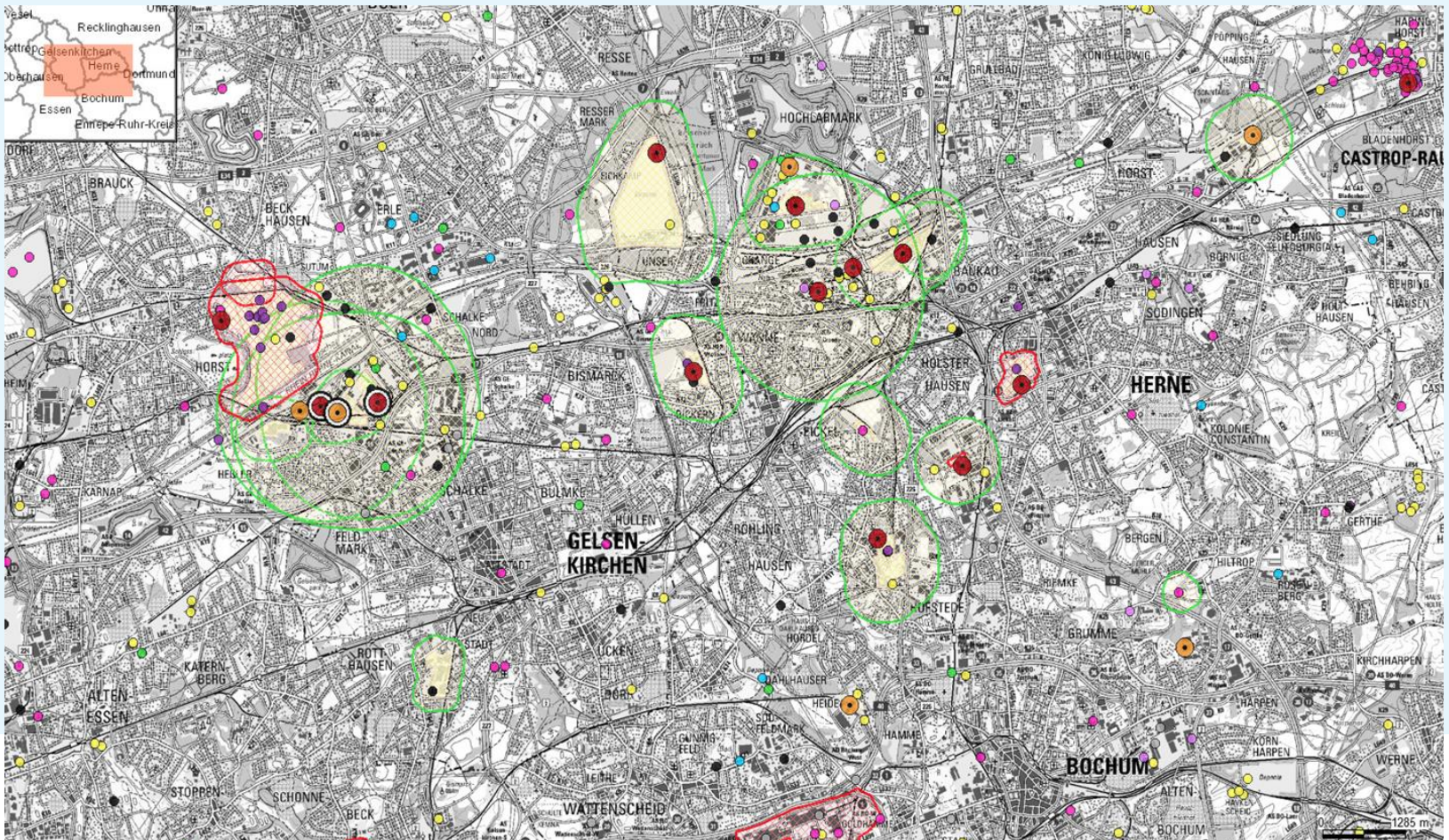


Seveso-III Sites in NRW





Seveso-III and land-use planning





The Industrial Emissions Directive (IED)

