



MALDON DISTRICT  
COUNCIL

# Environmental Permit

Pollution Prevention and Control Act 1999  
Environmental Permitting (England and Wales) Regulations 2007

<b>Installation address:</b>	Wyndeham Heron Limited The Bentall Complex Colchester Road Maldon Essex CM9 4NW
<b>Operator:</b>	Wyndeham Heron Limited The Bentall Complex Colchester Road Maldon Essex CM9 4NW
<b>Permit reference:</b>	MLD/EPR/A2/001

## Status log

Detail	Date	Comment
<i>Date first authorised</i>	<i>30<sup>th</sup> September 1993</i>	
<i>First Permit</i>	<i>5<sup>th</sup> April 2006</i>	<i>A2 transfer</i>
<i>Fourth Draft</i>	<i>January 2010</i>	<i>General amendments</i>

## **Introductory Note**

***This introductory note does not form part of your Environmental Permit conditions, however it does provide useful information about the Environmental Permitting Regulations:***

The following Permit is issued under Regulation 13(1) of the Environmental Permitting (England and Wales) Regulations 2007 (S.I 2007 No.3538), ("the EPR") to operate a scheduled installation carrying out an activity, or activities covered by the description in section 6.4 A2(a) of Part 2 to Schedule 1 of the EPR, to the extent authorised by the Permit.

Conditions within this Permit detail Best Available Techniques (BAT), for the management and operation of the installation, to prevent, or where that is not practicable, to reduce emissions.

In determining BAT, the Operator should pay particular attention to relevant sections of the LA-IPPC Sector Guidance note (SG6 (March 2008)), and any other relevant guidance. Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Note that the Permit requires the submission of certain information to the Regulator, and in addition, the Regulator has the power to seek further information at any time under Regulation 60 of the EPR Regulations provided that the request is reasonable.

### **Public Registers**

Information relating to Permits, including the application, is available on public registers in accordance with the EPR. Certain information may be withheld from the public registers where it is commercially confidential, or if it is in the interest of national security to do so.

### **Variations to the Permit**

The Regulator may vary the Permit in the future, by serving a variation notice on the Operator. Should the Operator want any of the conditions of the Permit to be changed, a formal application must be submitted to the Regulator (the relevant forms are available from the Regulator). The Status Log that forms part of this introductory note will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

### **Transfer of the Permit or part of the Permit**

Before the Permit can be wholly or partially transferred to another Operator, an application to transfer the Permit has to be made jointly by the existing and proposed Operators. A transfer will not be approved if the Regulator is not satisfied that the proposed Permit holder will be the person having control over the operation of the installation, or will not comply with the conditions of the transferred Permit. In addition, if the Permit authorises the Operator to carry out a specified waste management activity, the transfer will not be approved if the Regulator does not consider the proposed Permit holder to be a 'fit and proper person' as required by the EPR.

### **Talking to us**

Please quote the permit number if you contact the Regulator about this permit. To give a notification under condition 5.1, the Operator should telephone **01621 875817** or any other number notified in writing by the Regulator for that purpose.

## Description of the installation and activities

The installation is located in the Heybridge area of Maldon, which is a mixture of residential and commercial use. Residential areas are situated approximately 40m to the northern boundary and approximately 100m from the southeastern boundary. The Chelmer and Blackwater Navigation and commercial buildings are situated on the western boundary.

Wyndeham Heron undertakes heatset web offset printing for larger volume runs of magazines and coated papers where rich colours and a sharp, clean image are required.

The substrate to be printed (usually paper) is fed into the printing process on a roll (or 'web'). Inks are applied to the substrate indirectly, meaning that inks are applied to a printing plate or cylinder to form the image to be printed, then transferred (or 'offset') to a rubber blanket before finally being transferred to the substrate to produce the printed product

Printing plates are produced in-house, using computer to plate technology. Lithography uses a planographic plate, a type of printing plate on which the image areas are neither raised nor indented (depressed) in relation to the non-image areas. Instead the image and non-image areas, both on essentially the same plane of the printing plate, are defined by differing physiochemical properties.

Lithography is based on the principal that oil and water do not mix (hydrophilic and hydrophobic process). Lithographic plates undergo chemical treatment that render the image area of the plate oleophilic (oil-loving) and therefore ink-receptive and the non-image area hydrophilic (water-loving). During printing, fountain (dampening) solution to lower surface tension and control pH, is first applied in a thin layer to the printing plate and migrates to the hydrophilic non-image areas of the printing plate. Ink is then applied to the plate and migrates to the oleophilic image areas. Since the ink and water essentially do not mix, the fountain solution prevents ink from migrating to the non-image areas of the plate.

The substrate and inks are cured (or 'heat set') in an air-drying oven, which drives off moisture and volatile organic compounds.

The printed substrate is cut, trimmed on automatic finishing lines, then bound into the finished magazine by stitching or perfect binding using a hot melt glue. Paper trimmings and dust from the finishing lines is removed via vacuum extraction. Large particles are separated from the dust and are fed to a compactor. Dust is collected and compacted into small cylinders

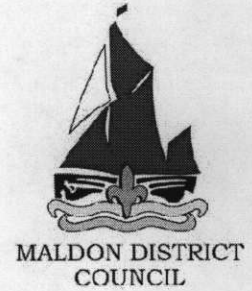
Print blankets are cleaned in Oxi-dry automatic washing systems.

Finished magazines are stored in on-site storage areas prior to distribution by road.

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## Environmental Permit



**Permit Reference Number: MLD/EPR/A2/001**

**Maldon District Council** ("the Regulator") in exercise of its powers under Regulation 13(1) of the Environmental Permitting (England and Wales) Regulations 2007 (SI 2007 No 3538), hereby authorises **Wyndeham Heron Limited** ("the Operator").

Of/ whose Registered Office is:

**Wyndeham Heron Limited**  
**The Bentall Complex**  
**Colchester Road**  
**Maldon**  
**Essex**  
**CM9 4NW**

Company registration number: **02586277**

to operate an installation at:

**Wyndeham Heron Limited**  
**The Bentall Complex**  
**Colchester Road**  
**Maldon**  
**Essex**  
**CM9 4NW**

To the extent authorised by and subject to the conditions of this Permit.

Signed

Dated this day

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**Shirley Hall**  
**Senior Environmental Health Officer**  
**The Authorised Officer for this purpose**

Environment Services, Maldon District Council, Princes Road, Maldon, Essex CM9 5DL.  
Tel. 01621 875817 Fax. 01621 875899

***The Address for all correspondence in relation to this Permit.***

# Conditions

## 1. General conditions

### 1.1 Best available techniques

1.1.1 The installation shall, subject to the conditions of this Permit, be operated using the techniques, and in the manner described in the documentation submitted in the Permit application, or as otherwise agreed in writing by the Regulator in accordance with conditions 1.3.1 and 1.3.2 of this Permit.

1.1.2 The best available techniques shall be used to prevent, or where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the activity which is not specifically regulated by any condition of this permit.

### 1.2 Permitted activities

1.2.1 The Operator is permitted to carry out the following activities:

- Printing in plant with a consumption capacity of more than 150 kg per hour or more than 200 tonnes per year, in Part A2 of section 6.4 'Coating Activities, Printing and Textile Treatment activities' of the Environmental Permitting (England and Wales) Regulations 2007, as described, and in accordance with the conditions contained in this permit.

And the following associated activities:

- None

This Permit shall be subject to replacement, variation or amendment as may be considered appropriate by Maldon District Council, at any time, according to the provisions of Regulation 20 of the EPR.

### 1.3 The installation

1.3.2 The activities authorised by this Permit shall not extend beyond the installation boundary, that being the land shown as edged in red on the site plan MLD/EPR/A2/001/01 in schedule 1, and described in the Permit application. The layout of the installation is detailed in site plan MLD/EPR/A2/001/02 in schedule 2.

