



TECHNICAL BULLETIN

Prepared by WG-5

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Baseline Reports for Industrial Emissions Directive Sites

Introduction

EIGA has compiled this technical bulletin to provide information to EIGA members—specifically plant managers, technical directors, and environmental specialists—on the provisions concerning the Baseline Report (baseline report is Article 22 of the directive 2010/75/EU (Industrial Emissions Directive - IED)).[1]

Originally established under Directive 2010/75/EU (Industrial Emissions Directive - IED) published on 17th December 2010, the requirement for a Baseline Report remains a cornerstone of environmental permitting. However, this guidance must now be read in conjunction with the significant amendments introduced by Directive (EU) 2024/1785 ("IED 2.0"), which entered into force on August 4, 2024.[2] 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 17th December 2010, the European Commission (EC) published the Industrial Emissions Directive 2010/75/EU [1] The European Commission has produced guidance concerning baseline reports to clarify the IED requirements [3].

Main principles of the IED

The IED, as amended by Directive (EU) 2024/1785, 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, resource efficiency (including energy, water, and materials), promotion of the circular economy, noise, prevention of accidents, and restoration of the site upon closure. Furthermore, permits now require the operator to establish a Transformation Plan towards a clean, circular, and climate-neutral economy by 2050.

The permit conditions, including Environmental Performance Limit Values (EPLVs) alongside 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, ensuring that the most efficient and least polluting techniques are implemented. **What is a baseline report?**

The baseline report collects information on the state of soil and groundwater contamination (pollution) by relevant hazardous substances. Its primary purpose is to establish a quantified benchmark at the time the permit is issued or revised, 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 the

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operation of an IED installation or before updating the permit. While this requirement was originally established for permits updated after 7th January 2013, the amended Directive (EU) 2024/1785 reinforces this obligation, emphasizing high-quality monitoring data.

Upon definitive cessation of the activities, the baseline report acts as the binding 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;
- Trigger the obligation to remediate the site: the operator must remove, control, or contain the pollution to return the site to the baseline state or, at a minimum, ensure it poses no significant risk to human health or the environment.

How to produce a baseline report

The baseline report is drawn up according to the following steps. Reference must be made to European Commission guidance and specific technical standards 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, including Contaminants of Emerging Concern (CECs) (such as PFAS). “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"> • Quantity of relevant hazardous substances • Location of relevant hazardous substances on the site • Containment equipment on the site 	
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 *	
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Step 7	Perform new site investigation (sampling) if existing information on soil and groundwater pollution are not sufficient	

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Step 8	Produce the baseline report	To write 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 ≥ 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"> • Oil • Cooling water chemicals (acids, alkalis, biocides) • Catalysts Metals • Solvents • Amines (e.g., MEA/MDEA for Carbon Capture units) • Electrolytes (e.g., KOH for Alkaline Electrolysis) • PFAS (firefighting foams, membrane residues) • Ammonia
Production of acetylene	<ul style="list-style-type: none"> • Lime • Acids and alkalis • Solvents • Oils • Acetone, DMF • Calcium carbide • Calcium chloride • Metals • PFAS (firefighting systems) • Phthalates (potential plasticizers/solvent impurities)
Production of nitrous oxide	<ul style="list-style-type: none"> • Oils • Solvents • Ammonium nitrate • Metals • Cooling water chemicals (acids, alkalis, biocides) • Nitrogenous residues • PFAS (firefighting systems) • Thermal fluid residues
Production of specialty gases	<ul style="list-style-type: none"> • Oil • Solvents • Catalysts • Metals • Fluorinated gases (F-Gases)

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	<ul style="list-style-type: none"> • Toxic dopants (e.g., Arsine, Phosphine) • PFAS (firefighting systems) • PFAS (if used in purification/coating)
Combustion of fuels in installations with a thermal input \geq 50 MW	<ul style="list-style-type: none"> • Liquid fuel • Any specific contaminant in the fuel • Oil • Cooling water chemicals (acids, alkalis, biocides) • Metals • Solvents • Urea / Ammonia (Reagents for SCR/DeNOx systems) • Mercury (trace in certain fuels) • Soot / Particulate Matter • PFAS (firefighting systems)

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] Directive (EU) 2024/1785 of the European Parliament and of the Council of 24 April 2024 amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC on the landfill of waste. Official Journal of the European Union, L, 2024/1785, 15.7.2024
- [3] 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.

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

Belgium - Flanders

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

Belgium – Wallonie

- <https://www.ejustice.just.fgov.be/eli/decreet/2018/03/01/2018070014/justel>

Belgium – Brussel

- [5 MAART 2009. - Ordonnantie betreffende het beheer en de sanering van verontreinigde bodems | EMIS](#)

Netherlands

- Besluit activiteiten leefomgeving (BAL) voorafgaand bodemonderzoek Afdeling 5.2 §5.2.2
- <https://wetten.overheid.nl>

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)

Slovenia

- [Obtaining or amending an environmental permit for an installation that causes industrial emissions \(IED\) | GOV.SI](#)
- [Navodila-OMO_ZVO2.pdf](#)

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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