- Industrial production processes account for a considerable share of the overall pollution in Europe due to their emissions of air pollutants, discharges of waste water and the generation of waste.
- Directive 2010/75/EU of the European Parliament and the Council on industrial emissions (the Industrial Emissions Directive or IED) is the main EU instrument regulating pollutant emissions from industrial installations
- The IED aims to achieve a high level of protection of human health and the environment taken as a whole by reducing harmful industrial emissions across the EU, in particular through better application of **Best Available Techniques (BAT)**.



The Industrial Emissions Directive (IED)

- The IED is based on several pillars, in particular
- (1) an integrated approach,
- (2) use of best available techniques (BAT),
- (3) flexibility,
- (4) inspections and
- (5) public participation.



The approach of NRW

(medienübergreifende) Umweltinspektionen

(cross-media) environmental inspections

Goal:

Inspections for all affected environmental areas (waste, immission control, water, soil) should be carried out jointly and comprehensively.

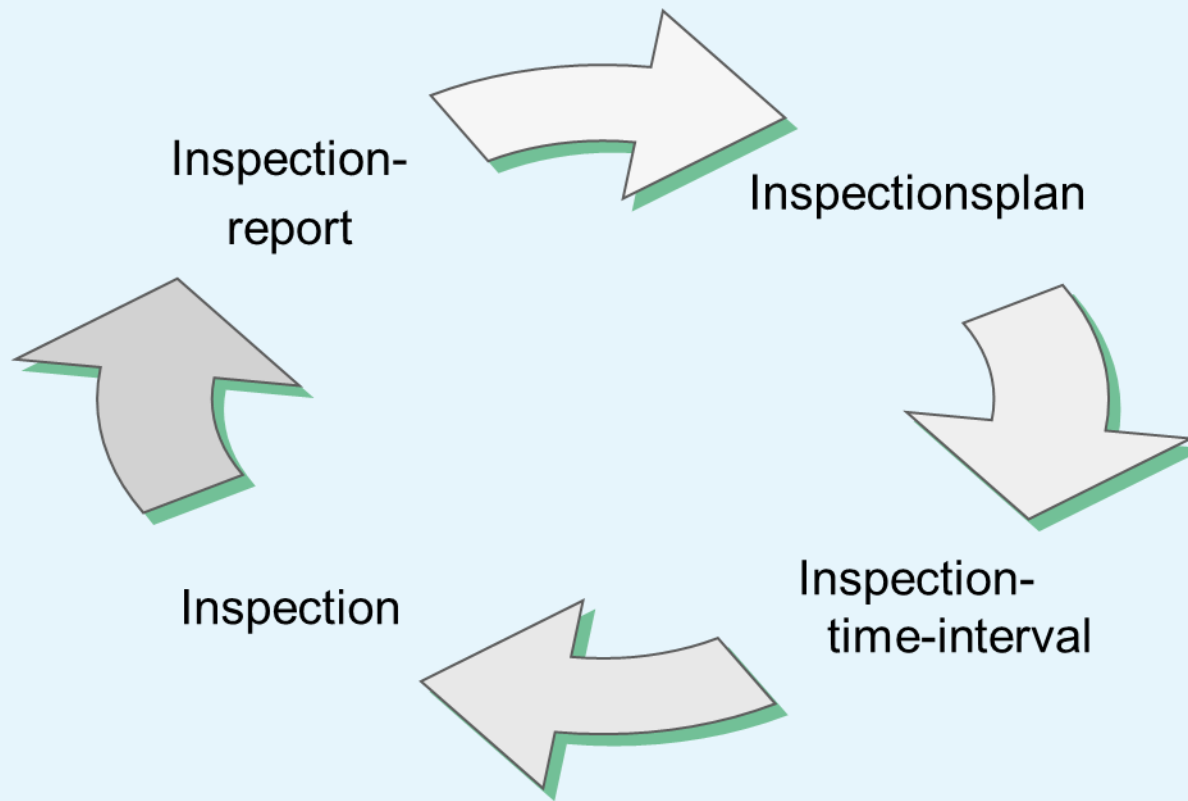
How:

On-site inspections aim to verify compliance with the environmental requirements laid down in permits and legislation and to monitor the impact of controlled installations on the environment, for example through emissions, waste water, waste or noise.

