ENVIRONMENTAL PERMIT

Chelmsford City Council Permit:

Inflite Engineering Services Limited
Inflite House
Stansted Airport, Stansted
Essex, CM24 1RY

(Registration Number: 2171334)

To Operate a Part B Installation At:

Aerospace Surface Treatments
Unit 1, 2 & 3 Farrow Road
Chelmsford Industrial Park
Chelmsford, Essex, CM1 3TH

Under the Provisions of:

Pollution Prevention and Control Act 1999

Environmental Permitting (England and Wales)
Regulations 2016 (As Amended)

Permit Reference Number: IPPC/001

Permit Issue Date: 1st October 2019

Paul Brookes
Public Health & Protection Services Manager
(The Authorised Officer for this purpose)

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STATUS LOG

Detail	Reference	Date
Permit Issued		19th June 2006
Variation	General Variation	12th October 2006
Variation	EPR Permit	23rd September 2009
Variation	Change in Company Details	18th March 2013
Variation	Process Change & EPR 2018	15th November 2018
Variation	Removal of Condition	1st October 2019

DESCRIPTION OF INSTALLATION

The installation is located in Chelmsford Industrial Park, which is approximately 2.7km from Chelmsford town centre. Chelmsford Industrial Park contains light industrial and commercial units. Residential housing lies approximately 240m East and Southeast, the River Wid lies approximately 430m West and Clock Tower Retail Park lies approximately 300m Northeast of the installation boundary. Widford Industrial Estate lies North of Chelmsford Industrial Park. The installation covers approximately 0.29 ha.

The installation is within 3 adjoining units, 2 owned and 1 leased by the company. They operate two shifts; a day shift and a night shift. This pattern operates five full days a week (Monday to Friday) and week-end shifts as required.

AST performs finishing activities on metallic and non-metallic components for the aerospace industry. Incoming components require the application of surface treatments and permanent coatings to protect the materials from corrosion or to improve their wear or fatigue properties.

Components are generally prepared for coating or surface treatment in an enclosed perchloroethylene degreasing bath. Then depending on the product, the following may be undertaken:

- Aluminium surface treatment (e.g. alocrom & anodising processes).
- Pickling of titanium and aluminium alloys.
- Pickling and passivation of stainless steel alloys.

The blasting process is carried out in a vacu-blast cabinet using alumina oxide to abrasive finish aluminium, steel or titanium alloys. This can be used either as a process in its own right or as a pre-treatment for further processes such as electroplating or metallisation. The process is also used to remove defective paint films.

Organic finishing is carried out in five Spraybooth Technology Ltd low energy spray/bake booths, manufactured to minimise heat and particulate loss.

CONDITIONS

The operator is authorised to undertake these activities subject to the following conditions:

1.0 GENERAL CONDITIONS

1.1 Permitted Activities

1.1.1 The Permit is issued under Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 (As Amended) (EP Regulations), to operate an installation carrying out:

- Surface Treating Metals and Plastic Materials - Using an electrolytic or chemical process where the aggregated volume of the treatment vats is more than 30m^3 (Section 2.3 A2(a)(iii) of Part 2 to Schedule 1 of the EP Regulations).
- Coating Activities, Printing and Textile Treatments - Repainting or re-spraying aircraft or railway vehicles or parts of them if the activity may result in the release into the air of particulate matter or of any volatile organic compound and the carrying on of the activity is likely to involve the use in any period of 12 months of 5 or more tonnes of organic solvents (Section 6.4, Part B(c)(iii) of Part 2 of Schedule 1 of the EP Regulations).

And the following associated activities:

- Risk Phrase surface cleaning activities where consumption of VOC used is less than 1 tonne in any 12-month period.

1.2 The Installation

1.2.1 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 Location Plan in Schedule 1, and described in the Permit application. The layout of the installation is detailed in Site Layout Plan in Schedule 2.

