

“TAIEX ECRAN Multi-beneficiary Workshop on Actions Toward Good Status of the Water Framework Directive”

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ECRAN 62669

Implementation of an effective pollution control policy to reach good water status



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Structure of the presentation

EU – Water - Legislation for industrial pollution

1. Directive on Industrial Emissions (IED, 2010/75/EU)
2. Directive establishing a framework for Community action in the field of water policy (WFD)
3. Directive concerning urban wastewater treatment (UWWTD 91/271/EC)



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1.1 IED - Overview

Summary of 7 separate directives

- IPPC Directive (96/61/EC, codified 2008/1/EC)
- Large Combustion Plant Directive (LCP) (2001/80/EC)
- Waste Incineration Directive (WID) (2007/76/EC)
- VOC Solvents Directive (1999/13/EC)
- 3 Titanium Dioxide Directives (78/176/EEC; 82/883/EEC; 92/12/EEC)



1.2 IED - Aims and principles

- ***Prevention*** or, if that is not practicable, ***Reduction of emissions*** into ***air, water*** and ***land*** and prevention of ***generation of waste***, in order to achieve a ***high level of protection of the environment taken as a whole***
- Emissions from activities covered by IED only permissible on the basis of “***integrated permits***”
- “***Integrated permitting***” takes into account the whole environmental performance of an industrial plant
- Permit conditions include “***Emission Limit Values***” (ELV) based on “***Best available Techniques***” (BAT)
- Stricter conditions than BAT on demand of “Environmental Quality Standards” (EQS)
- ***Operator’s obligations*** esp. concerning maintenance, surveillance, monitoring and provisions against accidents and incidents
- ***Periodic Reconsideration*** and updating of permit conditions
- ***Environmental inspections*** organized by competent authorities

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Site closure incl. ***Report on status of soil and groundwater***

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1.3 IED - Applications for permits

- Installation and activities
- Raw and auxiliary materials, other substances, energy
- ***Sources of emissions from installation***
- Conditions of the site of the installation
- Baseline report (existing pollution of soil and groundwater on site)
- ***Nature and quantities of emissions into each medium, identification of significant effects on the environment (List of pollutants in Annex II)***
- ***Technology and other techniques for prevention and reduction of emissions***
- Measures for the prevention, preparation of reuse, recycling and recovery of waste
- Further measures to comply with basic obligations of the operator
- ***Monitoring of emissions***
- Main alternatives to the proposed technology
- Other information in response to other legislation may be included

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1.4 IED - BREFs and Exchange of information

- Exchange of information between MS , industries concerned, NGOs and the Commission in order to draw up, review and update **BAT Reference Documents - BREFs** (Technical Working Groups)
- **Information exchange** about
 - performance of installations and techniques in terms of
 - ***emissions***
 - reference conditions
 - ***consumption and nature of raw materials, water consumption, use of energy, generation of waste***
 - techniques used, associated monitoring
 - cross media effects
 - economic and technical viability
 - ***best available techniques and emerging techniques***

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1.5 IED - BAT Conclusions

Separate document containing the parts of a BREF laying down:

- Description of individual BAT measures
- Information to assess their applicability
- BAT – Associated Emission Levels (AEL)
- Monitoring
- Consumption levels
- Site remediation measures if relevant or appropriate

Adoption

- Adopted in accordance with the “regulatory procedure” (Art 75/2)
- After the adoption: EC shall make the BREF publicly available (Art 13/6)
- EC ensures that BAT conclusions are made available in all the official languages of the Union (Art 13/6)



1.6 IED - Permit conditions

- **ELV** for polluting substances listed in Annex II (Part 2 – water pollutants !) and other substances
- Requirements ensuring protection of the soil and groundwater and measures concerning monitoring and management of waste
- **Emission monitoring requirements**
 - Reporting to competent authority in view of **compliance assessment (at least annually)**
 - Maintenance and Surveillance measures (soil and groundwater)
 - Measures relating to other than normal operating conditions (start up, shut down, leaks, cessation...)
 - Minimisation of long-distance or transboundary pollution

– **Conditions for assessing compliance with ELV**



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1.7 IED – Emission Limit Values (ELV)

Without prejudice to existing EQS, ***ELV shall be based on BAT***, without prescribing the use of any technique or specific technology

Competent authority shall set ELV, ensuring that under normal operating conditions emissions do not exceed BAT-AELs set in BAT conclusions (Art 15/3).