Reviewed and inspected every one to three years, depending on relevance



Planning of inspections





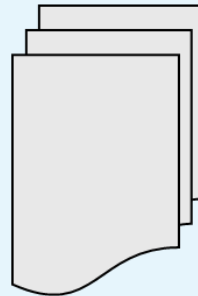
Example: monitoring program of the Cologne district government

Überwachungsprogramm			Bezirksregierung Köln			Stand: 15.03.2019
Firma	PLZ Ort	Straße Nr.	Anlage	4. BlmSchV	IED-HT	Intervall [a]
Grünenthal GmbH	52078 Aachen	Zieglerstraße 6	Pharmasynthese-Anlage	4.1.19	4.5	3,0
Philippen Entsorgung GmbH	52074 Aachen	Weststr. 42	Lagerung gefährlicher Abfälle (50 to oder mehr)	8.12.1.1	5.5	3,0
RWTH Aachen Heizwerk	52074 Aachen	Mathieustraße 34	Feuerungsanlage	1.1	1.1	3,0
Schlun Umwelt GmbH & Co. KG	52457 Aldenhoven	Röttgensweg	Behandlungsanlage für n. gef. Abfälle	8.11.2.3	5.3.a.iii	3,0
Deutsche Steinzeug Cremer & Breuer	53347 Alfter	Servaisstr. 11-31	Brennen v.keramischen Erzeugnissen	2.10.1	3.5	3,0
Voigt & Schweitzer Alsdorf GmbH	52477 Alsdorf	Carl-Zeiss-Straße 13	Verzinkungsbad	3.9.1.1	2.3.c	3,0
Josef Keller Containerdienst GmbH	53604 Bad Honnef	Heideweg 17	Abfallbehandlungsanlage	8.11.2.3	5.3.a.iii	3,0
Auto Heinen GmbH	53902 Bad Münstereifel	Heinenstraße 9-15	Al-Druckgießerei	3.8.1	2.5.b	3,0
Hammerwerk Erft G. Diederichs GmbH	53902 Bad Münstereifel	Ernst-Diederichs-Str. 1	Feuerungsanlage	1.1	1.1	3,0
Hammerwerk Erft G. Diederichs GmbH	53902 Bad Münstereifel	Ernst-Diederichs-Str. 1	Maschinell angetriebene Hämmer	3.11.1	2.3.b	3,0
Hammerwerk Erft G. Diederichs GmbH	53902 Bad Münstereifel	Ernst-Diederichs-Str. 1	Ringwalzanlagen 2 und 3	3.6.1.1	2.3.a	3,0
Peter Greven GmbH & Co. KG	53902 Bad Münstereifel	Peter-Greven-Straße 20 - 30	Anlage zur Herstellung von Seifen und Fettsäuren (sauerstoffhaltige KW)	4.1.2	4.1.b	3,0

Planning of inspections – documentation and communication of results (Art. 23 Abs. 6 IED)

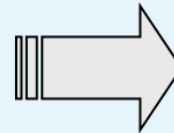


Inspection on-site



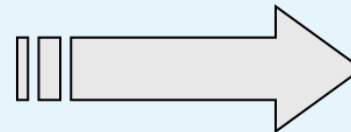
report

+ max. 2 months



Betreiber (Operator/owner
of a Site)