The installation comprises:

- Surface Cleaning: EVT enclosed degreasing machine with carbon recouper.*
- Aluminium Pre-Treatment (Anodising): Static eliminator.*
- Pickle Line: Wet scrubber.*
- Coating: 5 spraybooth ovens equipped with automatic cut out on booth over pressurisation and dry particulate filters.* Paint mixing room.
- Vacuum blasting: dry particulate filters.*

(Key Abatement Plant)*

1.2.2 Emissions to air and water from the specified activities and processes in Table 1 shall only arise from air emission points specified:

Table 1		
Emission Point Reference	Emission Media	Activities & Processes
A12 (New Paint Facility)	Air	Spray Booth Mixing Room
	Air	Spray Booth 1
	Air	Spray Booth 2
	Air	Spray Booth 3
	Air	Spray Booth 4
	Air	Spray Booth 5
A7 & A8	Air	Aluminium Pre-Treatment Line (Anodising)
A9	Air	Hot Rinse Line
A11	Air	Pickling Line (via Wet Scrubber)
N/A (Self Contained)	Air	Vacuum Blasting
Effluent Sample Point	Water	All Process Effluent (to Foul Sewer)

1.3 Operational Changes

1.3.1 The Operator shall seek the Regulators written agreement 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.

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 to have been amended.

1.3.2 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 or water, and are notified to the Regulator 14 days prior to making that change.

1.4 Best Available Techniques

1.4.1 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 Condition 1.2 of this Permit.

1.4.2 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.

OPERATING CONDITIONS

2.0 Raw Materials

2.1 Raw Materials Selection

2.1.1 The Operator shall maintain an inventory of all raw materials used on site.

2.1.2 The Operator shall adopt procedures to control the specification of raw materials with the main potential for environmental impact.

2.1.3 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, R61 or hazard phrases H351, H350, H340, H350i, H360F, H360D without prior written consent from the Regulator.

2.1.4 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.

2.2 Optimising the Use of Raw Materials

2.2.1 The Operator shall record materials usage and waste generation in order to establish internal benchmarks.

2.2.2 The Operator shall carry out a waste minimisation audit for the production of a waste minimisation audit report at least every 6 years.

2.2.3 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.

2.2.4 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.

2.3 Water Use

2.3.1 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;

b) The prompt repair of any water leaks;

c) Water recycling; and

d) Opportunities for improved water use efficiency.

2.3.2 Emissions to water shall be reduced as far as practicable. Techniques to minimise emissions to water shall include but not be limited to:

a) The treatment of contaminated water in the effluent treatment system; and

b) Water recycling.

2.3.3 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.

2.3.4 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;

b) Water use flow diagram and mass balances;

c) Water use benchmarks; and

d) Opportunities for improved water use efficiency.

2.3.5 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.

2.4 Emissions

2.4.1 Non-VOC Emission Limits to Air

The limits for emissions to air for the parameters set out in Table 2 shall not be exceeded. Suitable alternative monitoring techniques must be agreed with the Regulator in advance and in writing.

Table 2

Emission Point	Parameter	Limit mg/m	Monitoring Method	Monitoring Frequency
A12 (New Paint Facility)	Total particulate matter from spraybooths	10mg/m^3	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 annual booth guarantee for maintained standard. Re-test if booths modified or replaced where a guarantee is used to demonstrate compliance
A7, A8, A9 & A11 (where polluting parameter is produced)	Oxides of nitrogen (expressed as nitrogen dioxide equivalent. Includes nitric oxide vapour	200mg/Nm^3 As a one-hour mean emission concentration	Manual extractive testing using MCERTS methods with averages taken over operating periods, excluding start-up and shut-down	At least once every 12-months
	Hydrofluoric acid	2mg/m^3		
	Hydrochloric acid	10mg/m^3		
	Sulphuric acid	5mg/m^3		
	Chromium (VI) and compounds as Cr	1mg/m^3		
N/A (Self Contained)	Total particulate matter from abrasive blasting	50mg/m3	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 annual booth guarantee for maintained standard. Re-test if booths modified or replaced.
Whole installation	Visible emissions & odour at site boundary	None	5 minute visual & olfactory assessment of emissions during process operations	At least once every week

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

2.4.2 VOC Emission Limits to Air

2.4.2.1 The Operator shall demonstrate compliance with VOC emission limits to air using the emission limits and fugitive emissions method.