The installation comprises:

Building / Area	Components / notes
Plate making	Computer to plate making equipment
Print hall * Key abatement plant	<p>2 No. Man Roland Lithoman press equipped with:</p> <ul style="list-style-type: none"> <li>▪ Gas fired hot air oven</li> <li>▪ Megtec DDIII TNV thermal oxidisers*.</li> </ul> <p>3 No. Man Roland Rotoman presses equipped with:</p> <ul style="list-style-type: none"> <li>▪ Gas fired hot air oven</li> <li>▪ Megtec Summit II thermal oxidisers*.</li> </ul> <p>Ink storage tanks equipped with:</p> <ul style="list-style-type: none"> <li>▪ Interlocked high level warning alarms</li> </ul> <p>Organic solvent storage tanks equipped with:</p> <ul style="list-style-type: none"> <li>▪ 1m<sup>3</sup> intermediate bulk containers (IBCs)</li> </ul> <p>Oxidry automatic roller washing equipment</p> <p>Paper storage</p>

Building / Area	Components / notes
Finishing	Trimming equipment Corona 81 perfect binder Corona 82 perfect binder Corona 83 perfect binder Norm 80 perfect binder Tempo 64 saddle stitcher Tempo 62 saddle stitcher Prima 60 saddle stitcher Prima 61 saddle stitcher Prima 67 saddle stitcher Finishing line dust extraction system Clay dust and paper briquette plant Paper compacter
Storage & distribution	External bulk liquids store Finished product storage areas (double as drive through collection area for distribution)

1.3.3 Emissions to air and water from the specified activities and processes in table 1.3.3 shall only arise from the emission points specified in that table:

Emission point reference:	Emission media:	Details
A lower	Air	Rotoman 1, directly above press, 18m above ground level
A upper	Air	Rotoman 1, directly above press, 18m above ground level
B lower	Air	Rotoman 2, directly above press, 15.64m above ground level
B upper	Air	Rotoman 2, directly above press, 15.64m above ground level
C lower	Air	Rotoman 3, directly above press, 15.64m above ground level
C upper	Air	Rotoman 3, directly above press, 15.64m above ground level
D	Air	Lithoman 1, directly above press, 15.60m above ground level
E	Air	Lithoman 2, directly above press, 17m above ground level
F	Air	Dust Extraction plant exhaust
G	Water	Print effluent discharge

#### 1.4 Operational changes

1.4.1 The Operator shall seek the Regulators written agreement under condition 1.4.2 to any operational changes to this Permit, by way of variation, and shall include:

- (a) A description of the nature of the proposed change;
- (b) Any increases in the storage of raw materials;
- (c) The nature and quantity of any emission;
- (d) Details of the technology being applied to reduce such emissions, and associated emissions monitoring;
- (e) Any other relevant information.

Minor plant modifications are permissible as long as they do not contravene the operational requirements of the application or the Permit, do not affect releases to air, and are notified to the Regulator 14 days prior to making that change.

1.4.2 Any such change shall not be made until agreed in writing by the Regulator. From the implementation date, the Operator shall operate the Permitted installation in accordance with that change, and the relevant provisions of the application shall be deemed as amended.

## In-process controls

### 2. Operating conditions

#### 2.1 Raw materials

##### 2.1.1 Raw materials selection

- 2.1.1.1 The Operator shall maintain an inventory of all raw materials used on site, including an assessment of their environmental impact, which shall be made available to the Regulator on request.
- 2.1.1.2 The Operator shall adopt procedures to control the specification of raw materials with the main potential for environmental impact.
- 2.1.1.3 The Operator shall not introduce any new substances or preparations, which because of their content of VOC are assigned risk phrases R40, R45, R46, R49, R60 or R61 without prior written consent from the Regulator.
- 2.1.1.4 The Operator shall undertake an annual review of the inventory of raw materials used on site with regard to environmental impact, including opportunities for the substitution of raw materials with less harmful alternatives.

##### 2.1.2 Optimising the use of raw materials (waste minimisation)

- 2.1.2.1 The Operator shall record materials usage and waste generation in order to establish internal benchmarks.
- 2.1.2.2 The Operator shall carry out a waste minimisation audit for the production of a waste minimisation audit report at least every 6 years.
- 2.1.2.3 A waste minimisation audit report shall be submitted to the Regulator within three months of the completion of a waste minimisation audit. The waste minimisation audit report shall include but not be limited to:
  - (a). The use and fate of raw materials, and;
  - (b). Assessments against internal benchmarks to maintain and improve resource efficiency, and;
  - (c). Opportunities for improved efficiency in the use of raw materials and/or a reduction in waste produced.
- 2.1.2.4 Using information from the waste minimisation audit, opportunities for improved efficiency in the use of raw materials and/or a reduction in waste produced shall be assessed and where appropriate shall be carried out in accordance with a timescale approved by the Regulator.

##### 2.1.3 Water use

- 2.1.3.1 Water use shall be reduced as far as practicable. Techniques to minimise water use shall include but not be limited to:
  - (a). The frequent inspection of water supply pipe work systems, and;
  - (b). The prompt repair of any water leaks, and;
  - (c). Water recycling, and;
  - (d). Opportunities for improved water use efficiency.
- 2.1.3.2 The Operator shall carry out a regular review of water use (water efficiency audit) for the production of a water efficiency audit report at least every 6 years.

- 2.1.3.3 A water efficiency audit report shall be submitted to the Regulator within three months of the completion of a water efficiency audit. The water efficiency audit report shall include but not be limited to:
- (a). Water quality requirements and fresh water consumption, and;
  - (b). Water use flow diagram and mass balances, and;
  - (c). Water use benchmarks, and;
  - (d). Opportunities for improved water use efficiency.
- 2.1.3.4 Using information from the water efficiency audit, opportunities for reduction in water use shall be assessed and where appropriate shall be carried out in accordance with a timescale approved by the Regulator.
- 2.1.3.5 A closed-loop system for rinse water shall be used.
- 2.1.3.6 Wherever practicable water shall be recycled in a closed circuit in order to minimise or avoid effluent discharge.

## 2.2 Emissions and emission limits

### 2.2.1 Non VOC Emission limits to air

- 2.2.1.1 The limits for emissions to air set out in table 2.2.1.1 shall not be exceeded. Suitable alternative monitoring methods must be agreed with the Regulator in advance and in writing.

Table 2.2.1.1				
Emission point or activity reference	Parameter	Limit mg/m <sup>3</sup>	Monitoring method	Monitoring frequency
A lower, A upper, B lower, B upper, C lower, C upper, D & E.	Nitrogen oxides	100mg/m <sup>3</sup>	Manual extractive testing carried out in accordance with ISO 10849:1996 with averages taken over operating periods, excluding start-up and shut-down.	At least once every 12-months
	Carbon monoxide	100mg/m <sup>3</sup>	Manual extractive testing carried out in accordance with ISO 12039:2001 with averages taken over operating periods, excluding start-up and shut-down.	At least once every 12-months
	Visible emissions from combustion plant	Ringlemann shade 1	5 minute visual assessment of emissions during process operations	At least once every day during process operations
G & H	Total particulate matter from all other contained sources	50mg/m <sup>3</sup>	Manual extractive testing, carried out in accordance with BS ISO 9096:2003 with averages taken over operating periods, excluding start-up and shut-down	At least once every 12-months, or maintained design standard guarantee. Re-test if extraction system modified or replaced.
Whole installation	Visible emissions & odour at site boundary	None	5 minute visual and olfactory assessment of emissions during process operations	At least once every day during process operations

All emissions shall be determined at the standard reference conditions of 273.15K and 101.3kPa, without correction for water vapour content.

2.2.2 VOC Emission limits to air

2.2.2.1 The limits for emissions to air set out in table 2.2.2.1 shall not be exceeded. Suitable alternative monitoring methods must be agreed with the Regulator in advance and in writing.

Table 2.2.2.1				
Emission point or activity reference	VOC in waste gasses	Limit mg/m <sup>3</sup>	Monitoring method	Monitoring frequency
A lower, A upper, B lower, B upper, C lower, C upper, D & E.	VOC in contained emissions from printing activities	20mg/m <sup>3</sup>	Manual extractive testing, carried out in accordance with BS EN 13526:2002 with averages taken over operating periods, excluding start-up and shut-down.	At least once every 12-months
	VOC in fugitive emissions	30% of solvent input	Mass balance calculation in accordance with schedule 3	At least once every 12-months

All emissions shall be determined at the standard reference conditions of 273.15K and 101.3kPa, without correction for water vapour content.

2.2.3 Point source emissions to air

2.2.3.1 Stack heights for emissions points A to D inclusive shall be not less than 15metres above ground level.

2.2.3.2 The height of any chimney serving any and new emissions point or replacement printing press shall be determined in accordance with the stack height calculation procedure detailed in HMIP Technical Guidance Note D1.

2.2.3.3 Exhaust flow rates from emission points to air specified in table 1.3.3 shall provide efficient capture of emissions.

2.2.3.4 Exhaust gasses discharged through emission points to air specified in table 1.3.3 shall achieve a sufficient exit velocity during normal operations to achieve adequate dispersion and dilution of emissions. An exit velocity of greater than 15m/sec is recommended.

2.2.3.5 The introduction of dilution air to achieve emission concentration limits is not permitted.

2.2.3.6 All emissions from the installation shall be:

- (a). Colourless and free from smoke, and;
- (b). Free from persistent visible emissions, and;
- (c). Free from droplets.

2.2.3.7 Adequate insulation should be provided to the emission points to air specified in table 1.3.3 to minimise the cooling of waste gases and prevent liquid condensation by keeping the temperature of the exhaust gases above the dew point.