+ max. 4 months



publication



Example of an inspection report

Bezirksregierung Köln

Umweltinspektionsbericht

Beh.-/AST.-/Anlagennummer	300/ 9023567/ 0001-0002
Aktenzeichen Bericht	52.02.05.02-E31563790-17-bl
Firma	BWE Balthasar GmbH Recycling Zentrum Köln
Standort	Bonner Str. 126 50968 Köln
Anlage	Abfallsortieranlage, Containerdienst
Datum der Umweltinspektion	29.06.2017
Gesamtaufwand	33 Stunden (einschließlich Vor- und Nachbereitung)
davon Vor-Ort-Aufwand	3,5 Stunden
Weitere beteiligte Behörden	-

A) Inspektionsumfang

Unangemeldete Überwachung mit dem Schwerpunkt der Überprüfung der Abfallströme (Ein- und Ausgänge). Stichprobenhafte Prüfung der Register für gefährliche und nicht gefährliche Abfälle sowie der grenzüberschreitenden Abfallverbringung.

B) Grundlage der Überwachung

Genehmigungsbescheid vom 16.02.1999; Az.: 30.236/98-0804.2-Wit
Feststellender Verwaltungsakt vom 16.01.2002; Az.: 52.21EWC(11.0)
Änderungsbescheid vom 31.10.2002; Az.: 21.4-Hei/G/30/040/01/0804.2
Änderungsbescheid vom 09.11.2011; Az.: 52.98.09/G/300.0207/07/0812B2
Änderungsbescheid vom 02.07.2014; Az.: 52.0081/12/11.0-Th
Diverse Anzeigen nach § 15 BImSchG

§ 47 des Gesetzes zur Förderung der Kreislaufwirtschaft und Sicherung der umweltverträglichen Bewirtschaftung von Abfällen (Kreislaufwirtschaftsgesetz – KrWG) vom 24.02.2012 (BGBl. I, S. 212) in derzeit gültiger Fassung.

§ 11 Abfallverbringungsgesetz (AbfVerbrG) vom 19.07.2007 (BGBl. I, S. 1462) in derzeit gültiger Fassung.

C) Inspektionsergebnis (Mängeldefinitionen siehe Anlage)

Einhaltung der rechtlichen Anforderungen innerhalb des Prüfraumens	
keine Mängel	-
geringfügige Mängel	-
erhebliche Mängel	<ul style="list-style-type: none"> - Nachweise und Register im Ein- und Ausgang für nachweispflichtige Abfälle lagen nicht vor. - Die Begleitscheine im Rahmen der Sammelentsorgung von gefährlichen Abfällen wurden nicht gem. § 13 NachwV gehandhabt.
schwerwiegende Mängel	-

D) Veranlasste Maßnahmen

Maßnahmen der Behörde	Revisions schreiben mit Aufforderung zur Mängelbeseitigung. Die Behebung der Mängel wurde schriftlich bestätigt.
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Anlage

Mängeldefinitionen

Geringfügige Mängel

sind festgestellte Verstöße gegen materielle oder formelle Anforderungen, die augenscheinlich nicht zu Umweltbeeinträchtigungen führen können. Ein Vermerk oder ein Revisions schreiben ist ausreichend. Der Betreiber bestätigt die Beseitigung der Mängel innerhalb einer angemessenen, vereinbarten Frist.

Erhebliche Mängel

sind festgestellte Verstöße gegen materielle oder formelle Anforderungen, die zu Umweltbeeinträchtigungen führen können. Die Beseitigung der Mängel ist innerhalb einer festgesetzten Frist mit anschließender Vollzugsmeldung zu fordern. Die Mängelbeseitigung soll zeitnah vor Ort überprüft und dokumentiert werden.

Schwerwiegende Mängel

sind festgestellte Verstöße gegen materielle oder formelle Anforderungen, die zu akuten, erheblichen Umweltbeeinträchtigungen führen können. Eine Beseitigung dieser Mängel durch den Betreiber ist unverzüglich zu fordern. Ggf. ist eine Stilllegung/Teilstilllegung der Anlage zu prüfen. Die Mängelbeseitigung ist zeitnah zu überprüfen und zu dokumentieren. Die Folgeinspektion wird spätestens nach 6 Monaten durchgeführt.