2.4.2.2 Where the Operator is permitted to demonstrate compliance with VOC emission limits to air using the emission limits and fugitive emissions method, the parameters set out in Table 3 shall not be exceeded. Suitable alternative monitoring methods must be agreed with the Regulator in advance and in writing.

Table 3				
Emissions Point or Activity Reference	VOC in Waste Gases	Limit (mg/m)	Monitoring Method	Monitoring Frequency
A12 (New Paint Facility)	VOC in contained emissions from paint spraying activities	75mg/m^3	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
Paint Spraying Activities	VOC in fugitive emissions	20% of solvent input	Mass balance calculation in accordance with schedule 3	At least once every 12-months

2.4.3 Point Source Emissions to Air

2.4.3.1 Exhaust flow rates from emission points to air specified in Table 1 shall provide efficient capture of emissions.

2.4.3.2 Exhaust gasses discharged through emission points to air specified in Table 1 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.

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

2.4.3.4 Emissions from all stacks shall be:

a) Colourless and free from smoke;

b) Free from persistent visible emissions; and

c) Free from droplets.

2.4.3.5 Adequate insulation should be provided to the emission points to air specified in Table 1 to minimise the cooling of waste gases and prevent liquid condensation by keeping the temperature of the exhaust gases above the dew point.

2.4.3.6 Emission points specified in Table 1 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.

2.4.3.7 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.

2.4.3.8 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.

2.4.4 Emission Limits to Water

2.4.4.1 The limits for emissions to water for the parameters set out in Table 4 shall not be exceeded in any individual spot sample.

Table 4		
Emission Point or Activity Reference	Parameter	Limit (mg/l)
Effluent Sample Point	Total Chromium	2.0
	Chromium VI	0.1
	Nickel	1.0
	Tin	2.0
	Chemical Oxygen Demand	1000
	Hydrocarbons	0.1
	Copper	1.0
	Zinc	2.0
	Cadmium	0.1
	Lead	1.0

2.4.5 Point Source Emissions to Water

2.4.5.1 All effluent containment devices, storage devices, sumps and transfer systems shall be impermeable and resistant to the materials being carried.

2.4.5.2 Run-off from the installation shall be controlled and managed before discharge (following treatment where necessary given the nature of the discharge). Containment devices 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; and

c) Subject to a maintenance inspection at least every three months (containment devices to be emptied prior to inspection). The records of all inspections are to be recorded.

2.4.5.3 The effluent treatment system shall be designed so that effluent cannot by-pass the treatment plant.

2.4.5.4 There shall be sufficient storage for effluent and contaminated waters prior to treatment and release.

2.4.5.5 The Operator shall:

a) Establish and record the routes of all installation drains and subsurface pipe work;

b) Identify all subsurface pipe work, sumps and storage vessels;

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;

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.

2.5 Emissions Control

2.5.1 Controlling Non-VOC Emissions to Air

2.5.1.1 The temperature, level of agitation and strength of the acid mixtures must be optimised in order to minimise emissions of nitrogen oxides and acid gasses. Information relating to the above parameters must be provided to the regulator on request.

2.5.1.2 Arrestment equipment must be used where necessary to meet the emission limits specified in Table 2.

2.5.1.3 Combustion processes shall use low NOx burners.

2.5.1.4 A mist eliminator shall be installed and operated on the suction side of the extraction fan.

2.5.1.5 All operations conducted as part of a coating activity that could lead to emissions of odours and particulate matter shall be carried out in a spraybooth designed for that purpose and maintained under negative pressure. The booth shall be fitted with suitable and sufficient arrestment equipment to comply with Condition 2.4.1.

2.5.1.6 All operations conducted as part of an abrasive blasting activity that could lead to emissions of odours, fume and particulate matter shall be carried out in a booth designed for that purpose and maintained under negative pressure. The booth shall be fitted with suitable and sufficient arrestment equipment to comply with Condition 2.4.1.