2.2.3.8 Emission points specified in table 1.3.3 shall not be fitted with any restriction at the final opening such as a plate, cap or cowl, with the exception of a cone, which may be necessary to increase the exit velocity of the emissions.

2.2.3.9 All emissions to air from the installation shall be free from offensive odour as perceived by the Regulator beyond the installation boundary. The Operator shall not be taken to have breached this condition if BAT has been used to prevent, or where that is not practicable, to reduce such odorous emissions.

2.2.4 Emission limits to water

- 2.2.4.1 The Operator shall ensure that all emissions to sewer are controlled to prevent breach of any consent to discharge trade effluent granted by Anglian Water. In the event that the requirements of any consent to discharge trade effluent have not been met, the Operator shall notify the Regulator without delay upon receipt of the results.
- 2.2.4.2 No emission from the Permitted installation shall give rise to the introduction into groundwater of any substance in List I or List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.5 Emissions to land

- 2.2.5.1 No emission from the activities authorised by this permit shall be made to the land forming the permitted installation.
- 2.2.5.2 The Operator shall notify the Regulator, as soon as is reasonably practicable, of any information concerning the state of the site which affects or updates that supplied to the Regulator as part of the site report submitted as section B3.1 of the Permit application.
- 2.2.5.3 The Operator shall notify the Regulator in writing of any area or zone within the boundary of the installation that has been subject to below ground remediation since the issue of the Permit. Subject to agreement in writing from the Regulator, any necessary analysis of sub-soil to re-establish baseline pollutant levels shall be undertaken.

**2.3 Controlling emissions**

2.3.1 Controlling non-VOC emissions to air

- 2.3.1.1 The transfer of trimmings and dust from finishing operations shall be via enclosed pneumatic extraction and transport system. The extraction system shall:
- (a). Maintained in order to meet the emission limit specified in table 2.2.1.2, and;
  - (b). Be kept free from dusty accumulations.
- 2.3.1.2 Combustion processes shall, wherever practicable, use low NO<sub>x</sub> burners.
- 2.3.1.3 Computer to plate technology shall be used.
- 2.3.1.4 Where offensive odour is likely (or in the case of existing processes, is present) outside the process site boundary, the assessment of chimney or vent height should take into account the need to render harmless residual offensive odour. Where it is not possible to increase the chimney height, the use of appropriate arrestment plant to abate the odour shall be investigated.

2.3.2 Controlling VOC emissions to air

- 2.3.2.1 The Operator shall ensure that deliveries of raw materials and collections of waste materials are carried out in such a way so as to minimise spillage, leaks and dusty emissions. This condition includes the collection of empty raw materials containers.
- 2.3.2.2 storage areas shall be under cover and protected from the elements to avoid or minimise environmental impact, except where stored materials are in suitable weatherproof containers.
- 2.3.2.3 Storage areas shall be hard surfaced.
- 2.3.2.4 Deliveries to bulk storage tanks containing organic solvents shall be undertaken by suitably trained personnel.

- 2.3.2.5 All ink storage tanks shall be fitted with:
- Audible and/or visual high level alarms or volume indicators to warn of overfilling
  - Automatic systems to cut off the delivery to prevent overfilling
- The correct operation of storage tank alarms and overflow prevention devices shall be tested on a weekly basis or before a delivery takes place (whichever is the longer interval). A record of the test shall be made in the logbook kept in accordance with condition 2.6.1.
- 2.3.2.6 All delivery connections to bulk ink storage tanks shall be fixed and locked when not in use.
- 2.3.2.7 All appropriate precautions must be taken to minimise emissions of organic solvents:
- At start-up and shut-down of equipment and/or the commencement or cessation activities using organic solvents; and,
  - When filling, topping-up or emptying solvent tanks or baths, for example by the use of fully or partially enclosed transfer systems; and,
  - During routine maintenance.
- 2.3.2.8 Organic solvents shall be stored in the following manner at all times other than when in active use:
- In suitable sealed containers with the lid securely fastened; and
  - On a suitable tray or bund capable of containing 110% of the volume of the largest container in storage\*, and;
  - Away from staff who are not trained in their safe handling, storage and use; and,
  - Away from sources of heat and bright light.
- \* Does not include existing ink storage tanks, which shall be equipped with sufficient containment in the event of an ink spillage or leak.
- 2.3.2.9 All new or replacement fixed storage tanks containing solvent with a composite vapour pressure that is likely to exceed 0.4kPa at 20°C shall be fitted with pressure vacuum relief valves. The pressure vacuum relief valves shall be examined at a minimum of once every six months for signs of contamination, incorrect seating and shall be cleaned and/or corrected as required. A record of the test shall be made in the logbook kept in accordance with condition 2.6.1
- 2.3.2.10 The internal transport of organic solvents shall be minimised as far as practicable to avoid accidental spillage. Where organic solvent materials (including wastes) are transported internally, the operator shall ensure that:
- Suitable facilities, such as barrel lifts or forklifts are provided and used, particularly where the volume of material to be transported:
    - Exceeds the physical capability of the person transporting the organic solvents; and/or,
    - Is an aliquot of a larger volume of solvent in storage.
  - The containers being transported are securely sealed,
  - Staff undertaking the internal transport of organic solvents are appropriately trained in solvent handling, transport and spillage recovery procedures.
- 2.3.2.11 Where technically feasible, non-dampening printing methods, physical or inorganic dampening aids shall be used instead of propan-2-ol and other organic compounds. Where volatile organic compounds are present in dampening solutions:
- The proportion of volatile organic compounds in dampening solutions shall not exceed
- 10% by weight in the case of existing or used printing presses, except where they are incapable of running at that level (in such cases, the minimum practicable shall be determined and thereafter not exceeded); and
  - 5% by weight in the case of new printing presses
- Cooling in order to reduce the evaporation of dampening solutions containing volatile organic compounds should be installed wherever practicable.

- 2.3.2.12 Thermal oxidisers shall be used on printing press exhausts in order to meet the emission limits specified in table 2.2.1.2, and shall:
- reach a temperature of not less than 750°C prior to the commencement of printing operations, and;
  - be maintained at a temperature of not less than 750°C during printing operations.
- 2.3.2.13 In the event of any failure of a thermal oxidiser serving a printing press resulting in the ability to maintain a temperature of not less than 750°C during printing operations, the affected printing press shall be shut down, and shall not be operated until a temperature of not less than 750°C can be maintained during printing operations.
- 2.3.2.14 The Operator shall ensure that, wherever practicable, self-closing and/or enclosed containers are used for the storage of organic solvents and organic solvent contaminated materials.
- 2.3.2.15 Lids and or other cover mechanisms used on containers or enclosures for the storage and use of organic solvents and/or organic solvent contaminated materials (including cleaning machines) shall remain closed at all times other than when in active use.
- 2.3.2.16 Loading doors to all organic solvent cleaning machines shall be interlocked to ensure that they are closed before the start-up of the machine and remain closed at all times throughout the cleaning cycle.
- 2.3.2.17 Cleaning machines shall be loaded in a manner that promotes effective cleaning whilst minimising the retention and drag-out of organic solvent and vapours within each load cleaned.
- 2.3.2.18 Suitable absorbent materials for the rapid recovery of spillages of organic solvents and organic solvent contaminated materials shall be readily available in solvent use and transport areas.
- 2.3.2.19 Solvent contaminated waste, including solvent for recycling and used solvent spillage clean-up materials shall be stored:
- In suitable sealed containers with the lid securely fastened at all times other than when in use, and;
  - On a suitable tray or bund capable of containing 110% of the volume of the largest container in storage, and;
  - Away from staff who are not trained in their safe handling, storage and use, and, and;
  - Away from sources of heat and bright light.
- 2.3.3 Controlling fugitive emissions to air
- 2.3.3.1 The Operator shall use BAT so as to prevent, or where that is not practicable, to reduce fugitive emissions of substances from the Permitted installation, and in particular from:
- Storage areas
  - Buildings (including roof vents)
  - Pipes, valves and other transfer systems
  - Open surfaces
  - Process utilities plant
- 2.3.3.2 Adequate provision must be made for the containment of spillages. All spillages must be cleared as soon as possible using the most appropriate technique:
- Dry sweeping of dusty spillages is not permitted;
  - Bunds and containment devices shall be impervious and resistant to the substances in storage, and;
  - Bunds and containment devices must be capable of holding 110% of the capacity of the largest tank or container in storage.
- 2.3.3.3 A high standard of housekeeping shall be maintained.

