

## Factsheet 3.11 - Operator self-monitoring

This Factsheet provides practical guidance on the requirements for the recording and reporting of the results of the monitoring of emissions from industrial installations by the operator. Proper monitoring planning, execution and reporting is a fundamental aspect of good operational and environmental management. It is essential for assessing environmental performance and compliance with the conditions set out in environmental permits. This Factsheet covers the requirements and provisions of the Industrial Emissions Directive (IED) concerning operator self-monitoring and how this is reported to competent authorities as part of the inspection process. In particular, it addresses the minimum content of the operator self-monitoring report and the analysis and follow-up of the report by inspectors.

Recital 26 of IED states that: “In order to ensure the effective implementation and enforcement of this Directive, operators should regularly report to the competent authority on compliance with permit conditions”.

Article 3 (22) of the IED Directive states that environment inspection covers all actions, including verification of self- monitoring.

Article 14 (1c) of the IED requires that conditions in environmental permits should include suitable emission monitoring requirements specifying:

- (i) measurement methodology, frequency and evaluation procedure; and
- (ii) where Article 15(3)(b) is applied, that results of emission monitoring are available for the same periods of time and reference conditions as for the emission levels associated with the best available techniques;

Article 14(1d) includes an obligation to supply the competent authority regularly, and at least annually, with:

- (i) information on the basis of results of emission monitoring referred to in point (c) and other required data that enables the competent authority to verify compliance with the permit conditions; and

Self-monitoring (including monitoring undertaken on behalf of operators by contractors) involves repeated measurements or observations, at an appropriate frequency in accordance with documented and agreed procedures, to obtain the required information on emissions. This information may range from simple visual observations (for example, visible emissions to air from doors, flanges or valves, or the alteration of the colour of a discharge) to precise numerical data (such as the concentration or load of a pollutant).

IMPEL has carried out a body of work to define minimum criteria for environmental inspections. This included guidance on operator self-monitoring<sup>1</sup> which stated that: “*The monitoring of industrial processes, their releases and their impact on the environment are key elements of regulatory control. Such monitoring may be undertaken by the competent authorities responsible for inspection duties. Industrial process operators may also be required to carry out monitoring themselves and report their results to the competent authorities. This is known as operator self-monitoring*”.

The IMPEL project on supporting IED implementation included a working group that looked at operator self-monitoring reporting in 2016<sup>2</sup>. This guidance is based on the report from that group.

### ***Minimum content of the operator self-monitoring report***

Usually, the frequency for the operator to report self-monitoring data to the competent authority is set in the permit to be on a yearly basis.

The self-monitoring report is usually based on the content of the self-monitoring plan and/or the permit conditions. The required content of the report is often included in the permit, and, in some cases, there is also a template that sets out the required structure and content for the submission of the report. The monitoring report should include information about compliance with all permit conditions. Emissions monitoring results and waste management data are also necessary to comply with the Pollutant Release and Transfer Register (PRTR) register.

Effective reporting of self-monitoring involves the production of an Executive Summary, supported by the detailed monitoring results (raw data), relevant information concerning the operation of the specific process, and assessment of compliance with the required permit conditions. The raw data should be accompanied by a more detailed description and interpretation of the underlying process trends and conditions. Other relevant information to be presented may include, for example, maintenance measures, data on materials and energy consumption, and the production of waste.

The production of the following tools/templates is recommended to ensure consistent reporting of operator monitoring:

Description of minimum content and frequency of the self-monitoring report

Self-monitoring report templates

Identification of the necessary data to comply with PRTR register requirements.

### ***Analysis of self-monitoring report to be performed by inspectors***

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<sup>1</sup> IMPEL report on Operator Self-Monitoring. February 1999.

<sup>2</sup> IMPEL report on Supporting Implementation of the Industrial Emissions Directive. Project 2016/1, October 2016.

A common approach has been identified and it is recommended that this should be applied to ensure that key components of the self-monitoring reports are included in the analysis. The assessment of the self-monitoring report submitted by the operator should usually cover the following aspects:

whether the report was submitted by the agreed date and according to the required frequency of reporting as set out in the permit conditions

the use of appropriate templates for reporting, if required

the completeness of data and parameters required, including frequency and extent of measurements

the adequacy of the operator to self-monitor its emissions: whether measurements were carried out on-site or not, by the required person or institution (internal or external laboratories, with appropriate quality control, with certification or accreditation, if necessary), by appropriate sampling at specified locations, using appropriate analytical methods and instrumentation, at a clearly defined operation status of the installation

a review of calculations and statistical analysis of the monitoring data (especially in more complex reports).