2.5.2 Controlling VOC Emissions to Air

2.5.2.1 Wherever possible, surface cleaning operations using organic solvents shall be minimised.

2.5.2.2 Organic solvents shall be stored in the following manner at all times other than when in active use:

a) In suitable sealed containers with the lid securely fastened;

b) On a suitable tray or bund capable of containing110% of the volume of the largest container in storage;

c) Away from staff who are not trained in their safe handling, storage and use; and

d) Away from sources of heat and bright light.

2.5.2.3 All appropriate precautions must be taken to minimise emissions of organic solvents:

a) At start-up and shut-down of equipment and/or the commencement or cessation activities using organic solvents;

b) When filling, topping-up or emptying solvent tanks or baths, for example by the use of fully or partially enclosed transfer systems; and

c) During routine maintenance.

2.5.2.4 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:

a) Suitable facilities, such as barrel lifts or 'Safetainers' are provided and used, particularly where the volume of material to be transported:

i. Exceeds the physical capability of the person transporting the organic solvents; and/or

ii. Is an aliquot of a larger volume of solvent in storage.

b) The containers being transported are securely sealed; and

c) Staff undertaking the internal transport of organic solvents are appropriately trained in solvent handling, transport and spillage recovery procedures.

2.5.2.5 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.

2.5.2.6 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.

2.5.2.7 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.

2.5.2.8 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.

2.5.2.9 The 'EVT' cleaning machine shall be maintained and operated in accordance with the manufacturer's instructions and by appropriately trained staff. In addition, the Operator shall ensure that:

a) A suitable continuous monitoring device is used to monitor ambient solvent concentrations, and the concentration of organic solvent above the carbon absorber and in the cleaning chamber; and

b) The loading door is interlocked and shall remain closed until the concentration of organic solvent in the loading chamber is 1g/m^3 or lower.

2.5.2.10 The continuous monitoring devices serving cleaning machines shall be maintained and operated in accordance with the manufacturer's instructions and calibrated annually. Certificates of calibration shall be obtained and made available to the Regulator on request.

2.5.2.11 All new or replacement cleaning machines must be equipped with continuous monitoring devices that are intrinsic to the operation of the degreasing plant, including (but not limited to) door interlocks that are linked to the concentration of organic solvent vapours within the loading chamber.

2.5.2.12 Spray coatings shall be applied using the following methods:

a) High volume low pressure (HVLP) (maximum atomisation pressure 67.5kPa) spraying equipment;

b) Air assisted airless spraying equipment;

c) Electrostatic spraying equipment; or

d) A system capable of achieving a transfer efficiency of at least 65%, determined in accordance with the procedure set out in BS EN 13966-1:2003 Determination of the transfer efficiency of atomising and spraying equipment for liquid coating materials.

2.5.2.13 All spray guns and equipment cleaning shall be carried out in an automatic, totally enclosed equipment cleaning machine or any other equipment-cleaning machine which can achieve comparable or lower emissions. The cleaning machine shall be provided with the minimum of exhaust ventilation that is necessary to prevent the fugitive emission of

organic solvent vapour when the machine is opened for introduction or removal of equipment, or for the changing of cleaning solvent.

2.5.2.14 All spray gun testing and sprayout following cleaning shall be carried out in either an equipment cleaning machine with the extraction running or into a chamber which is provided with extraction which is running.

2.5.2.15 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.

2.5.2.16 Solvent contaminated waste, including solvent for recycling and used solvent spillage clean-up materials shall be stored:

a) In suitable sealed containers with the lid securely fastened at all times other than when in use;

b) On a suitable tray or bund capable of containing 110% of the volume of the largest container in storage;

c) Away from staff who are not trained in their safe handling, storage and use; and

d) Away from sources of heat and bright light.

2.5.3 Controlling Fugitive Emissions to Air

2.5.3.1 The Operator shall use BAT to prevent, or where that is not practicable, to reduce fugitive emissions of substances to air 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; and

e) Process utilities plant.

