

## Baseline Reports for Industrial Emissions Directive Sites

### Introduction

EIGA has compiled this technical bulletin to provide information to EIGA members, specifically to plant managers, directors, technical directors and environmental specialists in EIGA member companies, on the provisions concerning a baseline report, which have been introduced by the Industrial Emissions Directive (IED).

On 17<sup>th</sup> December 2010, the European Commission (EC) published the Industrial Emissions Directive 2010/75/EU [1] <sup>1</sup>(IED). This Directive is the basis of a common system of environmental operating permits and supervision by the competent authorities for pollutant emissions from industrial installations. The IED came into force on 6<sup>th</sup> January 2011 and had to be implemented in Member States by 7<sup>th</sup> January 2013. This new directive replaces the Integrated Pollution Prevention and Control (IPPC) Directive 96/61/EC.

Provisions on the baseline report are included in Article 22 of the IED. The baseline report must contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities.

The European Commission has produced guidance concerning baseline reports to clarify the IED requirements [2]. See also EIGA Technical Bulletin TB 1 *Impact of the Industrial Emissions Directive* [3] for impact on EIGA members and EIGA Doc 137 *Environmental Aspects of Decommissioning*. [4]

### Main principles of the IED

The IED applies to industrial activities giving rise to pollution which are listed in Annex I of the Directive.

The IED installations shall operate in accordance with a permit, which is granted by the authorities in the Member States. The permits must take into account the whole environmental performance of the plant, covering emissions to air, water and land, generation of waste, use of raw materials, energy efficiency, noise, prevention of accidents, and restoration of the site upon closure.

The permit conditions including emission limit values must be based on Best Available Techniques (BAT). In order to define BAT and the BAT associated environmental performance at EU level, the Commission organises an exchange of information with experts from Member States, industry and environmental organisations. This work is co-ordinated by the European IPPC Bureau. This process results in BAT Reference Documents (BREFs); the BAT conclusions contained in the BREFs are adopted by the Commission as Implementing Decisions. The IED requires that these BAT conclusions are the reference for setting permit conditions.

### What is a baseline report?

The baseline report collects information on the state of soil and groundwater contamination (pollution) by relevant hazardous substances when the permit is revised or issued so this can be compared with the state of the land when the permit is surrendered.

The site operator shall prepare the baseline report and submit it to the competent authority before starting

<sup>1</sup> References are shown by bracketed numbers and are listed in order of appearance in the reference section.

operation of an IED installation or before updating the permit after 7<sup>th</sup> January 2013.

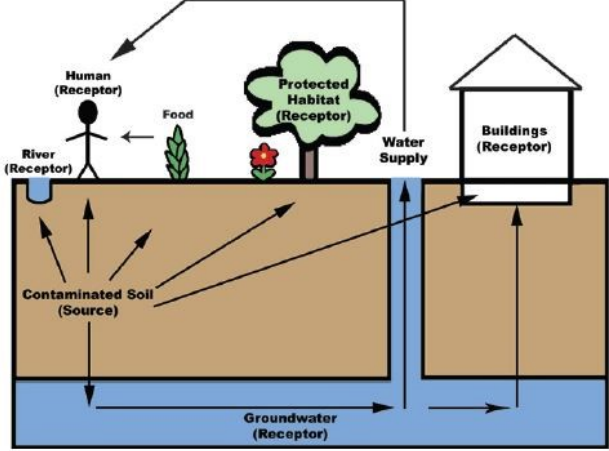
Upon definitive cessation of the activities, the baseline report is the reference document to:

- Assess the state of soil and groundwater pollution by relevant hazardous substances;
- Compare the pollution state at the site closure to the pollution state established in the baseline report;
- Remove, control, or contain the pollution to an acceptable state.

Refer to EIGA Doc 137 *Environmental Aspects of Decommissioning*. [4].

