



**OFFICE OF  
LICENSING &  
GUIDANCE**

**INSPECTOR'S REPORT ON AN IPPC LICENCE REVIEW**

<b>To:</b>	Directors	
<b>From:</b>	Emer Cooney	<b>- LICENSING UNIT</b>
<b>Date:</b>	17 APRIL 2007	
<b>RE:</b>	Application for review of an IPPC Licence from Microprint, Licence Reg. No. P0659-02.	

Application Details	
Class of activity:	12.2.2 The use of coating materials with a capacity to use at least 10 tonnes per year of organic solvents, not included in paragraph 12.2.1.
Section 90(1)(b) notice sent:	14 December 2006
Licence application received:	23 January 2007
Supplementary material submitted by applicant:	24 January 2007
Further information requested:	19 February 2007
Further information requested received:	5 March 2007
Site visit:	14 December 2006

**Company**

Microprint prints and finishes manuals and textbooks at a site in Airton Industrial Estate, Tallaght, Dublin 24. The company specialises in two types of lithographic printing, i.e. sheetfed and heatset web offset. Finishing consists of gluing, binding, trimming and assembly of printed sheets to create the finished product.

Production operates on a 24-hour shift cycle on weekdays with occasional weekend operation. Currently 73 staff are employed on the site, it is anticipated that this will rise to 140 in April 2007.

**Reason for Licence Review**

A review of the Microprint licence is required for the following reasons:

- Installation of a new heatset web offset printing press;
- Installation of a regenerative thermal oxidiser;
- To incorporate the amendments to the licensing provisions of the Environmental Protection Agency Acts 1992 and 2003, as appropriate.

## Emissions

### Air

The main emissions to atmosphere from the installation comprise solvent-laden exhaust gases from the sheetfed and heatset web offset (HWO) printers. The applicant proposes to install one further HWO printer and a regenerative thermal oxidiser (RTO) for the abatement of volatile organic compounds in the exhaust gases from the existing and proposed HWO printers. Emission point A2-06 is the proposed RTO discharge.

Until such time as the RTO is operational, exhaust gases from the existing HWO printers will be discharged directly to atmosphere via two stacks. The emissions from the sheetfed printers will continue to discharge unabated. Solvent use is much less significant on such printing presses (5.7 tonnes per year, compared with 81 tonnes per year on the HWO printers).

**Table 1:** Emissions to atmosphere

Printer type	Emission Point Reference		Emission Limit Value	
	Prior to installation of RTO	After installation of RTO	Prior to installation of RTO	After installation of RTO
Sheetfed	A2-01	A2-01	100	100
Sheetfed	A2-02	A2-02	100	100
HWO 1	A2-03	A2-06 (RTO)	150	20
HWO 2	A2-05		250	
HWO 3	Proposed		Note 1	

Note 1: In the event of RTO bypass, emission levels will be approximately 350 mg/m<sup>3</sup>.

### Compliance with BAT

The use of a thermal oxidiser for the treatment of waste gases is considered BAT. Currently the emissions from the existing HWO printers do not meet the emission limit values specified in the Solvents Directive. The applicant states that the post-abatement emission levels from the HWO printers will meet the 20 mg/m<sup>3</sup> (as C) emission limit values specified in the Solvents Directive for 'heatset web offset printing'. The sheetfed offset printers do not fall within the scope of the Solvents Directive. The applicant is required to comply with the requirements of the Solvents Directive by 31<sup>st</sup> October 2007. Condition 6.1 requires the completion of a test programme within 3 months of commencement of operation of the RTO. Fugitive emission levels were assessed in 2005 and found to be approximately 31%. Annex IIA of the Solvents Directive and Conditions 4.1.2 and 5.5 of the RD require fugitive emissions levels to be less than or equal to 30% of the solvent input by 31st October 2007.

### Impact of Air Emissions on Receiving Environment

The applicant carried out Screen 3 air dispersion modelling to predict the maximum 1-hour average ground level concentrations (GLCs) that would be caused by the total maximum solvent emissions (as C) from each of the five printers in the event of a shutdown of the RTO. The results were then compared to derived (from Occupational Exposure Limits) Air Quality Standards for individual solvents used most commonly on the site. This is a very conservative approach as the maximum emissions are caused by a combination of solvents. The sum of the maximum GLCs for each emission was determined to be 1.3 mg/m<sup>3</sup> (as C). This is less than the derived Air Quality Standards for any of the individual solvents listed in Table 2 below, except for xylene. However, this is an extremely conservative estimate of the impact as it assumes that 100% of the emission is xylene. Therefore the impact is not significant.