Best Available Techniques (BAT)

- A central control element of plant licensing legislation is the proven concept of Best Available Techniques (BAT).
 - These correspond to the term “Stand der Technik” traditionally used in Germany.

Best Available Techniques reference documents (BREFs)

- A series of reference documents covering, as far as is practicable, the industrial activities listed in Annex 1 to the EU’s IPPC Directive
- Provide descriptions of a range of industrial processes and for example, their respective operating conditions and emission rates
- Member States are required to take these documents into account when determining best available techniques generally or in specific cases



Status of implementation of BAT conclusions in German law

Work process for creating

Technical Working Group (TWG)

Head: IPPC Office

Task: technical development and discussion of the contents of the leaflets

Participants: Member States, industry associations, environmental associations

IE-RL Art. 13 Forum

Head: EU Commission

Task: To comment on BAT reference documents / conclusions

Participants: Member States, industry associations, environmental associations

IE-RL Art. 75 Ausschuss

Head: EU Commission

Task: Adoption of the BAT conclusions

Participants: Member States



European Commission

Publication of BAT conclusions as implementing decisions

in the Official Journal of the EU and **publication of the BAT reference document**

With the publication of the BAT conclusions, the four-year period for implementation in the Member States (including any necessary adjustments) will begin.)



Status of implementation of BAT conclusions in German law

State of preparation of the BAT-Conclusions

Waste management	WT	08.2018
Production of basic organic chemicals	LVOC	12.2017
Large combustion plants	LCP	07.2017
Intensive rearing of poultry and pigs	IRPP	02.2017
Waste water and waste gas treatment in the chemical industry	CWW	06.2016
Non-ferrous metals industry	NFM	06.2016
wood-based materials industry	WBP	11.2015
Refineries	REF	10.2014
Pulp and paper industry	PP	09.2014
Chlor-alkali industry	CAK	12.2013
Cement, lime and magnesium oxide industry	CLM	04.2013
Leather industry	TAN	02.2013
Iron and steel production	IS	03.2012
Glass production	GLS	03.2012



Example: BREF Refineries (REF)

List of content

- General Information
- Applied processes and techniques
- Current Emission and consumption levels
- Techniques to consider in the Determination of BAT
- 5 Best available techniques (BAT) conclusion
- Emerging techniques
- Concluding remarks and recommendation for future Work



Example: BREF Refineries (REF)

Dealing with problems:

Situation:

Combustion plants commissioned before 27 November 2003 (old plants within the meaning of the Ordinance on Large Combustion Plants, Gas Turbines and Combustion Engines - 13th BImSchV) cannot comply with the new requirements (which were described in the BREF) for nitrogen oxides or will require a longer implementation period

Thus, the maximum monthly mean values of nitrogen oxides of 150 mg/m³ were not achievable.



Example: BREF Refineries (REF)

Dealing with problems:

Solution:

Exception approval according to REF-VwV

Number 9 of the REF-VwV

The responsible authority may, at the request of the operator, grant derogations from the provisions of this Administrative Regulation, provided that, taking into account the particular circumstances of the case, the following conditions are satisfied

1. individual requirements of this Administrative Regulation cannot be met or can only be met with disproportionate expense,
2. in addition, state of the art emission control measures are applied

.....



Example: BREF Refineries (REF)

Dealing with problems:

Solution:

Creation of an execution recommendation (Vollzugsempfehlung)

- to provide a basis for the procedure
- and, in particular, in the case of decision-making, and to enable exceptions to be dealt with uniformly throughout Germany in such cases

Content:

- Documents needed to justify an exemption
- Evaluation criteria for Technical features and proportionality



If you have questions please contact us

Contact

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