2.5.3.2 Adequate provision must be made for the containment of spillages. All spillages must be cleared as soon as possible using the most appropriate technique:

a) Dry sweeping of dusty spillages is not permitted;

b) Bunds and containment devices shall be impervious and resistant to the substances in storage; and

c) Bunds and containment devices must be capable of holding 110% of the capacity of the largest tank or container in storage.

2.5.3.3 A high standard of housekeeping shall be maintained.

2.5.4 Controlling Emissions to Water

2.5.4.1 The Operator shall investigate plant operations wherever chromium releases exceed 1.0 mg/l and shall take such steps as are necessary to ensure that the emission limit in Table 4 is not exceeded. The records of all investigations and actions taken are to be recorded.

2.5.4.2 A closed-loop system for rinse water shall be used, and wherever possible, rinse water shall be used to top-up treatment tanks.

2.5.4.3 Wherever practicable water shall be recycled in a closed circuit in order to minimise or avoid effluent discharge.

2.5.4.4 Direct or indirect releases to groundwater or other surface waters of any substance in List I or List II (as defined in the Groundwater Regulations 2009 (No. 2902)) is not permitted.

2.5.5 Controlling Fugitive Emissions to Water

2.5.5.1 All mist eliminator drainings and washings shall be discharged to the effluent treatment plant.

2.5.5.2 The Operator shall ensure that deliveries are carried out is such a way to minimise spillages and leaks.

2.5.5.3 All holding tanks shall be fitted with high-level alarms or volume indicators to warn of overfilling.

2.5.5.4 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.

2.5.5.5 The Operator shall use BAT 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; and

e) Process utilities plant.

2.5.5.6 A high standard of housekeeping shall be maintained.

2.6 Emissions Monitoring

2.6.1 Monitoring Non-VOC Emissions to Air

2.6.1.1 Non-VOC emissions to air shall be monitored and reported in accordance with Table 2 and Section 2.6.4 of this permit.

2.6.2 Monitoring VOC Emissions to Air

2.6.2.1 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.

2.6.2.2 The Operator shall make arrangements for the recycling (for reuse) of all dirty solvents and liquid wastes that contain volatile organic compounds. Copies of receipts for such recycled materials shall be retained for a minimum of three years.

2.6.2.3 The Operator shall produce an annual report on the solvent consumed at the installation over the previous calendar year, and submit it to the Regulator by the 31st January each year. The report shall include but not be limited to:

a) Details of the solvent inputs and outputs of the activities and/or installation, including fugitive emissions, in accordance with Schedule 3 of this Permit;

b) Results of extractive sampling exercises or a reduction scheme assessment;

c) A review of cleaning activities using organic solvents; and

d) Measures taken to minimise the amount of excess organic solvents used and progress with substitution plans for designated risk phrase materials (where applicable).

2.6.2.4 VOC emissions to air shall be monitored and reported in accordance with Table 2 and Section 2.6.4 of this permit.

2.6.2.5 No result should exceed the emission limit values specified in Table 2 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 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 during normal operation (excludes start-up and shut-down).

2.6.2.6 For periodic measurements of VOC, at least three readings must be obtained during each measurement exercise. VOC emission limit values specified in Table 2 shall be considered as complied with if, in one monitoring exercise:

a) The average of all the readings does not exceed the emission limit values; and

b) 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.*

2.6.4 Monitoring Emissions to Water

2.6.4.1 The Operator shall ensure the emissions to water are monitored by the Sewerage Undertaker. The results of monitoring shall be made available to the Regulator on request.

2.6.4.2 The Operator shall investigate and trace the source of cadmium where the level of cadmium exceeds 0.01mg/l. Appropriate measures shall be taken to reduce the level of cadmium to less than 0.01mg/l within 18 months. The Regulator shall be notified of the implementation of any such containment measure.

2.6.5 General Monitoring Provisions

2.6.5.1 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. The results 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.