The model has predicted that there is no significant impact on local air quality arising from emissions to atmosphere from the installation, even in the event of RTO shutdown.

Conditions 6.11 and 11.1 contain requirements in relation to the management of thermal oxidiser shutdown.

**Table 2:** Derived Air Quality Standards

Parameter	OEL <sup>Note 1</sup>	1/40 <sup>th</sup> OEL (mg/m <sup>3</sup> )	1/40 <sup>th</sup> OEL (mg/m <sup>3</sup> as C)
Mesitylene	100	2.5	2.3
Propylbenzene	100	2.5	2.3
Xylene	50	1.25	1.1
Ethylbenzene	435	10.9	9.9
2-butoxyethanol	98	2.5	1.5
Propylene glycol	470	11.8	5.5
Isopropanol	980	24.5	11.5

**Note 1:** Occupational exposure limits taken from the National Authority for Occupational Safety and Health, 2002 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations, 2001.

### Emissions to Sewer

Small quantities of process effluent arise from equipment washing and spraying during the printing process. This effluent is discharged to South Dublin County Council sewer. The RD contains all the requirements of the South Dublin County Council Section 99E consent, with the exception of the following additional consent condition:

- “Best available technology (BAT) for the relevant Class 7.8(a) shall be used to prevent, minimise, manage and treat pollutants in the trade effluent discharged to foul sewer within 12 months of the date of issue of this consent”.

The Agency considers that the installation satisfies BAT, as confirmed under the section of this report entitled “Best Available Techniques (BAT)”. Therefore the RD does not recommend the inclusion of this specific condition. However, Condition 2.2.2.2 requires the licensee to maintain a Schedule of Environmental Objectives and Targets under the Environmental Management Programme which shall provide for an evaluation of practicable options for resource efficiency, the use of cleaner technology and cleaner production. In addition, Condition 7.3 requires the licensee to identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible.

### Surface Water

There is no change to the surface water system on the site.

A new outdoor drum storage area is under construction, Condition 6.9 requires the new bunds to be tested prior to use.

The licensee has carried out a Firewater Retention Risk Assessment as required under Condition 9.2.1 of licence Reg. No. P0659-01. Condition 3.8.1 of the RD requires the licensee to review the risk assessment in the light of the new printing activity to take place on the site and the increased tonnage of solvents to be used.

### Waste

No new types of waste will be generated as a result of the new activities on the site.

### Noise

The plant is located on a busy road in an industrial estate and operates on a 24-hour basis. Measured noise levels at the nearest noise sensitive locations are similar day and night and are of the order of 52-55 dB(A) L<sub>eq</sub>. Traffic noise is stated to be the dominant source of noise. Both of the monitoring locations are in the grounds of the Institute of Technology Tallaght (ITT) and one is also adjacent to a halting site (NSL2). The ITT premises are used for educational and not residential purposes and therefore are not considered to be a noise-sensitive location at night-time. Under the current licence, Microprint was required to put in place a programme to reduce noise levels from the waste paper extraction unit and to comply

with night-time limits of 45 dB(A)  $L_{eq}$ . Works were carried out to improve noise levels from the waste paper extraction system. A new paper extraction system and the RTO which are to be installed may contribute additional noise. Condition 6.14.2 requires the licensee to prepare a programme to meet night-time noise limits of 45 dB(A) at noise-sensitive locations within two years of the date of grant of the licence.

### **Use of Resources**

Fuel: Natural gas – 101,923 kWh  
Electricity: 2,763,362 kWh  
Materials: A number of materials used in the printing process have R-phrases 50,51 and 53 (harmful to aquatic environment). No materials are discharged to water. No substances or preparations that fall under the scope of Articles 5(6) to 5(9) of the Directive are in use, i.e., substances or preparations with R-phrases R40, R45, R46, R49, R60, R61. Condition 5.7 of the RD prohibits the use of such substances or preparations.

