

26th February 2015

Rebecca Green FIMF AIEMA
Compliance Officer PPC
Natural Resources Wales
Rivers House
St Mellons Business Park
Cardiff
CF3 0EY

Dear Ms Green

Pollution Prevention & Control - PPC Permit BV7460ID

As per section 4.1.4 of the PPC regulations and reporting requirements, please find enclosed a review of IR Newport fugitive emissions during 2014.

Yours sincerely



Andrew Cade
Environmental Engineer

Enc

Fugitive Emissions Review Report

Introduction

The requirement for the fugitive emissions report comes from IP 4.1.4 of IRN PPC Permit BV 7460ID and Section 2.2.4.1. This report is written using the guidance note for the Inorganic Chemicals sector IPPC S4 03.

Fugitive emissions on site are very limited and considered to be insignificant, due to the small quantity of solvent used per wafer in the Wafer Fabrication operations.

Background

International Rectifier is a world-wide semiconductor company; IR Newport (IRN) is a major cleanroom facility in South Wales

BAT Requirements for Fugitive emissions

Dusts

IRN site will not emit dusts in normal operation. There are no planned construction activities at the time of writing this report.

VOCs

IRN has solvent emission points to air in the PPC permit. These have all been monitored to emission limit values as per our emission point monitoring submissions.

Solvent waste collection points

Fabrication plant 11 houses two dedicated pressure rated contained solvent waste storage fixed tank systems with conservation vents such that minimal emissions are released during filling. Transfer to the off haul tanker is undertaken via a back venting system with lockable tanker connection, ensuring zero emissions to atmosphere.

Fabrication plant 10 North has two fixed tanks. Waste solvent is pumped to IBCs via double diaphragm pumps prior to transfer off site for recycling by a licensed waste subcontractor. During the transfer process the IBCs vent direct to atmosphere however this occurs for approximately 15 minutes every four weeks; this frequency has halved over the course of the year due to the ongoing contraction in manufacturing operations in this part of the building.

Fabrication plant 10 South has two fixed solvent tanks located below ground within an bunded area. The waste solvent is transferred via ½" double diaphragm pumps to above ground stainless steel tanks which vent to atmosphere via a small activated carbon scrubber. In the event of the vessels overflowing via a barometric seal, the

waste solvent can be collected in one of two 1m³ IBCs which currently vent to atmosphere.

The stainless steel tanks are emptied by transfer to an off haul tanker via a back venting system with lockable tanker connection, ensuring minimal emissions to atmosphere. The IBCs are open while their content is transferred to the tanker. The frequency of tanker collections has halved during the last year and now occur approximately every four weeks.

All solvent tanks are covered by the routine tank and bund inspections carried out under planned programme maintenance.

Process drums (Solvent)

Process drums that contain solvent are “just in time” delivered in 25, 100, and 200 litre containers. These are held in bunded storage and once used they are resealed and recycled by the supplier.

They are held empty in a bunded storage yard whilst awaiting collection.

Impact of fabrication plant rationalisation

Overall manufacturing output in 2014 rose by approximately 9% compared to 2013. This can be broken down into a 14% increase in 8-inch wafers against a similar decrease in 6-inch wafer production. As outlined above, the solvent waste removal process for the 8-inch wafer fabrication plant should result in zero emissions. Thus, while our use of solvent chemicals rose in line with output and due to changes in product mix, overall, fugitive emissions will have reduced. Referencing the VOC measurements taken in 2013, we believe 5% is still valid as a worst case scenario figure.

Conclusion

Fugitive Emissions from VOCs on IRN site are considered to be insignificant. We will continue to assess our on-site practices to ensure our emissions to atmosphere remain as low as practicable.

There has been no notification made under Section 5.1.1.2 of any significant fugitive emission.

Dust is not relevant to cleanroom operations.

IR Newport
Facilities Department