2.6.5.2 The Operator shall ensure that adequate facilities for sampling are provided on vents and ducts.

2.7 Waste

2.7.1 Waste Handling

2.7.1.1 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.

2.7.1.2 The Operator shall segregate the main waste types.

2.7.1.3 The Operator shall ensure that waste is stored in containers that are durable for the substances stored and that incompatible waste types are kept separate.

2.7.1.4 The Operator shall ensure that waste storage areas are clearly marked and signed, and that containers are clearly labelled.

2.7.1.5 The Operator shall ensure that a high standard of housekeeping is maintained in areas where waste is stored and handled.

2.7.2 Waste Re-Use, Recovery, Recycling and Disposal

2.7.2.1 As far as practicable, the Operator shall recover, re-use and recycle waste materials.

2.7.2.2 The Operator shall conduct an annual review to demonstrate that the best environmental options are being used for dealing with all waste from the installation.

2.7.2.3 The Operator shall investigate potential markets for the recovery/re-use of wastes that are currently disposed of to landfill at least once every three years.

2.8 Management

2.8.1 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'.

2.8.2 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.

2.9 Accidents

2.9.1 The storage, handling and use of flammable materials shall be in accordance with HSE requirements in order to prevent accidents that may have environmental consequences.

2.9.2 The Operator shall provide for safe storage and conveying systems for both liquid raw materials and wastes in order to minimise the potential for vandalism or accidental damage. Regular inspection should be carried out on pipelines, valves and pumps to inspect for damage and wear.

2.9.3 The Operator shall maintain procedures for the control of spills and firewater to ensure containment and disposal of liquids in order to prevent or minimise pollution.

2.9.4 Operators shall ensure that materials are charged into the correct tank or storage area to minimise the potential for causing waste, spillage or uncontrolled chemical reaction.

2.9.5 The Operator shall maintain written procedures for investigating incidents and near misses, including identifying and following up with suitable corrective action as part of the Environmental Management System.

2.9.6 The Operator shall maintain an Accident Management Plan which shall be 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/activity (including storage and treatment baths/tanks);

b) An assessment of the risks (likelihood x significance) of accidents and their possible consequences (including quantities, fate and potential harm of substances); and

c) The implementation of measures to reduce the risks of accidents and contingency plans for any accidents that occur.

2.9.7 In the case of abnormal emissions arising from an accident, the Operator shall:

a) Investigate immediately and undertake remedial action as soon as practicable;

b) Promptly record the events and actions taken; and

c) Ensure the Regulator is made aware, as soon as practicable.

2.10 Energy Efficiency

2.10.1 As far as practicable, the Operator shall ensure that all plant is designed, operated and maintained to optimise the use and minimise the loss of energy. Wherever practicable, the Operator shall consider additional energy efficiency requirements for the installation as a whole.

2.10.2 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. The records relating to energy monitoring, consumption and efficiency shall be made available to the Regulator for inspection on request.

2.11 Noise & Vibration

2.11.1 The Operator shall identify key plant and equipment with the potential to give rise to significant noise and to take such measures as are necessary by way of mitigation and maintenance of existing plant and equipment in order to minimise noise.

2.12 Closure and Decommissioning

2.12.1 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;

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;

c) Include plans of underground pipes and vessels;

d) Include details for dismantling potentially polluting structures; and

e) Include details for the removal of potential harmful materials and subsequent soil testing.

2.12.2 The Operator shall carry out a full review of the Site Closure Plan at least every six years.

2.12.3 The Site Closure Plan shall be implemented on final cessation or decommissioning of the permitted activities or part thereof.

2.12.4 The Operator shall give at least 30 days written notice to the Regulator before implementing the Site Closure Plan.

3.0 Reporting

3.1 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 ii of this Permit.

3.2 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.

3.3 The Operator shall, within 6 months of receipt of written notice from the Regulator, submit to the Regulator 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.

4.0 Notifications

4.1 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.

4.2 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.

4.3 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;
- Any death of any of the named Operators (where the Operator consists of more than one named individual).

