

# Agency Protocol for the Bypass of Air Emissions Abatement Equipment



## 1 INTRODUCTION

This note is intended to provide guidance to industry on actions required should breakdown or a malfunction occur relating to the air abatement equipment. It replaces the Agency's previous guidance 'Agency Protocol for the Bypass of Air Emissions Abatement Equipment' published in September 2008.

This note does not apply to sectors covered by the Large Combustion Plant (LCP) requirements of the Industrial Emissions Directive (IED).

The air emissions limit values, their monitoring, control, and abatement requirements are specified in licences issued by the Environmental Protection Agency (EPA).

The licensee is required to provide all process information, including information on environmental control equipment at the time the application is submitted. If air emissions abatement is required, to manage an installation's atmospheric emissions, then this is part of the process control system and so, to continue to operate the process that gives rise to the emissions without the abatement in place is considered to be operating outside the conditions of the licence.

Once a licence is issued, the condition regarding emissions typically requires that:

*No specified emission from the installation/facility shall exceed the emission limit values set out in Schedule B: Emission Limits of this licence. There shall be no other emissions of environmental significance*

In addition, the relevant licence condition regarding notification typically reads:

*The licensee shall notify the Agency by both telephone and either email or webform, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:*

*any release of environmental significance to atmosphere from any potential emissions point including bypasses;*

Many licences contain additional conditions which refer to safety and protection of the environment.

## 2 HANDLING OF AIR EMISSIONS ABATEMENT BYPASS EVENTS

Bypass of air emissions abatement systems (e.g. thermal oxidiser, incinerator, carbon adsorption unit) should not happen routinely. Any increasing trend in bypass frequency should be investigated and preventative actions taken. The causes of bypasses should be examined, trended and acted upon, in order to maximise abatement uptime.

### 2.1 The following requirements apply to all facilities.

1. Where the licence does not include specific controls to deal with the bypass event, then licensees should develop an appropriate **Response Procedure**. (Guidance on the preparation of a Response Procedure is outlined in Appendix 2 of this document). This Procedure should set out how the bypass event will be managed in order to prevent the bypass from becoming environmentally significant.
2. Where bypasses occur, these shall ideally be monitored.
3. A record must be kept of all bypass events. The nature of the bypass information recorded shall as a minimum include the:
  - a. date,
  - b. start and end-times,
  - c. cause,
  - d. characteristics,
  - e. an estimation of the quantity of the emission,
  - f. an assessment of its significance, and
  - g. a description of the corrective and preventative actions taken.
4. Records of non-significant bypass events should be maintained onsite from Agency inspection and reported in the sites Annual Environmental Report (AER).
5. All significant bypasses i.e. those which breach licence ELVs and/or are assessed to be significant (guidance on the determination of significance is outlined in Appendix 1 of this document) are incidents (as defined in the licence) and must be reported in accordance with licence requirements and in accordance with any Agency guidance on incident categorisation, response and reporting.
6. Bypass information must be included in the fugitive emissions assessment report to the Agency and must be accounted for in the annual summary of emissions submitted as part of the AER and PRTR.

### 2.2 Special Provision in relation to Waste Incineration Directive (WID) plants

Under Chapter 4 of the IED, additional requirements, in relation to bypass and ELV breach events, apply to incineration and co-incineration plants. *These requirements must be complied with by the licensee in addition to any licence requirements.*

1. The licensee shall under no circumstances continue to incinerate waste for a period of more than 4 hours uninterrupted, where any ELV is being exceeded.<sup>Note 1</sup>
2. The cumulative hours of operation above ELVs shall not exceed 60 hours over a 1 year period (this limit applies to each incineration unit).
3. In the case of breakdown of abatement equipment (including bypasses), the licensee shall reduce or close down operations, as soon as practicable, until normal operations can be restored.
4. The licensee must keep a documented record of the duration of:
  - i) Operational hours of the waste incineration and co-incineration plant where ELVs are being exceeded.
  - ii) Operational hours of the waste incineration and co-incineration plant during periods of bypass/breakdown/malfunction of the abatement equipment.

### 2.3 Actions Required by Licensees at Sites at which WID Requirements are Applicable.

Licensees are to develop documented procedures to ensure that the requirements, as outlined above, are implemented onsite.

Note 1: The requirements of Article 50(4) of the IED still apply requiring the licensee to prevent waste feed, to the incinerator, where continuous measurements show that any emission limit value is exceeded, due to disturbance or failure of the abatement system.

## Appendix 1

### Environmental Significance

An environmentally significant air emission is any air emission that falls within the definition of pollution as specified in **Section 4(2)** of the Environmental Protection Agency Act (as amended).

**Section 4(2)** of the Protection of the Environment Act, 2003 states;

*In this Act 'environmental pollution' means the direct or indirect introduction to an environmental medium, as a result of human activity, of substances, heat or noise which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment, and includes—*

*(a) 'air pollution' for the purposes of the Air Pollution Act 1987,*

*(b) the condition of waters after the entry of polluting matter within the meaning of the Local Government (Water Pollution) Act 1977,*

*(c) in relation to waste, the holding, transport, recovery or disposal of waste in a manner which would, to a significant extent, endanger human health or harm the environment and, in particular—(i) create a risk to the atmosphere, waters, land, plants or animals, (ii) create a nuisance through noise, odours or litter, or (iii) adversely affect the countryside or places of special interest, (d) noise which is a nuisance, or would endanger human health or damage property or harm the environment.*

#### A Significance Bypass

A significant bypass event should be based on more than an assessment of its Environmental significance. The assessment should be determined on a case-by-case basis, for each bypass event, and should be determined with consideration of the following:

- a. Concentration and/or mass of pollutant emitted, coupled with duration of bypass,
- b. Maximum worst case emission on a kg/hr basis compared with relevant emission limit values and/or mass emissions thresholds e.g. BAT limits,
- c. Results of air and/or odour dispersion modelling to assess impact,
- d. Odour impacts and/or complaints,
- e. Geographical location including sensitive receptors.

The onus is on the licensee to assess the significance of a bypass event and to determine whether or not an event requires notification to the Agency and other relevant authorities.

## **Appendix 2**

### **Response Procedure**

A Response Procedure should be developed on a site-specific basis. Licensees with an effective Response Procedure, which is properly implemented, should be able to minimise the frequency of bypasses and where they do occur, should be in a position to take corrective action in order to prevent the bypass from becoming significant (e.g. modification of operation, use of alternative abatement and process shutdown).

The Response Procedure shall include criteria for identifying the likely significance of all potential bypass emission points. It shall assess the worst-case emissions scenario and compare this to relevant emissions limit values (where they apply) and/or any relevant mass emission thresholds.

Dispersion modelling shall be carried out on all significant potential bypass emission points to provide an indication of the environmental significance of the impact of a bypass emission on ambient air quality. Modelling shall also be used to identify the likely impact zone as well as the main receptors should a bypass event occur.

The Response Procedure should clearly set out the criteria for assessing the significance of both the bypass emission itself and its environmental significance. If required, additional air dispersion modelling should be carried out after the bypass event to assist in the assessment of impact.

If the site is a waste incineration or co-incineration plant, the procedure must include the requirements of IED Chapter 4, Articles 46 & 47, as outlined above.