2.3.4 Controlling emissions to water

- 2.3.4.1 No emission from the Permitted installation shall be made to controlled surface waters (NB - this condition does not include permitted discharges to sewer).
- 2.3.4.2 In controlling emissions to water, the Operator shall, as far as practicable:
- (a). Establish and record the routes of all installation drains and subsurface pipe work, and;
  - (b). Identify all subsurface pipe work, sumps and storage vessels, and;
  - (c). Engineer systems to minimise leakages from pipes and ensure swift detection if they do occur, particularly where hazardous substances or substances subject to an emission limit are involved, and;
  - (d). Provide secondary containment and/or leak detection for all subsurface pipe work, sumps and storage vessels, and;
  - (e). Establish an inspection and maintenance programme for all surface and subsurface structures carrying or holding process effluent, e.g. pressure tests, leak tests, material thickness checks or CCTV.
- 2.3.4.3 All containment devices, storage devices, sumps and transfer systems shall be capable of being secured, impermeable and resistant to the materials being carried.
- 2.3.4.4 Run-off from the installation shall be controlled and managed before discharge (following treatment where necessary given the nature of the discharge). Where collected using interceptors, interceptors shall be:
- (a) Impermeable;
  - (b) Subject to a monthly visual inspection and, where necessary to ensure the continuous function, contamination removed. The records of all inspections are to be recorded;
  - (c) Subject to an annual maintenance inspection (interceptors to be emptied prior to inspection). The records of all inspections are to be recorded.

2.3.5 Controlling fugitive emissions to water

- 2.3.5.1 The Operator shall ensure that deliveries are carried out in such a way so as to minimise spillages and leaks.
- 2.3.5.2 Adequate provision must be made for the containment of spillages, such as kerbs sealed joints and impervious and resistant surface materials. All wet spillages must be contained and cleared as soon as possible using the most appropriate technique.
- 2.3.5.3 The Operator shall use BAT so as to prevent, or where that is not practicable, to reduce fugitive emissions of substances to water from the Permitted installation, and in particular from:
- (a). Storage areas
  - (b). Buildings (including roof vents)
  - (c). Pipes, valves and other transfer systems
  - (d). Open surfaces
  - (e). Process utilities plant
- 2.3.5.4 A high standard of housekeeping shall be maintained.

**2.4 Monitoring emissions**

2.4.1 Monitoring non-VOC emissions to air

- 2.4.1.1 non-VOC Emissions to air shall be monitored in accordance with condition 2.2.1.1.

- 2.4.1.2 For periodic measurements, at least three readings must be obtained during each measurement exercise. Emission limit values specified in table 2.2.1.1 shall be considered as complied with if, in one monitoring exercise:
- The average of all the readings does not exceed the emission limit values, and;
  - None of the readings (if not hourly averages) exceeds the emission limit value by more than a factor of 1.5\*
- \* The hourly average of the 15-minute means value may be used to demonstrate compliance.
- 2.4.1.3 The visual and olfactory assessments required by table 2.2.1.1 shall be undertaken during daylight wherever practicable, whilst the process is in operation. The time, location, name of the person undertaking the assessment and result of the assessments shall be recorded in the logbook kept in accordance with condition 2.6.1
- 2.4.1.4 The temperature of the thermal oxidisers serving the printing presses shall be continuously monitored and recorded.
- 2.4.1.5 The temperature readings from the thermal oxidisers serving the printing presses shall be on clear display to appropriately trained operating staff.
- 2.4.1.6 The temperature monitors for the thermal oxidisers serving the printing presses shall be equipped with audible and visual alarms that shall activate if the temperature falls below 750°C. Alarm events shall be automatically recorded.
- 2.4.2 Monitoring VOC emissions to air
- 2.4.2.1 VOC Emissions to air shall be monitored in accordance with condition 2.2.2.1.
- 2.4.2.2 For periodic measurements of VOC, at least three readings must be obtained during each measurement exercise. VOC emission limit values specified in table 2.2.2.1 shall be considered as complied with if, in one monitoring exercise:
- The average of all the readings does not exceed the emission limit values, and;
  - None of the readings (if not hourly averages) exceeds the emission limit value by more than a factor of 1.5\*
- \* The hourly average of the 15-minute means value may be used to demonstrate compliance.
- 2.4.2.3 The Operator shall make arrangements for recording the volume of volatile organic compounds purchased and used at the installation and shall retain copies of receipts of the purchase of such materials for a minimum of three years.
- 2.4.2.4 The Operator shall make arrangements for the despatch for recycling for reuse of all dirty solvents and liquid wastes that contain volatile organic compounds, and shall retain copies of receipts for such dispatched materials for a minimum of three years.
- 2.4.2.5 The Operator shall produce an annual report on the solvent consumed at the Permitted installation over the previous calendar year, and submit it to the Regulator by the 31<sup>st</sup> January each year. The report shall include but not be limited to:
- Details of the solvent inputs and outputs of the activities and/or installation, including fugitive emissions, in accordance with Schedule 3 of this Permit;
  - Results of extractive sampling exercises or a reduction scheme assessment;
  - A review of cleaning activities using organic solvents;
  - Measures, where taken, to minimise the amount of excess organic solvents used and progress with substitution plans for designated risk phrase materials (where applicable).

2.4.3 Monitoring emissions to water

- 2.4.3.1 The Operator shall permit Anglian Water or their agents to take water samples as required by the consent to discharge trade effluent. The results of monitoring shall be made available to the Regulator on request.
- 2.4.3.2 The Operator shall notify the Regulator of any monitoring undertaken in relation to its consent to discharge trade effluent granted by Anglian Water. The results of any such monitoring exercise shall be made available to the Regulator on request.

2.4.4 General monitoring provisions

- 2.4.4.1 The Operator shall notify the regulator at least 7 days before any periodic monitoring exercise is carried out to determine compliance with emission limit values. The Operator should state the provisional time and date of monitoring, pollutants to be tested and the methods to be used. The results of non-continuous emission testing should be forwarded to the regulator within 8 weeks of the completion of the sampling, which shall include details of process conditions at the time of monitoring, monitoring period and monitoring uncertainty as well as any deviations from the procedural requirements of standard reference methods and the error invoked from such deviations.
- 2.4.4.2 The Operator shall ensure that adequate and safe facilities for sampling are provided on vents and ducts. Sampling points on new plant should be designed to comply with CEN or other standards. e.g. BS EN 13284-1 or BS ISO 9096: 2003 for sampling particulate matter in stacks.
- 2.4.4.3 Where available, the Operator should use monitoring equipment and instruments certified to MCERTS standards and use a testing organisation accredited to MCERTS standards or a suitable alternative as approved by the Regulator.
- 2.4.1.2 No result should exceed the emission limit values specified in table 2.2.1.1 during calibration and/or compliance monitoring, except where either:
- (a). Data is obtained over at least 5 sampling hours in increments of 15 minutes or less; or
  - (b). At least 20 results are obtained where sampling time increments of 15-minutes or less are involved; and in the case of (a) or (b):
  - (c). No daily mean of all 15-minute mean emission concentrations should exceed the emission limit values specified in table 2.2.1.1 during normal operation (excludes start-up and shut-down);
  - (d). No 15-minute mean emission concentration should exceed twice the emission limit values specified in table 2.2.1.1 during normal operation (excludes start-up and shut-down).
- 2.4.4.4 In the case of any abnormal emissions, malfunction or breakdown leading to abnormal emissions, the operator shall:
- (a) Investigate and undertake remedial action immediately;
  - (b) Adjust or stop the process or activity to minimise those emissions; and
  - (c) Record as much detail as possible regarding the cause and extent of the problem, and the action taken to rectify the situation.
  - (c) Re-test to demonstrate compliance as soon as possible; and
  - (d) Notify the Regulator in accordance with condition 5.1.
  - (c) Promptly record the events and corrective actions taken in the logbook kept in accordance with condition 2.6.1.

## 2.5 Waste

### 2.5.1 Waste handling

- 2.5.1.1 The Operator shall ensure that collections of waste materials are carried out in such a way so as to minimise spillage, leaks and dusty emissions. This condition includes the delivery of empty waste collection containers.
- 2.5.1.2 Waste materials storage areas shall be under cover and protected from the elements to avoid or minimise environmental impact, except where stored materials are in suitable weatherproof containers.
- 2.5.1.3 Waste materials storage areas shall be hard surfaced.
- 2.5.1.4 The Operator shall produce an inventory of the quantity, nature, origin and where relevant, the destination, frequency of collection, mode of transport and treatment method of any waste which is disposed of, or recovered.
- 2.5.1.5 The Operator shall segregate the main waste types, and shall ensure that waste is stored in containers that are durable for the substances stored and that incompatible waste types are kept separate.
- 2.5.1.6 The Operator shall ensure that:
- (a) waste storage areas are clearly marked and signed, and that containers are clearly labelled
  - (b) appropriate storage facilities are provided for substances that are flammable, sensitive to heat or light etc, and that incompatible waste types are kept separate.
  - (c) containers are stored with lids, caps and valves secured and in place. (This also applies to emptied containers.)
  - (d) procedures are in place to deal with damaged or leaking containers.
  - (e) wastes are segregated wherever practicable
  - (f) the disposal routes for all wastes are as close to the point of production as possible
  - (g) dust from abatement plant is collected in robust bags that can be disposed of directly, or in fully enclosed skips to avoid the release of fugitive dusts during transfer.
- 2.5.1.7 All reasonably practicable efforts shall be made to minimise the amount of residual organic solvent bearing material left in drums and other containers after use. All organic solvent contaminated waste shall be stored within closed containers.
- 2.5.1.8 Prior to removal from site used wipes and other items contaminated with organic solvent should be placed in a suitably labelled metal bin fitted with a self-closing lid.
- 2.5.1.9 Bins should be emptied at least daily, as they not only present a fire hazard, they may also undergo spontaneous combustion.
- 2.5.1.10 For materials that may undergo spontaneous combustion special bins that allow air to circulate beneath and around them to aid cooling should be used
- 2.5.1.11 Dusty wastes should be stored in closed containers and handled in a manner that avoids emissions.

