

Site Reference: PPCA/A2_3.3/UG/2003

Date Inspected: 9th October 2015

Inspection Type: Full Inspection

Person Seen: Alistair Lowe
Eddie Goddard
Raj Parmar

**Site Name
&Address:** O-I manufacturing UK
Edinburgh Way
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CM20 2UG

Inspected By: Fay Rushby
Stuart Athol

Inspection report: The following information provides a formal record of the above inspection:

1. Site update

A comprehensive tour of the site was undertaken to review the new infrastructure arrangements. It was fantastic to see the new furnace in operation and actively producing. In brief summary:

- The interim arrangements in relation to the installation of the VSA were noted.
- Building cladding replaced.
- Single ID fan now serves the EP
- Batch plant largely the same.
- Revisions to bulk fuel oil store planned (note comments in relation to the update of site condition reports -see later)
- Cullet storage areas remain unchanged.
- Waste storage areas remain unchanged.
- Forming and hot end coating areas reviewed.
- Warehousing and storage.

2. CEMs

CEMs are in place and running for SO_x, NO_x and particulate matter. As discussed, emissions compliance for oxy-fuelled furnaces is demonstrated on the basis of kg/tonne, rather than emissions concentration in mg/m³.

Measured emissions in concentration for comparison with emission limits in kg/tonne are calculated by conversion from concentrations to specific mass emissions as follows:

Specific mass emission (kg/tonne of melted glass) = conversion factor x emissions concentration (mg/Nm³)

Where: conversion factor = (Q/P) x 10⁻⁶

Q = waste gas volume in Nm³/h

P = pull rate in tonnes of melted glass/h.

This means that in order to obtain meaningful results to determine daily compliance, you will need some means of confirming waste gas volume 'Q', given that you will already know the pull rate 'P'. The following points were raised in relation to the above:

- The continuous monitoring for exhaust gas volume, using either a specific CEM for the purpose, or by using ID fan speed/suction as a surrogate (the specific CEM is the preferred approach).
- Twice yearly spot sampling in absence of the continuous monitoring for exhaust gas volume (the specific CEM is the preferred approach, given the potential for variability with furnace load).
- The modification of the CEM reporting software to report daily averages compared to permitted limits.

3. Spot samples

So far, at least two separate spot sampling exercises appear to have been undertaken on the new furnace:

1. Furnace operational with no secondary abatement (results awaited)
2. Furnace operation with secondary abatement but no reagent injection (results obtained and very good. Marginal exceedance on SO_x and acid gasses).

The next proposed soot sampling exercise (November 2015) is for full furnace operation and fully operational flue gas treatment systems.

4. Sulphur balance

A sulphur mass balance is still required for the identification of sulphur flows and anticipated EP waste sent for disposal. The format of the mass balance should be as described in the following section of the Bref: 8.2 Annex II: Example sulphur balances for industrial glass furnaces, Page 435 - 438.

5. Draft permit

The proposed draft permit was discussed in outline, and a first draft for comment is attached to this inspection report. The permit has been drafted using the Bref note published in 2012, and in line with the requirements of Article 14 of the Industrial Emissions Directive.

I recommend that you review the proposed draft and we meet / telcon to discuss.

The permit needs to be in place by March 2016, which is 4 years from the date of the publication of the revised Bref note

Signed:



Environmental Health Officer

Date of Report:

16th October 2015