1.8 IED - Monitoring requirements

- Based on monitoring conclusions as described in BAT conclusions
- Frequency of periodic monitoring shall be determined by permit or by general binding rules
- Periodic monitoring at least **once every 5 years for groundwater** and **10 years for soil**, unless such monitoring is based on a systematic appraisal of the risk of contamination



1.9 IED - Basic obligations of the operator

- *Preventive measures against pollution*
- *Application of best available techniques (BAT)*
- *No significant pollution*
- *Efficient use of energy*
- *Prevention of accidents, limitation of their consequences*
- *Cessation of activities*
 - Avoid risk of pollution
 - Returning the site to satisfactory state



1.10 IED - Site closure

- ***Preparation of a baseline report on soil and groundwater by the operator***, when activity involves use, production or release of hazardous substances
 - Determination of state of contamination
 - Quantified comparison with state upon definitive cessation
- ***Baseline report shall contain:***
 - Information on present and past uses of the site
 - Existing information on soil and groundwater measurement.



1.11 IED - Environmental inspections (EI)

- ***Inspection plan***: regularly reviewed and updated
- ***Inspection programmes*** for routine environmental inspections
- ***Frequency of EI***
- ***Non routine EI*** to investigate serious environmental complaints, accidents, incidents and occurrences of non-compliance
- ***Report from competent authority after each site visit***
- Report shall be notified to the operator within 2 months
- Report shall be *made publicly available* from the competent authority *within 4 months* of site visit

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1.12 Annex I - Industrial sectors / activities

- Energy industry (4 subsectors)
- Production and processing of metals (6 subsectors)
- Mineral industry (5 subsectors)
- Chemical industry (6 subsectors)
- Waste management (6 subsectors)
- Other activities (11 subsectors)



1.13.1 IED Annex II – List of water relevant substances

- Organohalogen compounds and substances which may form such compounds in the aquatic environment
- Organophosphorus compounds
- Organotin compounds
- Substances and mixtures which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction in or via the aquatic environment
- Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances
- Cyanides



2 WFD – Provisions relevant for industrial emissions control

- Good water quality of all surface water bodies and groundwater bodies (Art. 4)
- Characteristics of river basin districts (Art. 5)
- Combined approach (Art. 10)
- Programmes of measures (Art. 11)
- Specific measures against water pollution by individual substances (Art. 16)



2.1 WFD – Objectives for surface water

- Implementation of all necessary measures to ***prevent deterioration*** of the status of all bodies of surface water
- Protection, enhancement and restoration of all bodies of surface water with the aim of achieving ***good ecological*** and ***good chemical surface water status***
- Protection and enhancement of all ***artificial and heavily modified water bodies*** with the aim of achieving ***good ecological potential*** and ***good chemical surface water status***
- ***Reduction of pollution from priority substances*** and ceasing or phasing out emissions, discharges and losses of priority hazardous substances



2.2 WFD – Art 5

- Characteristics of each River Basin District (RBD)
- Review of impacts of human activities on the status of surface waters and on groundwater by (i.a.)
 - *Identification of pressures caused by significant point source pollution* (in particular by substances listed in Annex VIII WFD) *from urban, industrial, agricultural and other installations and activities* (see Annex II, Chapter 1.4 WFD)
- Economic analysis of water use



2.3 WFD – Combined Approach

- ***Emission controls of point sources based on Best Available Techniques (BAT)***
- ***Emission controls of diffuse impacts*** on water bodies shall include ***best environmental practices*** (BEP) set out in eg. IED, UWWDD, Nitrates Directive, Directives pursuant Art. 16 WFD etc.
- ***More stringent emissions control than BAT or BEP on behalf of environmental quality standards (EQS) requirements***



2.4 WFD – Programmes of Measures

- Programmes of measures shall include **basic measures** and, where necessary, supplementary measures
- **Basic measures** are the minimum requirements to be complied with and shall consist of (i.a.)
 - for **point source discharges** liable to cause pollution, a requirement for prior regulation, such as a prohibition on the entry of pollutants into water, or for prior authorisation, or registration based on general binding rules, laying down **emission controls for the pollutants concerned**, including controls in accordance with Articles 10 and 16 WFD
 - for **diffuse sources** liable to cause pollution, measures to prevent or control the input of pollutants.. 21



2.5 WFD – Specific Measures against pollution

- Selection of pollutants with significant risks to or via the aquatic environment (Priority Substances)
- ***List of priority substances (PS) and priority hazardous substances (PHS) in Annex X of WFD***
- Designing of measures for progressive reduction of discharges, emissions and losses – for PHS aiming at their cessation or phasing out
- ***PS of Annex 10 WFD are part of the catalogue of pollutants in Annex II of IED (Pollutants of water)***



2.6 WFD – Substances listed in Annex VIII

- Organohalogen compounds and substances which may form such compounds in the aquatic environment.
- Organophosphorous compounds.
- Organotin compounds.
- Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment.
- Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances.



