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MINISTRY OF THE ENVIRONMENT

# IPPC Directive and Soil protection at industrial sites

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## • Content of the presentation

- General information about the proposal
  - Structure
  - Background information, impact assessment etc.
- Central soil-related Articles
  - Remarks and questions
- Topics for discussion



# ● Proposal

- **Proposal for a Directive on industrial emissions (integrated pollution prevention and control) - recast**
  - **COM(2007) 844 final, 21.12.2007**
- Revises and merges seven separate existing Directives into a single Directive
  - IPPC Directive
  - VOC Solvents Directive
  - Waste Incineration Directive
  - LCP Directive (large combustion plant)
  - TiO<sub>2</sub> Directives (3)
- Target: simplification, clarification and strengthening



# ● Structure

- Chapter I, general umbrella
  - setting common provisions applying to all industrial activities covered by the Directive.
- Chapter II, provisions for activities in Annex I
  - by amending the current requirements of the IPPC Directive
- Chapters III to VI, requirements for other activities
  - large combustion plants, waste incineration plants, solvents installations and titanium dioxide installations
- Chapter VII, final provisions etc.
  - competent authorities, reporting by Member States, committee, penalties, the standard closing provisions.



## ● Soil in IPPC

- Some new soil and groundwater protection related elements introduced
  - Periodical monitoring (art 15, 17)
  - Baseline report (art 3, 13)
  - Site closure and remediation (art 12, 23)
  - BAT/ BREF-documents (art 14)

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- **Impact Assessment, data gathering, soil strategy**

**Impact Assessment, Chapter 7.3:**

**Help achieving the objectives of the Thematic Strategy on Soil Protection**

- Thematic Strategy on Soil Protection identified the IPPC Directive as a key instrument to help achieving its main objectives regarding soil contamination from point sources
  - prevention and remediation of impacts where necessary
- **Data gathering and impact assessment for a possible technical review of the IPPC Directive** – Part 2, *Fact sheet C1. Site Restoration and Protection of soil (VITO 2007)*
- **The Thematic Strategy on Soil Protection, including Impact Assessment**
- **Report of the Technical working group on Contamination and Land Management**
  - Obligatory soil assessment at the start and closure of potentially soil polluting activities
  - IPPC
    - BREF documents, soil monitoring, clearing "satisfactory state"



- IA - monitoring

- Problem

- A large majority of competent authorities do not require operators to carry out regular soil monitoring.
- No early warning system is in place in a large number of IPPC installations

- Options

- Business as usual
- Introduction of an obligation of periodic soil monitoring of dangerous substances with a minimum frequency of at least every 5 to 10 years
- Introduction of an obligation of periodic soil monitoring of dangerous substances with a frequency to be determined on a case-by-case basis, but not less than once every 7 years;

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- *IA - Prevention of soil contamination and site remediation*

- Problem

- upon definitive cessation of the activities, the site should be returned to a “satisfactory state”.
  - different interpretations
  - large variation in the level of environmental protection
- A risk-based approach (more pragmatic and cheaper) for "historical" contamination, more strict "no-risk-based approach" for future contamination

- Options (upon cessation of the activities)

- Business as usual
- Return the site to a state that, taking account of its current use and approved future use, no longer poses significant risk to human health or the environment
- Return the site to the state as established in the baseline report;
- Return the site to a state fit for all possible uses

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- **Current interpretation of “satisfactory state” by Member States (VITO 2007)**

- *Requirement to remediate to a pre-established baseline: NL and UK*
- *Requirement to restore the site to a state that the same use is possible: most MSs*
- *Requirement to restore the site to a state that no longer poses any significant risk to human health and the environment, taken into consideration its approved future use: FR*

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- Current soil monitoring requirements during the operation of IPPC installations (VITO 2007)
  - Protection of soil and groundwater as specified in article 9 of the IPPC (conditions for permit) has been included in national laws (EU 15)
    - Sometimes technical requirements are given in the permits
  - Only few MS require monitoring under current national legislation (e.g. UK, NL, France)
  - Monitoring usually focuses on groundwater
    - sometimes also includes soil air for certain sites with present volatile substances
  - Usually requirements and specifications are made on a case by case basis



## Art 3 Definitions

- (15) 'baseline report' means quantified information on the state of soil and groundwater contamination by dangerous substances;
  - *totally new definition and element*
  - *"quantified information" means chemical analysis*
  - *used in Articles 13 (Applications for permits) and 23 (Site closure and remediation)*
- *Should there be also definitions for groundwater and soil (as defined in WFD and SFD)?*

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- **Art 12 General principles governing the basic obligations of the operator**

Member States shall take the necessary measures to provide that the installations are operated in accordance with the following principles:

...

(8) the necessary measures are taken upon definitive cessation of activities to avoid any risk of pollution and **return the site of operation to [a satisfactory state] the state defined in accordance with Article 23(2) and (3).**

- *Unclear expression “satisfactory state” is deleted*
- *No referring to Article 23(4)?*

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- **Art 13 Applications for permits**

Member States shall take the necessary measures to ensure that an application for a permit includes a description of the following:

...

(e) where applicable, a baseline report;

...

- *The term "where applicable" will be specified in Art 23.2*



## ● **Article 14 BAT reference documents**

1. The Commission shall adopt BAT reference documents...
2. The BAT reference documents shall in particular describe the best available techniques, the associated emission levels and associated monitoring, **the monitoring of soil and groundwater and remediation of the site and the emerging techniques,** giving special consideration to the criteria listed in Annex III.  
The Commission shall review and update the BAT reference documents as appropriate.