### **Compliance with EU Directives**

#### IPPC Directive (91/61/EC)

This installation does not fall within the scope of Annex I of Council Directive 96/61/EC concerning integrated pollution prevention and control. Solvent usage on site amounts to approximately 87 tonnes per annum, therefore Microprint is licensed under Class 12.2.2 of the First Schedule of the EPA Acts, 1992 and 2003, *The use of coating materials in processes with a capacity to use at least 10 tonnes per year of organic solvent*.

*Schedule A: Limitations* of the RD states that the organic solvent consumption capacity of the installation shall not exceed 150 kg per hour or 200 tonnes per year, which is the threshold for Activity 6.7 of Annex I of the Directive and Class 12.2.1 of the First Schedule of the EPA Acts, 1992 and 2003.

The Recommended Determination (RD) as drafted takes account of the requirements of the EPA Acts 1992 and 2003. BAT is taken to be represented by the limits set in the Solvents Directive (1999/13/EC).

#### Solvents Directive (1999/13/EC)

The use of solvents on-site is within the scope of Annex I of the Directive as 'printing'. There are two types of printing process taking place on the site:

- **Heatset web offset** printing falls within the scope of EU Council Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations, under Activity No. 1 of Annex IIA, i.e., 'Heatset web offset printing (>15)'. Predicted solvent usage on site for the heatset process, under the definition of solvent in the directive, amounts to approximately 81 tonnes per annum.
- **Sheetfed offset** printing does not fall within the scope of EU Council Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations.

No substances or preparations that fall under the scope of Articles 5(6) to 5(9) of the Directive are in use.

The following conditions have been included as required by the Solvents Directive:

- Condition 4.1.2 and Condition 5.5 require that fugitive emissions shall not exceed 30% of solvent input on an annual basis; and

- Condition 6.12 requires the licensee to prepare a solvent management plan to demonstrate compliance with the fugitive emission limit value.
- Schedule B.1 specifies emission limit values drawn from Annex IIA of the Directive.

#### Seveso Directive (96/82/EC)

This installation does not fall within the scope of the Seveso Directive.

#### Dangerous Substances Directive (76/464/EEC)

Trace amounts of xylene were detected in the process effluent during monitoring carried out in 2005. The presence of xylene was thought to be due to an open drain on the factory floor. This drain has since been closed and no further xylene has been detected. Schedule C.3.2 requires monitoring for xylene in the process effluent in accordance with the requirements of the Sanitary Authority.

#### **Best Available Techniques (BAT)**

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the attached Recommended Determination comply with the requirements and principles of BAT. I consider the technologies and techniques as described in the application, in this report, and in the RD, to be the most effective in achieving a high general level of protection of the environment having regard - as may be relevant - to the way the installation is located, designed, built, managed, maintained, operated and decommissioned.

#### **Fit & Proper Person Assessment**

The Fit & Proper Person test requires three elements of examination:

- Technical Ability;
- Legal Standing; and
- Financial Standing.

It is my view that the applicant can be deemed a Fit & Proper Person for the purpose of this licence.

#### **Compliance Record**

The main issues that have arisen at this site are as follows:

- Unsatisfactory bund integrity testing – this issue is ongoing on the site. Condition 6.9 of the RD requires that all bunds undergo integrity testing at least once every three years.
- Failure to monitor surface water discharges and emissions to sewer – monitoring resumed following an audit in May 2006, however, monitoring is not being consistently carried out in line with the requirements of the existing licence. Schedules C2.3 and C.3.2 require that monitoring of the surface water and sewer discharges be carried out every two months.
- Storage of materials in unbunded areas – Condition 8.5 of the RD requires that materials are stored in appropriate designated areas.

#### **Complaints**

Licence Reg. No. P0659-01 was issued on 6<sup>th</sup> August 2003. No complaints have been received since that date.

#### **Submissions**

No submissions were received on this review application.

#### **Recommended Determination (RD)**

The RD gives effect to the requirements of the POE Act 2003.

**Charges**

The proposed charge is €10,202. The invoiced charge for 2006 was €7,492.25. The proposed charge reflects the increased enforcement effort required due to the number of once-off reports to be submitted in the first year of the new licence.

**Recommendation**

I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the RD.

Signed

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Emer Cooney

**Procedural Note**

In the event that no objections are received to the Proposed Determination of the application, a licence will be granted in accordance with Section 87(4) of the Environmental Protection Agency Acts 1992 and 2003 as soon as may be after the expiration of the appropriate period.