

## COMMISSION IMPLEMENTING DECISION

of 7 May 2012

concerning the determination of start-up and shut-down periods for the purposes of Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions

(notified under document C(2012) 2948)

(Text with EEA relevance)

(2012/249/EU)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) <sup>(1)</sup>, and in particular point (a) of the first paragraph of Article 41 thereof,

Whereas:

- (1) Directive 2010/75/EU does not determine start-up and shut-down periods, while those periods relate to several provisions in that Directive.
- (2) For combustion plants covered by Chapter III of Directive 2010/75/EU, the determination of start-up and shut-down periods is required for assessing compliance with the emission limit values set out in Annex V to Directive 2010/75/EU, taking into account Part 4 of that Annex, as well as for determining the number of operating hours of the combustion plants, where it is relevant for the implementation of that Directive.
- (3) Article 14(1)(f) of Directive 2010/75/EU requires the permit to include measures relating to conditions other than normal operating conditions, such as start-up and shut-down operations. In accordance with Article 6 of Directive 2010/75/EU, such measures can be included in general binding rules.
- (4) The emissions from combustion plants during start-up and shut-down periods are generally at elevated concentrations compared to normal operating conditions. In view of the objective of Directive 2010/75/EU to prevent emissions, those periods should be as short as possible.
- (5) The measures provided for in this Decision are in accordance with the opinion of the Committee established by Article 75 of Directive 2010/75/EU,

HAS ADOPTED THIS DECISION:

*Article 1***Subject matter and scope**

This Decision lays down rules concerning the determination of the start-up and shut-down periods referred to in point (27) of Article 3 and in point 1 of Part 4 of Annex V to Directive 2010/75/EU.

<sup>(1)</sup> OJ L 334, 17.12.2010, p. 17.

This Decision shall apply to combustion plants covered by Chapter III of Directive 2010/75/EU.

*Article 2***Definitions**

For the purposes of this Decision the following definitions apply:

- (1) 'minimum start-up load for stable generation' means the minimum load compatible with the steady operation of the generating combustion plant following start-up initiation after which the plant is able to safely and reliably deliver its output to a network, grid, heat accumulator or industrial site;
- (2) 'minimum shut-down load for stable generation' means the minimum load at which point the plant can no longer safely and reliably deliver its output to a network, grid, heat accumulator or industrial site and is considered to be shutting down.

*Article 3***General rules for determining start-up and shut-down periods**

For determining the end of the start-up period and the beginning of the shut-down period, the following rules shall apply:

- (1) the criteria or parameters used to determine start-up and shut-down periods shall be transparent and externally verifiable;
- (2) the determination of start-up and shut-down periods shall be based on conditions allowing a stable generation process safeguarding health and safety;
- (3) periods during which a combustion plant, after start-up, is operating stably and safely with fuel supply but without the export of heat or electricity or mechanical energy shall not be included in the start-up or shut-down periods.

*Article 4***Determination of start-up and shut-down periods in the permit**

1. For the purposes of the determination of start-up and shut-down periods in the permit of the installation comprising the combustion plant, the measures referred to in Article 14(1)(f) of Directive 2010/75/EU shall include:

- (a) at least one of the following:
- (i) the end point of the start-up period and the start point of the shut-down period expressed as load thresholds, in accordance with Articles 6, 7 and 8 and considering that the minimum shut-down load for stable generation may be lower than the minimum start-up load for stable generation as the combustion plant may be able to operate stably at a lower load once it has reached a sufficient temperature following a period of operation;
  - (ii) discrete processes or thresholds for operational parameters, which are associated with the end of the start-up period, and with the start of the shut-down period, and which are clear, easily monitored and applicable to the technology used, as set out in Article 9;
- (b) measures ensuring that the start-up and shut-down periods are minimised as far as practicable;
- (c) measures ensuring that all abatement equipment is brought into operation as soon as is technically practicable.

For the purposes of the first subparagraph, account shall be taken of the technical and operational characteristics of the combustion plant and its units, and the technical requirements for operating the abatement techniques installed.

2. If any aspects relating to the plant that affect start-up and shut-down periods change, including the installed equipment, fuel type, plant role in the system and installed abatement techniques, the permit conditions related to start-up and shut-down periods shall be reconsidered and, if necessary, updated by the competent authority.

#### Article 5

##### **Determination of start-up and shut-down periods for combustion plants consisting of two or more units**

1. For the purpose of calculating the average emission values as set out in point 1 of Part 4 of Annex V to Directive 2010/75/EU, the following rules shall apply for determining the start-up and shut-down periods of combustion plants consisting of two or more units:

- (a) the values measured during the start-up period of the first unit starting up and during the shut-down period of the last combustion unit shutting down shall be disregarded;
- (b) the values determined during other start-up and shut-down periods of individual units shall be disregarded only if they are measured or, where no measurement is technically or economically feasible, calculated separately for each of the units concerned.

