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**EXPLANATORY & GUIDANCE  
document (E&G-d)  
on IED-based (draft)  
Waste Incineration BREF  
and BAT conclusions**

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**ANNEX 3  
Monitoring & Uncertainties**

**Annex 3.d  
Upcoming standards**

## Table of content

|  |   |
|--|---|
| Annex 3.d: Upcoming standards .....  | 3 |
| Abbreviations and explanations.....  | 3 |
| 1.    New Standards on Data Acquisition and Handling Systems (DAHS), Part 1.....                                 | 3 |
| 1.1    General .....   | 3 |
| 1.2    Flags –Plant status – Reportable data – Data products .....   | 3 |
| 1.3    Validity of the Short Term Averages (STA) .....   | 4 |
| 1.4    Minimum number of First Level Data in reportable mode to calculate a STA in each<br>reportable mode ..... | 4 |
| 1.5    Validated Short-Term Averages (subtraction of the uncertainty).....                                       | 5 |
| 2.    Upcoming Standards on Data Acquisition and Handling Systems (DAHS), Parts 2 and 3.....                     | 6 |
| 2.1    EN 17255 – Part 2 .....   | 6 |
| 2.2    EN 17255 – Part 3 .....   | 6 |

## Annex 3.d: Upcoming standards

### Abbreviations and explanations

See **Annex 1** to this Explanatory and Guidance document (E&G-d) for:

- a summary of abbreviations
- and, in **its section 2**, explanations on measurements wording.

## 1. New Standards on Data Acquisition and Handling Systems (DAHS), Part 1

### 1.1 General

As said above (See **Section 1.3 of Annex 3.a** to this E&G-d) EN 14181: 2014 does not cover Data acquisition and handling systems (DAHS). A new Standard is under preparation on this issue.

Indeed, the first part of a standard EN 17255-1, has been published on 31<sup>st</sup> July 2019. It is titled: *“Stationary source emissions - Data acquisition and handling systems - Part 1: Specification of requirements for the handling and reporting of data”*.

This standard can help to solve some of the problems identified for compliance assessment of BATAEL-based ELVs. Indeed, as said in its section 5.1 *“This document is intended to define common practice and approaches for data calculations and transformation for the cases where legislation is ambiguous or does not specify an approach.”*

### 1.2 Flags –Plant status – Reportable data – Data products

Section 6.4 describes *“Plant process data”* as follows. *“Plant process data related to plant process parameters are often required in order to flag certain data and to determine which data are used to form data products. For example certain reporting requirements exclude data from plant start-up and shut-down conditions. These data are usually acquired from the process control system of the plant being monitored, but they can also be derived from the peripheral data or entered manually.”*

In the case of waste incineration, plant process data can be used to provide plant status data such as NOC or OTNOC situation. (About NOC & OTNOC, please see **Annex 2** to this E&G-d).

Section 7.4.3.1, ‘Plant information’ – ‘General’, of the standard says: *“Plant operation and plant status data are required to determine which measured data are included in data products to meet specific legislative requirements. For example plant status applicable for IED and E-PRTR reporting has a value that may be operating, in shutdown or start-up condition, and in fault.”*

Section 7.4.3.2, ‘Plant information’ – ‘Plant status’, says: *“As a minimum the compliance status of the plant related to each FLD, either emissions are reportable or emissions are not reportable, shall be recorded. Where a plant is complying with multiple compliance regimes (e.g. data products both including and excluding start-up and shut-down periods) the compliance status of the plant related to each FLD shall be recorded for each compliance regime.”*

And Section 8.1, ‘Calculation of reported data’ – ‘General’, says: *“Because different reporting requirements can require monitoring over different periods with different plant status there may be separate averages formed for different reporting purposes, and consequently a different series of data*

products (such as VSTA and LTA) [see below]. Each reported data product shall be considered as separate implementation of the above procedure.”

### 1.3 Validity of the Short Term Averages (STA)

For waste incineration plants, the Short Term Average (STA) is the half-hourly (or, possibly for CO, the 10 minute) average.

According to section 8.3, ‘Calculation of short-term averages’, of the standard: “The STA shall be formed by averaging the FLD<sup>1</sup> over the required period and then applying the calibration function determined in QAL2 according to EN 14181. Only those FLD for which the plant status is in reportable mode, as specified in the relevant regulation, shall be used to form the STA. Any FLD that have been invalidated, as defined in 7.4.1, shall be omitted from the STA.”

Section 8.4.2, ‘Plant operation mode’, says: “Where the plant operation mode is associated with STA, it shall be based on the FLD plant operation mode over the STA period, determined in accordance with legislation and/or permit.”