- *BREF's (best available techniques reference documents), which describe BAT (best available technology), play a central role in IPPC.*
  - *Art 15, BREFs shall be the reference in setting the permit conditions*
- *BREFs will contain (among other things) techniques for*
  - *monitoring of soil and groundwater*
  - *for remediation of the site*
- *Need for preventive techniques in BREFs!?*
- *Commission decisions*
  - *the role of MSs in establishing BREFs?*
  - *language problem?*
- *The level of harmonization?*
- *Horizontal or activity-specific BREFs ?*



## Article 15 Permit conditions

1. Member States shall ensure that the permit includes all measures necessary ...

Those measures shall include at least the following:

...

- (b) **appropriate requirements ensuring protection of the soil and groundwater** and measures concerning the management of waste generated by the installation;

...

- (d) **requirements of periodic monitoring in relation to dangerous substances likely to be found on site having regard to the possibility of soil and groundwater contamination at the site of the installation;**

- (e) **measures relating to start-up, leaks, malfunctions, momentary stoppages and definitive cessation of operations;**

- *Subpara (d) – not ment to be absolute, but rather difficult to understand the true meaning*



## ● *Article 17* **Monitoring requirements**

1. **The monitoring requirements ...shall, where applicable, be based on the conclusions on monitoring as described in the BAT reference documents**
2. **The frequency of the periodic monitoring** referred to in Article 15(1) (d) shall be **determined by the competent authority** in a permit for each individual installation or in general binding rules.

Without prejudice to the first subparagraph, periodic monitoring shall be carried out **at least once every 7 years**.

**The Commission may establish criteria** for the determination of the frequency of the periodic monitoring (comitology).



- *Monitoring is important for early warning.*
- *Soil is heterogenous and therefore very challenging to monitor*
  - *pipe / accidents / leakages*
- *Groundwater monitoring is easy and the results are more presentable.*
- *Periodic monitoring is emphasized*
  - *If there is a need for monitoring, it has to be periodic?*
  - *The frequency will be set case by case, but min 7 years*
    - *The need for minimum period ?*
    - *The need for criteria for establishing frequencies?*
- *The permit should guarantee that sufficient soil contamination precautions are taken?*
- *Some of activities are not very likely to cause significant soil contamination*
  - *The role of BREFs to point out the essential ones from the insignificant ?*
  
- *Comitology procedure for establishing frequencies / the role of BREFs?*

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- **Article 23 Site closure and remediation**

1. Without prejudice to ELD (Directive on environmental liability) and to SFD (Soil framework Directive) the competent authority shall ensure ...
2. Where the activity involves the use, production or release of dangerous substances having regard to the possibility of soil and groundwater contamination at the site of the installation, the operator shall **prepare a baseline report before starting operation of an installation or before a permit for an installation is updated. That report shall contain the quantified information necessary to determine the initial state of the soil and the groundwater.**

The Commission shall establish criteria on the content of the baseline report (comitology).



3. Upon definitive cessation of the activities, the operator shall assess the state of the soil and groundwater contamination by dangerous substances. **Where the installation has caused any pollution by dangerous substances of soil or groundwater compared to the initial state established in the baseline report referred to in paragraph 2, the operator shall remediate the site and return it to that initial state.**
  
4. Where the operator is not required to prepare a baseline report referred to in paragraph 2, the operator shall take the necessary measures upon definitive cessation of the activities to ensure that the site does not pose any significant risk to human health and the environment.

## • *Remarks and questions- baseline*

- *All activities are not expected to make a baseline report*
  - *No possibility to contamination -> no baseline report?*
- *New activities (before starting operations) – easy to establish*
- *Old activities (before updating the permit) – more challenging*
  - *Initial state?*
  - *What if significant risks already exist in baseline conditions?*
- *The content of baseline report?*
  - *Quantified information necessary to determine the initial state of the soil and the groundwater (very general)*
- *The Commission shall establish criteria on the content of the baseline report (comitology)*
  - *Too late?*
  - *Annex with some criteria for establishing???*

## ● *Remarks and questions- remediation*

- *Goals*
  - *If baseline report has been required -> remediation to initial state (A)*
  - *No baseline report required → risk based approach (B)*
- *Case A:*
  - *Strict and clear goals for soil and groundwater protection*
    - *Certainty on soil related obligations throughout the operation.*
    - *Preventive measures and acting at source will be given priority, since no accumulation would be allowed.*
  - *”Zero tolerance” OR approach not allowing significant added contamination ?*
  - *If the site has been contaminated before the operation starts (new activities) or before the baseline report is establish, the operator shall remediate “only” to the state established in the baseline report*
    - *clarifies liabilities*
    - *difficulties in distinguishing old and new contamination*
    - *activities which have been operating (and maybe polluting) long before establishing the baseline report*
  - *Groundwater remediation to initial state might not be possible in all cases.*

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- *Remarks – IPPC/ELD/SFD*

- Different remediation goals
  - IPPC: (no risk based if baseline report)  
added pollution should not occur or needs to be remediated
  - SFD: (risk based – human health and environment)  
fitness for current or approved future use for contaminated sites taking into account both environment and human health
  - ELD (risk based – human health)  
mitigating human health risks of soil pollution (ELD applies to all IPPC installations)
- Reasons behind these differences and their juridical consequences are not clear!

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- ## Topics for discussion

- Monitoring requirements and flexibility
  - Groundwater / soil
  - Case by case / periodical / max periods
- Remediation targets in practice
  - Initial state (baseline) / RBLM
  - Zero tolerance / no significant added contamination - approach
- Content of the baseline
  - New installation / Old installation (updating permit)
- The role of BAT and BREF
- IPPC – SFD (- ELD)
  - Synergies / contradictions?