### 2.5.2 Waste re-use, recovery, recycling or disposal

- 2.5.2.1 As far as practicable and wherever practicable, the Operator shall recover, re-use and recycle waste materials.
- 2.5.2.2 The Operator shall conduct a review to demonstrate that the best environmental options are being used for dealing with all waste from the installation.
- 2.5.2.3 The Operator shall investigate potential markets for the recovery/re-use of wastes that are currently disposed of to landfill at least once every six years.

## 2.6 Management

- 2.6.1 The Operator shall use an effective Environmental Management System with policies and procedures for environmental compliance and improvements. Audits should be carried out against those procedures at regular intervals. The Environmental Management System shall incorporate effective recording systems collectively referred to as the 'Logbook'.
- 2.6.2 The Environmental Management System should include, but not be limited to:
- (a). Effective operational and maintenance systems for all aspects of the installation whose failure could impact on the environment. As a minimum this should include abatement plant, extraction fans and also major 'non productive' items such as tanks, pipe work, retaining walls, bunds, ducts and filters. Such systems should be reviewed and updated annually;
  - (b). Environmentally critical process and abatement equipment (whose failure could impact on the environment) should be identified and listed;
  - (c). The provision, maintenance and testing of Alarms or other warning systems which indicate equipment malfunction or breakdown;
  - (d). Essential spares and consumables for such equipment should be held on site or be available at short notice from suppliers, so that plant breakdown can be rectified rapidly;
  - (e). Records of breakdowns should be kept and analysed by the operator in order to eliminate common failure modes;
  - (f). A formal structure to clarify the extent of each level of employee's responsibility with regard to the control of the process and its environmental impacts. This structure shall be prominently displayed within the process building at all times. Alternatively, there must be a prominent notice referring all relevant employees to where the information can be found;
  - (g). Training and instruction for personnel at all levels sufficient to fulfil their designated duties. Details of such training and instruction shall be entered into the employees record and be made available for inspection by the Regulator;
  - (h). An assessment of the potential environmental risks posed by the work of contractors and instructions for contractors about protecting the environment while working on site, and;
  - (i). Written procedures for investigating incidents, (and near misses) which may affect the environment. This should include identifying suitable corrective action and ensuring it is implemented.

## 2.7 Accidents

- 2.7.1 Suitable and sufficient solvent containment and spillage equipment shall be readily available in all liquid and solvent handling areas, and adequate provision to contain potential liquid and solvent spillages shall be provided.
- 2.7.2 Adequate precautions shall be taken to prevent ignition of flammable materials in order to prevent accidents that may have environmental consequences. This should include but not be limited to:
- (a). The storage, handling and use of flammable materials in accordance with HSE requirements, and;
  - (b). The handling and use of flammable materials in accordance with the requirements of the Dangerous Substances and Explosive Atmospheres Regulations, and;
  - (c). Suitable containment of areas where flammable solvents or flammable solvent containing materials are handled or used, and;
  - (d). The use of monitoring and control devices for operations working at or above 25 of the organic solvent lower explosive limit, and;
  - (e). The implementation of controlled shutdown procedures for dealing with and emergency such as organic solvent levels entering the combustion plant at greater than the 25 of the organic solvent lower explosive limit, and;
  - (f). Not exceeding the auto-ignition temperature in any organic solvent containing section of the process (with the exception of the combustion chamber of any thermal abatement plant).

- 2.7.3 The Operator shall maintain an accident management plan and shall make it available for inspection by the Regulator. The accident management plan shall include, but not be limited to:
- (a). The identification of the hazards to the environment posed by the installation and its activities, and;
  - (b). An assessment of the risks of accidents and their possible consequences (including quantities, fate and potential harm of substances), and;
  - (c). The implementation of measures to reduce the risk of accidents, and contingency plans for any accidents that may occur.

- 2.7.4 In the case of abnormal emissions arising from an accident, the Operator shall:
- (a). Investigate immediately and undertake remedial action as soon as practicable, and;
  - (b). Promptly record the events and actions taken, and;
  - (c). Ensure that the Regulator is notified as soon as practicable.

## 2.8 Noise & vibration

- 2.8.1 The Operator shall take such measures as are necessary by way of mitigation, maintenance of existing plant & equipment, and modification of operations in order to minimise noise and vibration from the installation and its activities.
- 2.8.2 Noise emitted from the installation shall not contain any tonal or other distinctive characteristics as perceived by the Regulator. Where, in the opinion of the Regulator, tonal or other distinctive noise or vibration emissions exist or are likely to recur, the Operator shall, on receipt of written notification from the Regulator:
- (a). Undertake an assessment (or where necessary commission an independent assessment), including monitoring to identify those process operations giving rise to the tonal or other distinctive noise or vibration emissions (monitoring may either be by a British Standard method or by a method agreed with the Regulator), and;
  - (b). Undertake the assessment detailed in 2.8.2 (a) above within 6 weeks of receipt of any written request from the Regulator in relation to this condition, and;
  - (c). Provide a written report on the assessment within 6 weeks of its completion, including the likely mitigation of the noise or vibration and clearly timetabled proposals for the implementation of mitigation works for approval by the Regulator.
- 2.8.3 The Operator shall maintain a Noise Management Plan approved by the Regulator for ensuring acceptable noise levels for the installation. The Noise Management Plan shall form part of the logbook kept in accordance with condition 2.6.1, and be constructed in line with the Environment Agency Horizontal Guidance for noise (H3). The Noise Management Plan shall include but not be limited to:
- (a). A record of the established day time and night time noise rating level ( $L_{Ar,Tr}$ ) for the installation, and;
  - (b). A record of the established day time and night time background noise level ( $L_{A90,T}$ ), and;
  - (c). Lines of command and responsibilities for noise control at the installation, and;
  - (d). The identification and assessment of key plant, equipment and operations with the potential to give rise to significant noise and vibration, and;
  - (e). Clearly timetabled proposals to minimise noise and vibration from the installation and its activities, including from new or replacement plant or equipment or following complaints, and;
  - (f). Actions taken to minimise noise and vibration from the installation and its activities, including from new or replacement plant or equipment or following complaints, and;
  - (g). A review of complaints received (directly or indirectly) in relation to noise and vibration.
- 2.8.4 No skip or bin shall be changed or moved between 21:00 and 08:00 hours Monday to Saturday, nor between 20:00 and 09:00 hours on Sundays and public holidays unless undertaken in a sound proofed building.