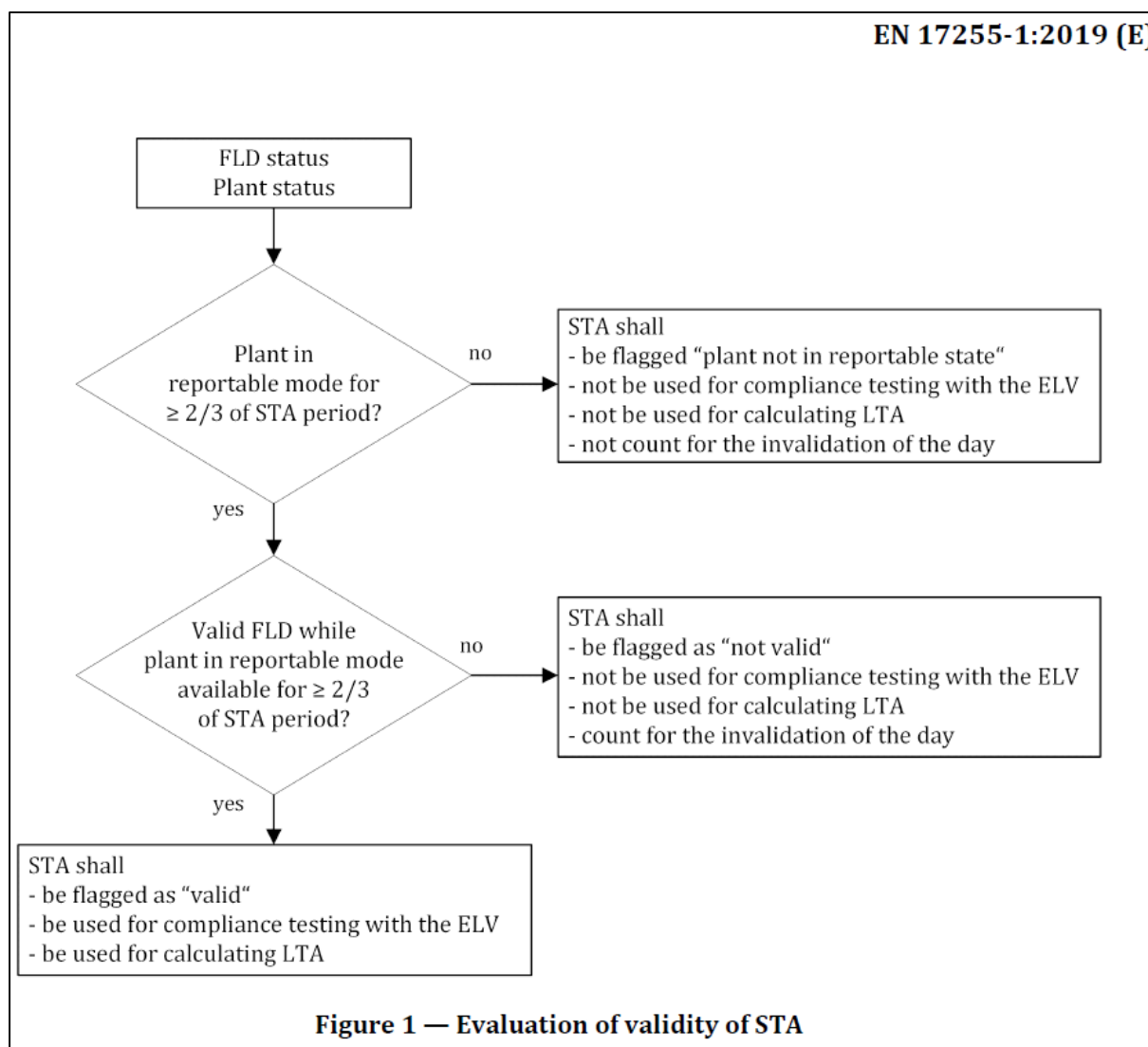
Section 8.5, ‘Validity of the STA’, says: “Validity of the STA is used to evaluate the compliance of the continuous monitoring with respect to regulatory requirements. It is based on the availability of data from the AMS, the plant status and the plant operation mode. It is calculated using the FLD data set over the STA period. The validity of the STA shall be evaluated on the basis of the two-third rule”. This is illustrated by **Figure 3.d-1 below**.

### 1.4 Minimum number of First Level Data in reportable mode to calculate a STA in each reportable mode

According to the same document (see its Section 8.5, ‘Validity of the STA’), the Short-Term Averages (STA) should be evaluated on the basis of the two third rule. See **Figure 3.d-1 below**.

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<sup>1</sup> FLD, First Level Data: raw data or average values calculated from the raw data, both including status signals



**Figure 3.d-1:** Decision tree to evaluate the validity of STA by using the 2/3 rule according to EN 17255-1 Figure 1. With:

- FLD: First level data (event triggered sampling or sampling on second or minute level)
- STA: Short term average (half hour for incineration plants)
- LTA: Long term average (day)

This rule can be used to assess the minimum number of First Level Data in NOC to calculate a ½-hr average (STA) in NOC.

### 1.5 Validated Short-Term Averages (subtraction of the uncertainty)

According to the same document (see its section 8.11, 'Validated short-term averages'), the Validated Short-Term Averages (VSTA) should be calculated by subtracting the uncertainty from the Standardised Short-Term Average (SSTA), which is (see section 8.7, 'Calculation of standardized short-term averages') calculated by normalising each valid STA pollutant value with the associated valid STA peripheral values.

## 2. Upcoming Standards on Data Acquisition and Handling Systems (DAHS), Parts 2 and 3

According to the introduction to EN 17255 Part 1, the EN 17255 series, published under the general title 'Stationary source emissions — Data acquisition and handling system', "(...) govern the process for the quality assurance of data received by a data acquisition and handling system (DAHS) from automated measuring systems (AMS), being used for monitoring emissions from stationary sources and quality ensured to EN 14181."

### 2.1 EN 17255 – Part 2

A draft of Part 2 of the Standards (PR EN 17255-2), 'Specification of requirements on data acquisition and handling systems' is currently under review within CEN. Publication is scheduled in September 2020.

### 2.2 EN 17255 – Part 3

A draft of Part 3 of the Standards (PR EN 17255-3), 'Specification of the performance test and certification of data acquisition and handling systems' is currently in the drafting process within CEN.