2. For the purpose of point (27) of Article 3 of Directive 2010/75/EU, the start-up and shut-down periods of combustion

plants consisting of two or more units shall only consist of the start-up period of the first combustion unit starting up and the shut-down period of the last combustion unit shutting down.

For combustion plants for which points 2, 4 and 6 of Part 1 of Annex V to Directive 2010/75/EU allow the application of an emission limit value to part of the plant discharging its waste gases through one or more separate flues within a common stack, the start-up and shut-down periods may be determined for each of those parts of the combustion plant separately. The start-up and shut-down periods for a part of the plant shall then consist of the start-up period of the first combustion unit starting up within that part of the plant and the shut-down period of the last combustion unit shutting down within that part of the plant.

#### Article 6

##### **Determination of start-up and shut-down periods for combustion plants generating electricity or delivering power for mechanical drive using load thresholds**

1. For combustion plants generating electricity and for combustion plants for mechanical drive, the start-up period shall be considered to end at the point when the plant reaches the minimum start-up load for stable generation.

2. The shut-down period shall be considered to begin at the initiation of termination of fuel supply after reaching the point of the minimum shut-down load for stable generation from where on generated electricity is no longer available for the grid or generated mechanical power is no longer useful for the mechanical load.

3. The load thresholds to be used for determining the end of the start-up period and the start of the shut-down period for electricity generating combustion plants and to be included in the plant's permit shall be a fixed percentage of the rated electrical output of the combustion plant.

4. The load thresholds to be used for determining the end of the start-up period and the start of the shut-down period for combustion plant for mechanical drive and to be included in the plant's permit shall be a fixed percentage of the mechanical power output of the combustion plant.

#### Article 7

##### **Determination of start-up and shut-down periods for heat generating combustion plants using load thresholds**

1. For heat-generating combustion plants, the start-up period shall be considered to end when the plant reaches the minimum start-up load for stable generation and heat can be safely and reliably delivered to a distributing network, to a heat accumulator or used directly on a local industrial site.

2. The shut-down period shall be considered to begin after reaching the minimum shut-down load for stable generation when heat can no longer be safely and reliably delivered to a network or used directly on a local industrial site.

3. The load thresholds to be used for determining the end of the start-up period and the beginning of the shut-down period for heat generating combustion plants and to be included in the plant's permit shall be a fixed percentage of the rated thermal output of the combustion plant.

4. Periods in which heat-generating plants are heating up an accumulator or reservoir without exporting heat shall be considered as operating hours and not as start-up or shut-down periods.

*Article 8*

**Determination of start-up and shut-down periods for combustion plants generating heat and electricity using load thresholds**

For combustion plants generating electricity and heat, the start-up and shut-down periods shall be determined as set out in Articles 6 and 7, taking into account both the electricity and heat generated.

*Article 9*

**Determination of start-up and shut-down periods using operational parameters or discrete processes**

For determining the minimum start-up load and the minimum shut-down load for stable generation, at least three criteria shall

be defined, with the end of start-up or start of shut-down periods reached when at least two of the criteria have been met.

These criteria shall be chosen from the following:

- (1) discrete processes set out in the Annex or equivalent processes that suit the technical characteristics of the plant;
- (2) thresholds for the operational parameters set out in the Annex, or equivalent operational parameters that suit the technical characteristics of the plant.

*Article 10*

This Decision is addressed to the Member States.

Done at Brussels, 7 May 2012.

*For the Commission*  
Janez POTOČNIK  
*Member of the Commission*

## ANNEX

**DISCRETE PROCESSES AND OPERATIONAL PARAMETERS ASSOCIATED WITH START-UP AND SHUT-DOWN PERIODS****1. Discrete processes associated with the minimum start-up load for stable generation**

- 1.1. For solid fuel-fired boilers: complete transition from using the stability auxiliary burners or supplementary burners to operating with normal fuel only.
- 1.2. For liquid fuel-fired boilers: start of the main fuel feed pump and when burner oil pressure stabilises, and for which fuel flow rate may be used as an indicator.
- 1.3. For gas turbines: point where the combustion mode switches to fully premixed steady state combustion mode, or 'idle speed'.

**2. Operational parameters**

- 2.1. Oxygen content of the flue gases.
  - 2.2. Flue gas temperature.
  - 2.3. Steam pressure.
  - 2.4. For heat producing plants: enthalpy and heat transfer fluid rate.
  - 2.5. For liquid and gas fired plants: fuel flow rate, specified as a percentage of the rated fuel flow capacity.
  - 2.6. For steam boiler plants: temperature of steam at the exit of the boiler.
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