- 2.8.5 The Operator shall ensure that deliveries, collections and movement of raw and waste materials (including empty containers) are carried out in such a way so as to minimise noise. This shall include but not be limited to:
- (a). Loading vehicles inside the building wherever practicable to do so during the day, and
  - (b). Loading vehicles inside the building with the doors closed between 21:00 and 07:00 hours Monday to Saturday, nor between 20:00 and 09:00 hours on Sundays and public holidays.
- 2.8.6 No vehicle engine shall be left idling at the installation for any period longer than 5 minutes.
- 2.8.7 Site access doors and loading doors shall be kept closed as far as practicable other than when in active use for accessing or exiting the building or during loading and unloading.
- 2.8.8 All site vehicles and fork trucks shall be fitted with broadband reversing alarms.
- 2.8.9 All visiting vehicles not fitted with broadband reversing alarms shall be directed around the traffic light controlled one way system to minimise the need for reversing and noise from reversing alarms. The traffic light controlled one-way system shall:
- (a). Be brought to the attention of all visiting vehicles, and;
  - (b). Be clearly signposted.
- 2.8.10 The testing of audible alarms shall only be conducted between the hours of 09:00 and 18:00 Monday to Friday, and not on any Saturday, Sunday or Public Holiday.
- 2.8.11 The Operator shall undertake a quarterly assessment of the specific noise level at receptors and monitoring locations agreed by the Regulator in the Noise Management Plan required by condition 2.8.3. The results of the assessment required by this condition shall be retained in the logbook in accordance with condition 2.6.1, and shall be made available to the Regulator on request.
- 2.8.12 The day time and night time noise rating level ( $L_{Ar,Tr}$ ) for the installation as agreed with the Regulator as part of the Noise Management Plan required by condition 2.8.3 shall not increase.
- 2.8.13 Where the day time and night time noise rating level ( $L_{Ar,Tr}$ ) for the installation as agreed with the Regulator as part of the Noise Management Plan required by condition 2.8.3 exceeds the background noise level ( $L_{A90,T}$ ) by 10 or more, the Operator shall:
- (a). Undertake an assessment (or where necessary commission an independent assessment), including monitoring to identify those process operations giving rise to the noise emissions (monitoring may either be by a British Standard method or by a method agreed with the Regulator), and;
  - (b). Undertake the assessment detailed in 2.8.13 (a) above within 6 weeks of receipt of any written request from the Regulator in relation to this condition, and;
  - (c). Provide a written report on the assessment within 6 weeks of its completion, including the likely mitigation of the noise and clearly timetabled proposals for the implementation of mitigation works for approval by the Regulator.
- 2.8.14 The Operator shall undertake an assessment of the impact on noise and vibration emissions from any proposed new or replacement plant or equipment prior to installation. The results of the assessment, which shall include a description of the plant or equipment, the sound power level, the type of noise source (i.e. internal/external, intermittent/continuous, fixed/mobile), and its location, hours of operation, description of the noise produced and the contribution to the overall site noise shall be forwarded to the Regulator at least 14 days prior to commissioning for approval by the Regulator.

## **2.9 Energy efficiency**

- 2.9.1 As far as practicable, the Operator shall ensure that all plant and equipment is designed, operated and maintained to optimise the use and minimise the loss of energy. Wherever practicable, the Operator shall consider additional energy efficiency measures for the installation as a whole.
- 2.9.2 The Operator shall ensure that combustion conditions in abatement plant are optimised, and shall monitor carbon monoxide and oxygen in waste gasses.
- 2.9.3 The Operator shall maintain detailed information on the energy consumption and energy flows at the installation (energy plan). The monitored energy flows and targeted areas for energy reduction in the energy plan shall be updated on an ongoing basis.
- 2.9.4 The Operator shall produce a report on the energy plan for the previous calendar year, and shall submit it to the Regulator by the 1<sup>st</sup> March each year.

## **2.10 Closure and decommissioning**

- 2.10.1 The Operator shall maintain a site closure plan to demonstrate that the installation can be decommissioned to avoid any significant pollution risk and return the site to a satisfactory state. The site closure plan shall:
- (a). Be updated and reviewed as material changes to the operation of the site and the activities undertaken, and;
  - (b). Include a record of any events which have, or might have, impacted on the condition of the site along with further investigation or remediation work carried out; and
  - (c). Include plans of underground pipes and vessels, and;
  - (d). Include details for dismantling potentially polluting structures, and;
  - (d). Include details for the removal of potential harmful materials and subsequent soil testing.
  - (d). Be fully reviewed at least every six years.
- 2.10.2 The site closure plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.
- 2.10.3 The Operator shall give at least 30 days written notice to the Regulator before implementing the site closure plan.

## **3. Records**

- 3.1 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-
- Be made available for inspection by the Regulator at any reasonable time;
  - Be supplied to the Regulator on demand and without charge;
  - Be legible;
  - Be made as soon as reasonably practicable;
  - Indicate any amendments which have been made and shall include the original record wherever possible; and
  - Be retained at the Permitted Installation, or other location agreed by the Regulator in writing, for a minimum period of 2 years from the date when the records were made, unless otherwise agreed in writing.

## 4. Reporting

- 4.1 All reports, and written and or oral notifications required by this Permit, and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Regulator using the contact address indicated on page 1 of this Permit.
- 4.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessments carried out in accordance with the conditions of this Permit.
- 4.3 The Operator shall, within 6 months of receipt of written notice from the Regulator, submit a report assessing whether all appropriate preventative measures continue to be taken against pollution, in particular through the application of best available techniques at the Installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Operator, that may provide environmental improvement.

## 5. Notifications

- 5.1 The Operator shall notify the Regulator **without delay** of:-
- Any emission likely to affect the local community;
  - The failure or breakdown of any key abatement plant;
  - The detection of an emission of any substance, that has caused, is causing, or may cause significant pollution and that exceeds twice the emission limit or criterion in this Permit, specified in relation to the substance;
  - The detection of any fugitive emissions that has caused, is causing or may cause significant pollution, unless the quantity emitted is so trivial that it would be incapable of causing significant pollution;
  - The detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or may cause significant pollution; and
  - Any accident, which has caused, is causing or may cause significant pollution.
- 5.2 The Operator shall give written notification as soon as practicable (and at least 30 days) prior to any of the following:
- Permanent cessation of the operation of part or all of the Permitted Installation;
  - Cessation of operation of all or part of the Permitted Installation for a period likely to exceed 1 year; and
  - Resumption of the operation of part or all of the Permitted Installation after a temporary cessation of activities as above.
- 5.3 The Operator shall notify the following matters to the Regulator in writing within 14 days of their occurrence:
- Any change in the Operator's trading name, registered name or registered office address;
  - Any change to the particulars of the Operator's ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary);
  - Any steps taken by the Operator going into administration, entering into a company voluntary arrangement, being wound up or bankruptcy;

## 6. Interpretations and Explanatory Notes

6.1 In relation to this Permit, the following expressions shall have the following meanings:

<i>"Activity"</i>	An activity listed in Part 2 of Schedule 1 to the EP Regulations which will form part of an EP installation or be a mobile plant
<i>"The EPR / EP Regulation"</i>	Means the Environmental Permitting (England and Wales) Regulations S.I. 2007 No.3538 (as amended) and words and expressions defined in the EPR shall have the same meanings when used in this Permit save to the extent they are explicitly defined in this Permit.
<i>"Change in Operation"</i>	In relation to an installation or mobile plant, a change in its nature or functioning or an extension which may have consequences for the environment.
<i>"Enforcement notice"</i>	A notice served by a local authority to enforce compliance with the permit conditions or require remediation of any harm following a breach of any condition.
<i>"Installation"</i>	A stationary technical unit where one or more activities listed in Part 2 of Schedule 1 to the EP Regulations are carried out and any other location on the same site where any other directly-associated activities are carried out. and any activities that are technically linked. The terms 'regulated facility' and 'installation' are, in effect, interchangeable for A(2) and B activities.
<i>"Operator"</i>	The person who has control over the operation of the installation/regulated facility (EP Regulation 7).
<i>"Permit"</i>	A permit granted under EP Regulation 13 by a local authority allowing the operation of an installation subject to certain conditions.
<i>"Pollution"</i>	Any emission as a result of human activity which may be harmful to human health or the quality of the environment, cause offence to any human senses, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment (EP Regulation 2(1)).
<i>"Revocation notice"</i>	A notice served by the Regulator under EP regulation 22 revoking all or part of a permit.
<i>"Permitted Installation"</i>	Means the activities and the limits to those activities described in this Permit.
<i>"Monitoring"</i>	Includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.
<i>"MCERTS"</i>	Means the Environment Agency's Monitoring Certification Scheme.
<i>"Fugitive Emission"</i>	Means an emission to air or water (including sewer) from the Permitted installation that is not controlled by an emission limit imposed by a condition of this Permit.
<i>"Regulator"</i>	Means any officer of Maldon District Council who is authorised under Section 108(1) of the Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in Section 108(1) of that Act.
<i>"Best Available Techniques (BAT)"</i>	<p>Best available techniques means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent, and where that is not practical, generally to reduce emissions and the impact on the environment as a whole.</p> <p>For those purposes:</p> <p>"Available techniques" means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the Operator;</p> <p>"Best" means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;</p> <p>"Techniques" includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned. Schedule 2 of the Regulations shall have effect in relation to the determination of best available techniques.</p>

- 6.2 Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the document with the most recent publication date shall be taken to be the most appropriate document to be used.
- 6.3 Any person who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State for Environment, Food & Rural Affairs. Appeals must be received by the Secretary of State no later than 6 months from the date of the decision (the date of the Permit).

