

Compliance with Article 50 of the IED

Article 50 Paragraph 1

Article 50 Paragraph 1 of the IED states that:

“1. Waste incineration plants shall be operated in such a way as to achieve a level of incineration such that the total organic carbon content of slag and bottom ashes is less than 3 % or their loss on ignition is less than 5 % of the dry weight of the material. If necessary, waste pre-treatment techniques shall be used.”

This Paragraph is not applicable as slag and bottom ash is not generated from the on site incinerator plant.

Article 50 Paragraph 2

Article 50 Paragraph 2 of the IED states that:

“2. Waste incineration plants shall be designed, equipped, built and operated in such a way that the gas resulting from the incineration of waste is raised, after the last injection of combustion air, in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of at least 850 °C for at least two seconds. Waste co-incineration plants shall be designed, equipped, built and operated in such a way that the gas resulting from the co-incineration of waste is raised in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of at least 850 °C for at least two seconds.

If hazardous waste with a content of more than 1 % of halogenated organic substances, expressed as chlorine, is incinerated or co-incinerated, the temperature required to comply with the first and second subparagraphs shall be at least 1 100 °C.

In waste incineration plants, the temperatures set out in the first and third subparagraphs shall be measured near the inner wall of the combustion chamber. The competent authority may authorise the measurements at another representative point of the combustion chamber.”

The profile of solvent waste generated on site varies such that the halogenated content of solvent waste is < 1% for extended periods of time, therefore the KEU unit is operated on a dual temperature strategy in line with the requirements of Article 50 of the IED.

Operating conditions are as follows:

Parameter	Specification
Minimum combustion temperature during gas residence time	<ul style="list-style-type: none">• at least 850 °C, or• at least 1100 °C for hazardous wastes with greater than 1 % halogenated organic substances (as Cl)

To ensure compliance to the above, production schedules are reviewed for the potential to generate halogenated solvent waste streams and all hazardous waste for incineration is analysed for halogenated solvent content.

Article 50 Paragraph 3

Article 50 Paragraph 2 of the IED states that:

“3. Each combustion chamber of a waste incineration plant shall be equipped with at least one auxiliary burner. This burner shall be switched on automatically when the temperature of the combustion gases after the last injection of combustion air falls below the temperatures set out in paragraph 2. It shall also be used during plant start-up and shut-down operations in order to ensure that those temperatures are maintained at all times during these operations and as long as unburned waste is in the combustion chamber.

The auxiliary burner shall not be fed with fuels which can cause higher emissions than those resulting from the burning of gas oil as defined in Article 2(2) of Council Directive 1999/32/EC of 26 April 1999 relating to a reduction in the sulphur content of certain liquid fuels, liquefied gas or natural gas.”

An auxiliary natural gas burner maintains the temperature of the KEU Incinerator unit. This burner is switched on automatically when the temperature of the combustion gases after the last injection of combustion air falls below the temperatures set out in Article 50 Paragraph 2. It is also used during plant start-up and shut-down operations in order to ensure that those temperatures are maintained at all times during these operations and as long as unburned waste is in the combustion chamber.

Article 50 Paragraph 4

Article 50 Paragraph 4 of the IED states that:

“4. Waste incineration plants and waste co-incineration plants shall operate an automatic system to prevent waste feed in the following situations:

(a) at start-up, until the temperature set out in paragraph 2 of this Article or the temperature specified in accordance with Article 51(1) has been reached;

(b) whenever the temperature set out in paragraph 2 of this Article or the temperature specified in accordance with Article 51(1) is not maintained;

(c) whenever the continuous measurements show that any emission limit value is exceeded due to disturbances or failures of the waste gas cleaning devices.”

Continuous monitoring of carbon monoxide, total organic carbon, hydrogen chloride, particulate, nitrogen oxides and sulphur dioxide levels is carried out on the exhaust gases and recorded in the Talas (CEMS). The monitoring is undertaken prior to the gases entering the combined stack. The unit is also monitored periodically, as required by the current licence for hydrogen fluoride, hydrogen bromide, dioxins/furans and heavy metals.

The TALAS is configured such that the exceedance of any stack emission limit value immediately causes the shut off of the waste feed to the KEU incinerator while the auxiliary natural gas burner maintains the unit temperature as required by the facility licence.

The monitoring of other critical operational controls such as temperature, air flow etc. is carried out by the Foxboro I/A Distributed Control System (DCS). Again hardwired or software interlocks are used to control unit operations ensuring that pre-programmed parameters are maintained and emission limit values set out in the facility licence.

As a result waste feed is prevented where the required temperature is not achieved at start up, whenever the required temperature is not maintained and when any emission limit value is exceeded due to disturbances or failures of the waste gas cleaning devices.