2.7 WFD – Substances listed in Annex VIII (continued)

- Cyanides.
- Metals and their compounds.
- Arsenic and its compounds.
- Biocides and plant protection products.
- Materials in suspension.
- Substances which contribute to eutrophication (in particular, nitrates and phosphates).
- Substances which have an unfavourable influence on the oxygen balance (and can be measured using parameters such as BOD, COD, etc.).



2.8 WFD - List of priority substances

1. Alachlor
2. Anthracen
3. Atrazin
4. Benzene
5. Brominated Diphenylether
6. Cadmium and its compounds
7. Chloroalkanes, C10-C13
8. Chlorfenvinphos
9. Chlorpyrifos-ethyl
10. 1,2-dichloroethane
11. Dichloromethane
12. Di(2-ethylhexyl)phthalate (DEHP)
13. Diuron
14. Endosulfan
15. Fluoranthene
16. Hexachlorobenzene
17. Hexachlorobutadiene
18. Hexachlorocyclohexane
19. Isoproturon
20. Lead and its compounds
21. Mercury and its compounds
22. Naphthalene
23. Nickel and its compounds
24. Nonylphenol
25. Octylphenol
26. Pentachlorobenzene
27. Pentachlorophenol
28. Polyaromatic hydrocarbons
29. Simazine
30. Tributyltin compounds
31. Trichlorobenzenes
32. Trichloromethane
33. Trifluralin



2.8 WFD - List of priority substances (continued)

- 34. Carbon-tetrachloride
- 35. Cyclodiene pesticides
- 36. DDT
- 37. Tetrachoro-ethylene
- 38. Trichloro-ethylene
- 39. Dicofol
- 40. Perfluorooctane sulfonic acid and its derivatives (PFOS)
- 41. Quinoxifen
- 42. Dioxins and dioxine-like compounds
- 43. Aclonifen
- 44. Bifenox
- 45. Cybutryne
- 46. Dichlorfos
- 47. Hexabromo-cyclo-dodecane (HBCDD)
- 48. Heptachlor and Heptachlor-epoxide
- 49. Terbutryn



3.1 Urban Wastewater Directive (UWWDD 91/271/EC)

- Collection, treatment and discharge of urban wastewater
- ***Treatment and discharge of wastewater from certain industrial sectors***
- Objective of the Directive is to protect the environment from the adverse effects of the above mentioned wastewater discharges



3.2 UWWD – Article 11 and Annex 1-C

- ***Discharge of industrial wastewater into collecting systems and UWWTP is subject to prior regulations and/or specific authorizations***
- ***Industrial wastewater entering collecting systems and UWWTP shall be subject to such pre-treatment as is required in order to:***
 - protect the health of staff working in collecting systems and UWWTP,
 - ensure that collecting systems, UWWTP and associated equipment are not damaged,
 - ensure that the operation of UWWTP and the treatment of sludge are not impeded,
 - ensure that discharges from UWWTP do not adversely affect the environment, or prevent receiving water from complying with other Community Directives,
 - ensure that sludge can be disposed of safely in an environmentally acceptable manner



3.3 UWWD Article 13

Biodegradable industrial wastewater from installations of industrial sectors listed in Annex III UWWD which does not enter UWWTP before discharge to receiving waters shall **before discharge respect conditions established in prior regulations and/or specific authorization by the competent authority or appropriate body, in respect of all discharges from plants representing 4 000 p.e. or more**

Milk-processing, Manufacture of fruit and vegetable products, Manufacture and bottling of soft drinks, Potato-processing, Meat industry, Breweries, Production of alcohol and alcoholic beverages, Manufacture of animal feed from plant products, Manufacture of gelatine and of glue from hides, skin and bones, Maltings, Fish-processing industry



Thank you!



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