### How to produce a baseline report

The baseline report is drawn up according to the following steps. Reference also needs to be made to specific guidance provided by the Member States

Step 1	Identify the hazardous substances that are used, produced or released at the installation	To demonstrate whether a baseline report is required or not
Step 2	Identify the relevant hazardous substances. “Relevant” means that the substance has the potential to cause pollution of soil and groundwater.	
Step 3	Assess the site-specific pollution possibility with respect to: <ul style="list-style-type: none"> <li>• Quantity of relevant hazardous substances</li> <li>• Location of relevant hazardous substances on the site</li> <li>• Containment equipment on the site</li> </ul>	
Step 4	Provide a site history including previous and present uses of the site. Review the existing investigation reports on soil and groundwater pollution	To collect the data for the baseline report
Step 5	Identify the site’s environmental setting	
Step 6	Draw a conceptual site model to represent existing pollution and potential future pollution *	
 <p>© Soilwater Group, 2017 [5]</p>		
Step 7	Perform site investigation if existing information on soil and groundwater pollution are not sufficient	To write the baseline report
Step 8	Produce the baseline report	

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## Impacts on the Industrial Gases Industry

For the industrial gases industry, the IED applies to the following processes:

- Production of hydrogen, carbon monoxide and syngas
- Production of acetylene
- Production of nitrous oxide
- Production of specialty gases (high-quality gases for specific applications)
- Combustion of fuels in installations with a thermal input  $\geq 50$  MW

Existing sites may be required to make their baseline report before permit updating. A new site shall make its baseline report before starting operation.

Relevant hazardous substances for these processes for a new permit are listed below.

Process	Hazardous substances of concern
Production of hydrogen, carbon monoxide and syngas	<ul style="list-style-type: none"> <li>• Oil</li> <li>• Cooling water chemicals (acids, alkalis, biocides)</li> <li>• Catalysts Metals</li> <li>• Solvents</li> </ul>
Production of acetylene	<ul style="list-style-type: none"> <li>• Lime</li> <li>• Acids and alkalis</li> <li>• Solvents</li> <li>• Oils</li> <li>• Acetone, DMF</li> <li>• Calcium carbide</li> <li>• Calcium chloride</li> <li>• Metals</li> </ul>
Production of nitrous oxide	<ul style="list-style-type: none"> <li>• Oils</li> <li>• Solvents</li> <li>• Ammonium nitrate</li> <li>• Metals</li> <li>• Cooling water chemicals (acids, alkalis, biocides)</li> </ul>
Production of specialty gases	<ul style="list-style-type: none"> <li>• Oil</li> <li>• Solvents</li> <li>• Catalysts</li> <li>• Metals</li> </ul>
Combustion of fuels in installations with a thermal input $\geq 50$ MW	<ul style="list-style-type: none"> <li>• Liquid fuel</li> <li>• Any specific contaminant in the fuel</li> <li>• Oil</li> <li>• Cooling water chemicals (acids, alkalis, biocides)</li> <li>• Metals</li> <li>• Solvents</li> </ul>

## References

- [1] Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control). Official Journal of the European Communities L 334 17.12.2010 Page 17.

- [2] Communication from the Commission — European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions. Official Journal of the European Communities C136 6.5.2014 Page 3.
- [3] EIGA Technical Bulletin TB 1 *Impact of the Industrial Emissions Directive*. [www.eiga.eu](http://www.eiga.eu)
- [4] EIGA Doc 137 *Environmental Aspects of Decommissioning*. [www.eiga.eu](http://www.eiga.eu)
- [5] The Soilwater Group Conceptual Site Model (CSM). [www.soilwatergroup.com/company-profile/contaminated-sites/conceptual-site-model-csm/](http://www.soilwatergroup.com/company-profile/contaminated-sites/conceptual-site-model-csm/)

## Member States guidance

### United Kingdom Environment Agency

- Regulatory Guidance Note, RGN 9: Surrender
- [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/296512/LIT\\_8220\\_108e62.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296512/LIT_8220_108e62.pdf)

### Belgium - Flanders

- Besluit van de Vlaamse Regering houdende vaststelling van het Vlaams reglement betreffende de bodemsanering en de bodembescherming
- <https://navigator.emis.vito.be/mijn-navigator?wold=22989>

### France

- Guide méthodologique pour l'élaboration du rapport de base prévu par la Directive IED version 2.1 - Ministère de l'Ecologie, du Développement Durable et de l'Energie - Mai 2014

### Italy

- Decreto Legislativo 4 marzo 2014, n. 46 Attuazione della direttiva 2010/75/UE relativa alle emissioni industriali (prevenzione e riduzione integrate dell'inquinamento)

### European Union Network for the Implementation and Enforcement of Environmental Law

- IED Baseline report
- <http://www.impel.eu/projects/ied-baseline-report/>

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