Appeals relating to installations in England should be received by the Secretary of State for Environment, Food & Rural Affairs. The address is as follows;

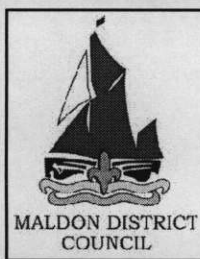
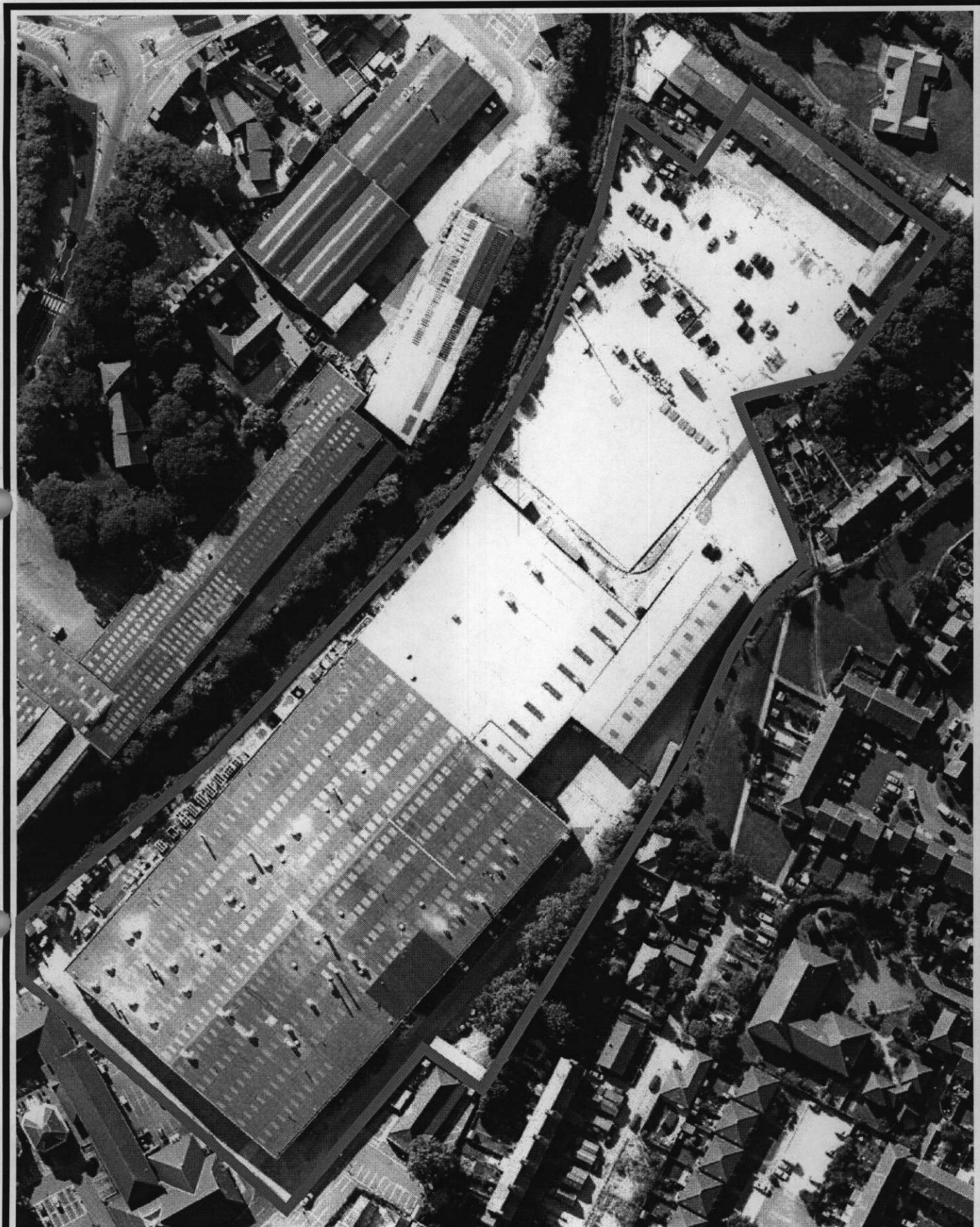
The Planning Inspectorate  
Environment Team, Major and Specialist Casework  
Room 4/04 – Kite Wing  
Temple Quay House  
2 The Square  
Temple Quay  
Bristol, BS1 PN

The appeal must be in the form of a written notice or letter stating that the person wishes to appeal and listing the condition(s) which is/are being appealed against. The following five items must be included;

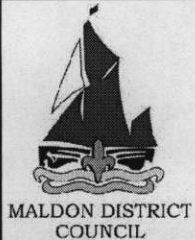
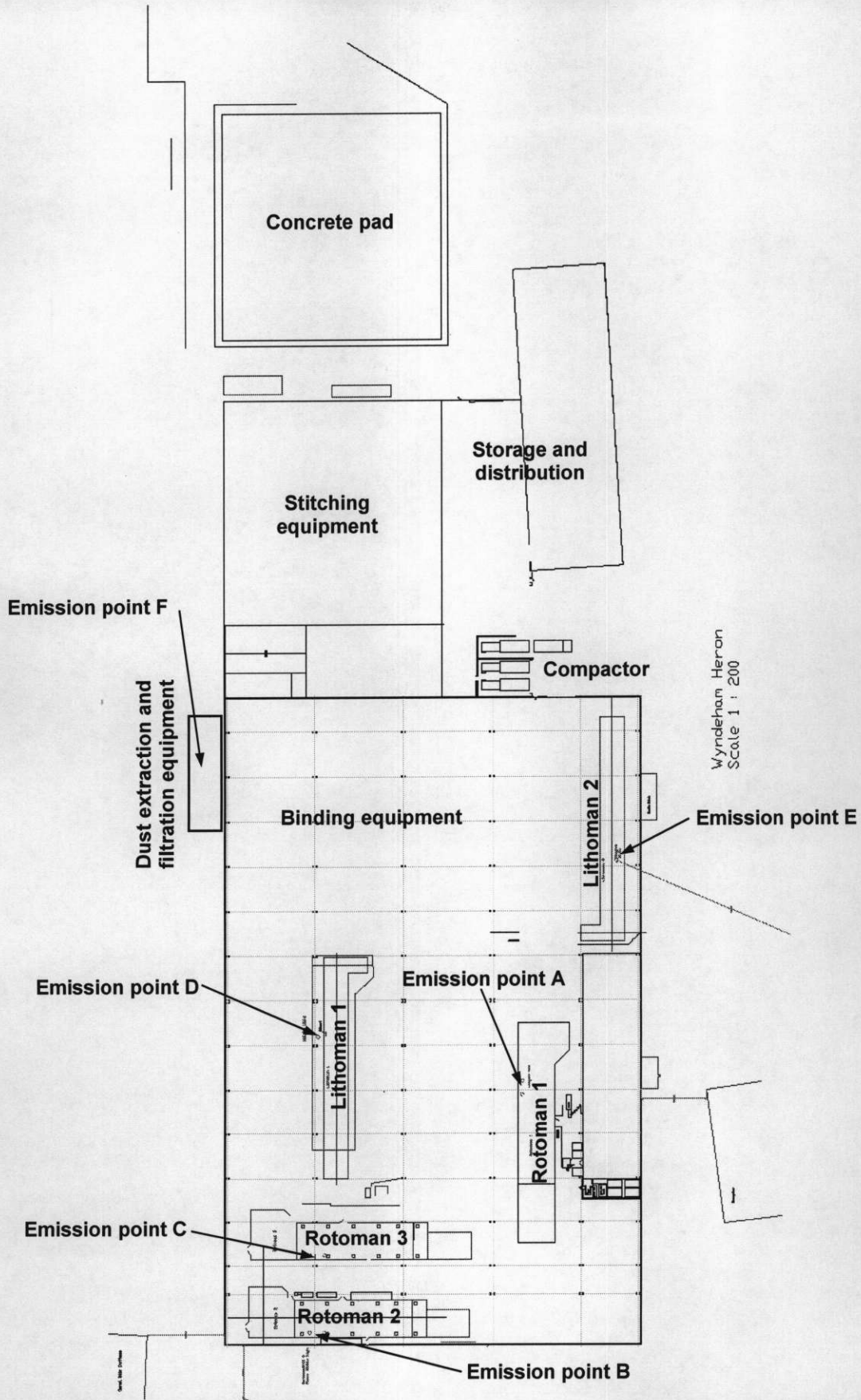
- a) A statement of the ground of appeal;
- b) A copy of any relevant application;
- c) A copy of any relevant Permit;
- d) A copy of any relevant correspondence between the person making the appeal ("the appellant") and the Council;
- e) A statement indicating whether the appellant wishes the appeal to be dealt with.
  - By a hearing attended by both parties and conducted by an inspector appointed by the Secretary of State; or
  - By both parties sending the Secretary of State written statements of their case (and having the opportunity to comment upon one another's statements).

At the same time, the notice of appeal and documents (a) and (e) must be sent to the Council, and the person making the appeal should inform the appropriate Secretary of State that this has been done.