The nature and scope of the analysis should include, as a minimum, an assessment of compliance with the emission limit values set out in the permit. It may also include:

a check of overall compliance of the installation with environmental permit conditions

an analysis of the trends in environmental parameters (e.g. material and energy consumption, emissions, amount of waste produced) in order to check the operational performance of the installation so that timely action can be taken to ensure that it continues to operate within the definition of BAT

an assessment of critical conditions to be focused on in the next inspection

a comparison of the performance of the installation with other installations in the specific sector

a comparison of the performance of the installation with BAT.

Useful tools for the analysis are:

appropriate templates for the assessment and reporting on self-monitoring reports to simplify and standardize the analysis

use of a (national) database for the storage and exchange of the operator reports and of the assessment process (which may involve several experts)

independent monitoring to cross-check the operator self-monitoring, e.g. by analysing samples taken during on-site visits, including split samples.

As far as the output of the self-monitoring report analysis is concerned, the IED has no specific requirements for the preparation of the report of the evaluation. Consequently, EU Member

States use different approaches in the reporting of the results of the analysis of the operator's self-monitoring:

some produce the report according to a standard template and others take a free-form approach,

some produce the report as a separate document outside the site-inspection, and others incorporate the self-monitoring analysis with the reports from on-the-spot inspections,

in some countries, the reporting of the evaluation is a formal requirement, but in others it is not.

In some countries, a report on the analysis of the self-monitoring report is produced only in cases where non-compliances have occurred. In others, a report is produced even if no non-compliances are reported or detected. In these cases, the document provides evidence that supports confirmation of compliance with the conditions of the permit and the requirements of the regulations (such as: compliance with ELVs and other required parameters set in the permit, operator monitoring equipment and regime, accreditation of laboratory, time limit for reporting, frequency of reporting, use of required template for reporting).

There are also differences in practice over the notification and release of the inspector's report to the operator and other competent authorities. In some countries, the inspector may only provide notification that the report has been produced (and that it may have been placed on an inspection database). In others, the inspector's report is submitted directly to the operator or to the competent authority.

Templates for report of the self-monitoring analysis have been developed in some countries.

### ***Follow-up of the self-monitoring report analysis***

The analysis of the self-monitoring report is useful to competent authorities:

to check compliance with permit conditions, before going to a site for performing an environmental inspection;

to plan a non-routine site visit;

to review the environmental risk assessment of a plant;

to verify data sent by operators to the PRTR register;

to take decisions on interventions that might be needed to prevent environmental harm, such as suspension of the permit or suspension of operation;

to provide the evidence to support the initiation of penal or administrative procedures against operators that have failed to comply with the law.

There are two different kinds of non-compliance reporting in the self-monitoring report: first, the non-compliance is reported by the operator and second, the non-compliance is detected and reported by the inspector.

For non-compliances identified by the operator, in most EU member countries, operators have to inform competent authorities immediately when an incident or accident occurs or when emission limit values are exceeded. The competent authority will stipulate what remedial actions need to be taken by the operator to return to a state of compliance and to resolve the problems that have occurred. In these cases, the self-monitoring report should include a compilation of the incidents or breaches that occurred and the remedial action that was taken over a fixed period (usually one year). This compilation can be used to support a new environmental risk evaluation.

For non-compliances detected by the inspector during the analysis of the self-monitoring report, there are differences in approach between countries in taking follow-up action.

Italy, for example, considers that the detection of exceedances of emission limit values in the analysis of self-monitoring reports is not, in itself, enough to open infringement procedures against the operator. The breach has to be confirmed by the operator or proved by means of evidence from the actual sampling and analysis of the emissions.

Other countries do take action and may prosecute operators on the basis of self-monitoring data.

In the follow-up of cases where non-compliances are detected through self-monitoring inspectors should take into account at least the following criteria:

Whether the non-compliance is reported by the operator or detected by the inspector through the analysis of the self-monitoring report.

The level of the non-compliance.

The assessment of the reason for the breach (through a site visit or by requesting further documentation).