- An appeal will not suspend the effect of the conditions appealed against; the conditions must still be complied with.
- In determining an appeal against one or more conditions, the Act allows the Secretary of State in addition to quash any of the other conditions not subject to the appeal and to direct the local authority to either vary any of these conditions or to add new conditions.



Site	Wyndeham Heron		
Project	Non-substantial Variation		
Drawing	Schedule 1	No.	MLD/EPR/A2/001/01
Date	7 <sup>th</sup> October 2009	Scale	Not to scale



Site	Wyndeham Heron		
Project	Non-substantial Variation		
Drawing	Schedule 2	No.	MLD/EPR/A2/001/02
Date	28 <sup>th</sup> August 2009	Scale	Not to scale

## Solvent Management Plan

The Solvent Management Plan provides definitions and calculations to demonstrate compliance with the VOC requirements of this Permit. The use of the standard definitions and calculations also ensures consistency of VOC compliance across installations with an industrial sector.

The definitions provided must be used in all calculations relating to the Solvent Management Plan (SMP).

- For SED installations using the emission and fugitive limits, the SMP should be used for determining the fugitive emissions.

The operator shall forward an emission reduction plan as part of the SMP, which includes in particular:

- A full breakdown of solvent inputs and outputs
- The determination of the annual actual solvent emission
- The determination of the fugitive emission
- Decreases in the average solvent content of the total input; and/or
- Increased efficiency in the use of solids to achieve a reduction of the total emissions from the installation.

## Determination of Solvent Consumption

A determination of the organic solvent consumption, the total mass of organic solvent Inputs minus any solvents sent for reuse/recovery off-site, should be made and submitted to the regulator annually, preferably to coincide with the operators stocktaking requirements, in the form of a mass balance in order to determine the annual actual consumption of organic solvent (C):

**Where: C= I1- O8**

I1 Total quantity of organic solvents, or their quantity in preparations purchased which are used as input into the process/activity.

A calculation of the purchased organic solvent Input (I1) to the process/activity, is carried out by recording:

1. The mass of organic solvent contained in inks, coatings, diluents and cleaners in the initial stock (IS) at the start of the accounting period; plus
2. The mass of organic solvent contained in inks, coatings, diluents and cleaners in the purchased stock (PS) during the accounting period.
3. Minus the mass of organic solvent contained in inks, coatings, diluents and cleaners in the final stock (FS) at the end of the accounting period.

**Total Organic Solvent Input (I1) = IS + PS – FS**

## Determination of Total emission limit

Compliance is achieved if the Total Emission from the activity expressed in solvent emissions per unit of product, or otherwise as stated is equal to or less than the Total Emission Limit Value,

Where Total Emission Is equal to the mass of solvent released in waste gases Plus the fugitive emissions determined above

**Total Emission = O1 + Fugitive (See above)**

## Determination of Fugitive VOC Emissions

To demonstrate compliance with fugitive emission values in Section 2 the operator must determine the fugitive emissions (F) from the installation using the following:

$$F = I_1 - O_1 - O_5 - O_6 - O_7 - O_8$$

or

$$F = O_2 + O_3 + O_4 + O_9$$

This quantity can be determined by direct measurement of the quantities. Alternatively, an equivalent calculation can be made by other means, for instance by using the capture efficiency of the process.

The Fugitive Emission value as a percentage of the Solvent Input (I) is determined by

$$\text{Fugitive Emission Value} = 100 \times F/I$$

Where the Solvent Input (I) =  $I_1 + I_2$  (determined as part of the Solvent Management Plan)

Fugitive emission values must be determined for each installation, once completed, it need not be repeated until the equipment is modified.

### Definitions:

The following definitions provide a framework for the mass balance calculations used in determining compliance.

Inputs of Organic Solvent in the time frame over which the mass balance is being calculated (I)

$I_1$  The quantity of organic solvents, or their quantity in preparations purchased which are used as input into the process/activity (including organic solvents used in the cleaning of equipment, but not those used for the cleaning of the products).

$I_2$  The quantity of organic solvents or their quantity in preparations recovered and reused as solvent input into the process/activity. (The recycled solvent is counted every time it is used to carry out the activity.) Outputs of Organic Solvents in the time frame over which the mass balance is being calculated (O)

$O_1$  Emissions in waste gases.

$O_2$  Organic solvents lost in water, if appropriate taking into account waste water treatment when calculating  $O_5$ .

$O_3$  The quantity of organic solvents which remains as contamination or residue in products output from the process/activity.

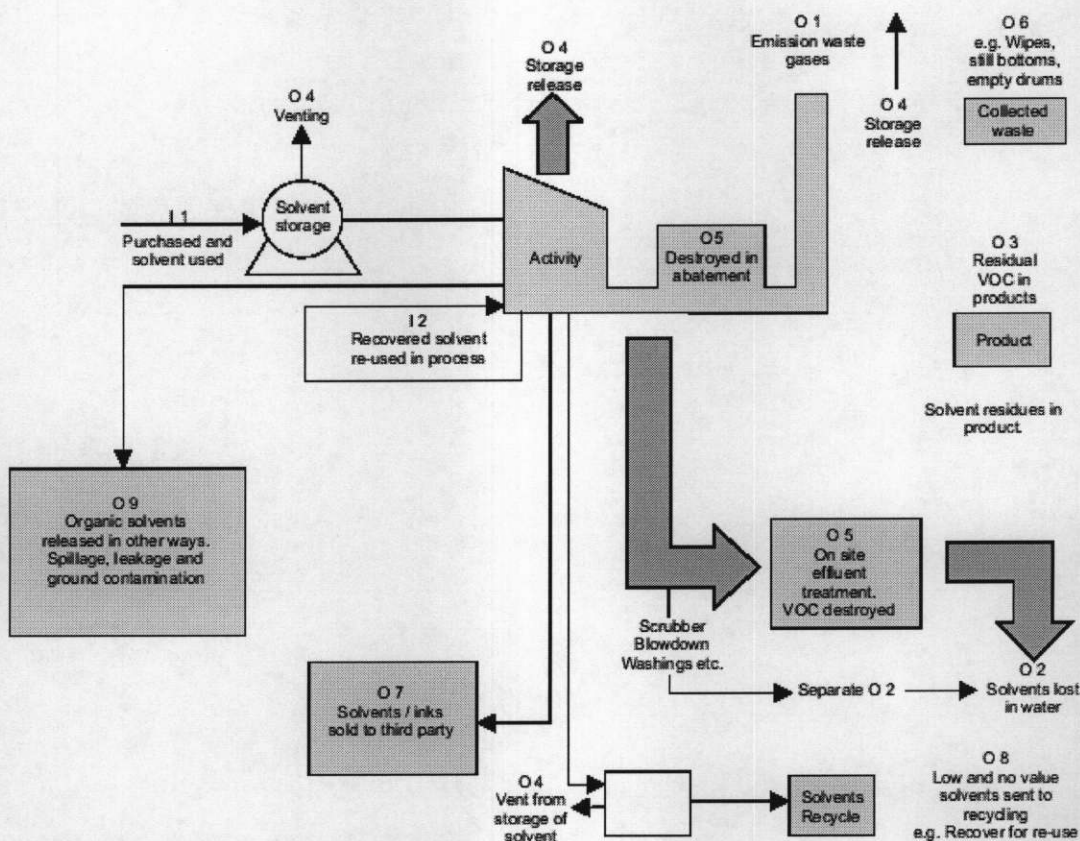
$O_4$  Uncaptured emissions of organic solvents to air. This includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings.

$O_5$  Organic solvents and/or organic compounds lost due to chemical or physical reactions. (Including for example those which are destroyed, e.g. by thermal oxidation or other waste gas or waste water treatments, or captured, e.g. by adsorption, as long as they are not counted under  $O_6$ ,  $O_7$  or  $O_8$ ).

$O_6$  Organic solvents contained in collected waste.

$O_7$  Organic solvents, or organic solvents contained in preparations, which are sold or are intended to be sold as a commercially valuable product.

- O<sub>8</sub> Organic solvents contained in preparations recovered for reuse but not as input into the process/activity, as long as not counted under O<sub>7</sub>.
- O<sub>9</sub> Organic solvents released in other ways.



<p>Solvent Management Plan</p> <p>Consumption = I1 - O8</p> <p>Actual solvent emission = I1 - O5 - O6 - O7 - O8</p> <p>Fugitive emission (F) = I1 - O1 - O5 - O6 - O7 - O8</p> <p>OR</p> <p>Fugitive emission (F) = O2 + O3 + O4 + O9</p>	<p>Solvent Emissions Directive Activities</p> <p>Fugitive Emission Value =</p> $\frac{F}{I1 + I2} \times 100\%$ <p>Total emission = O1 + Fugitive emission (F)</p>
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