Schedule 1 – Site Location Plan

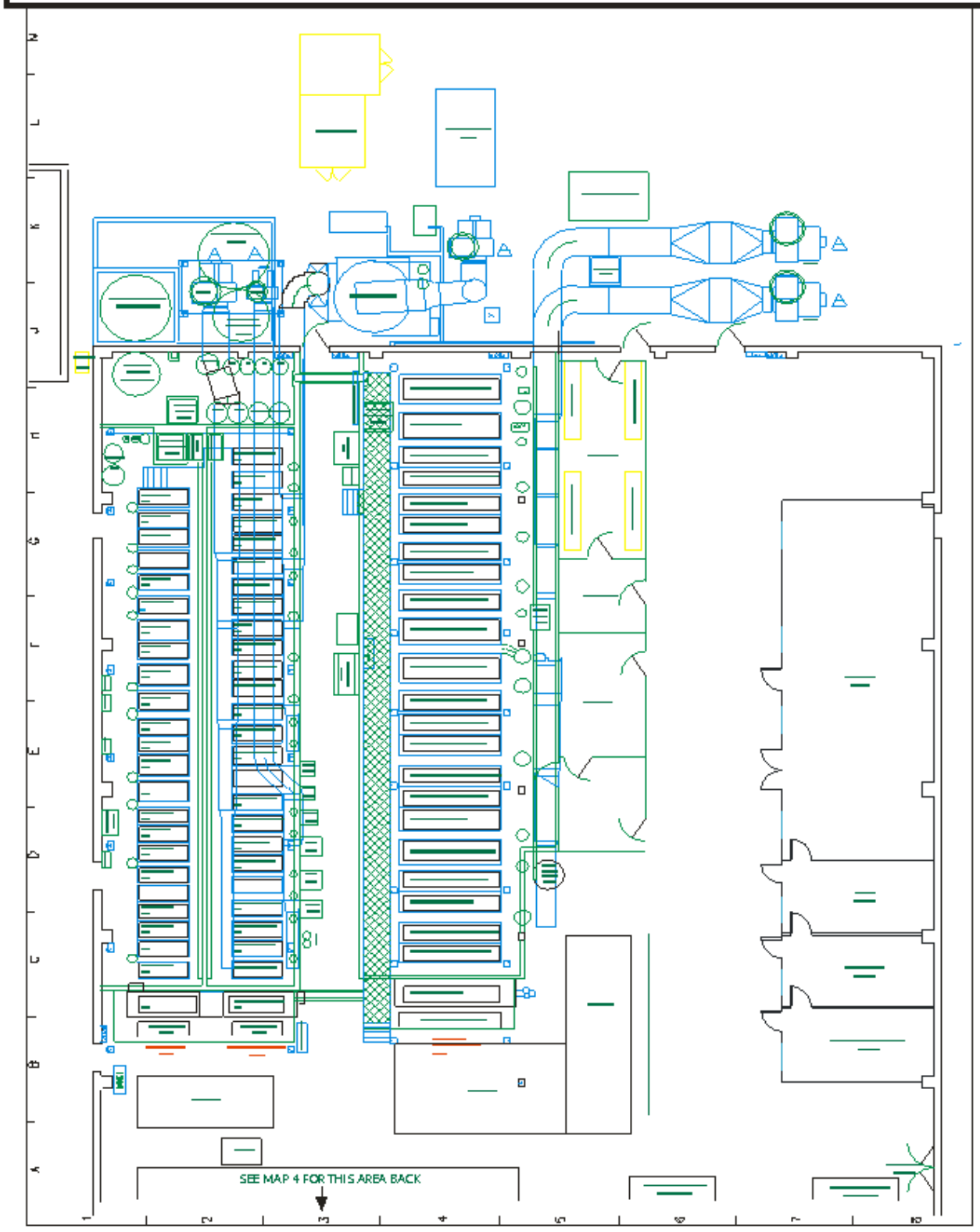
Not to Scale

	Installation – Aerospace Surface Treatments
	Reference – IPPC/001
	Date - ????

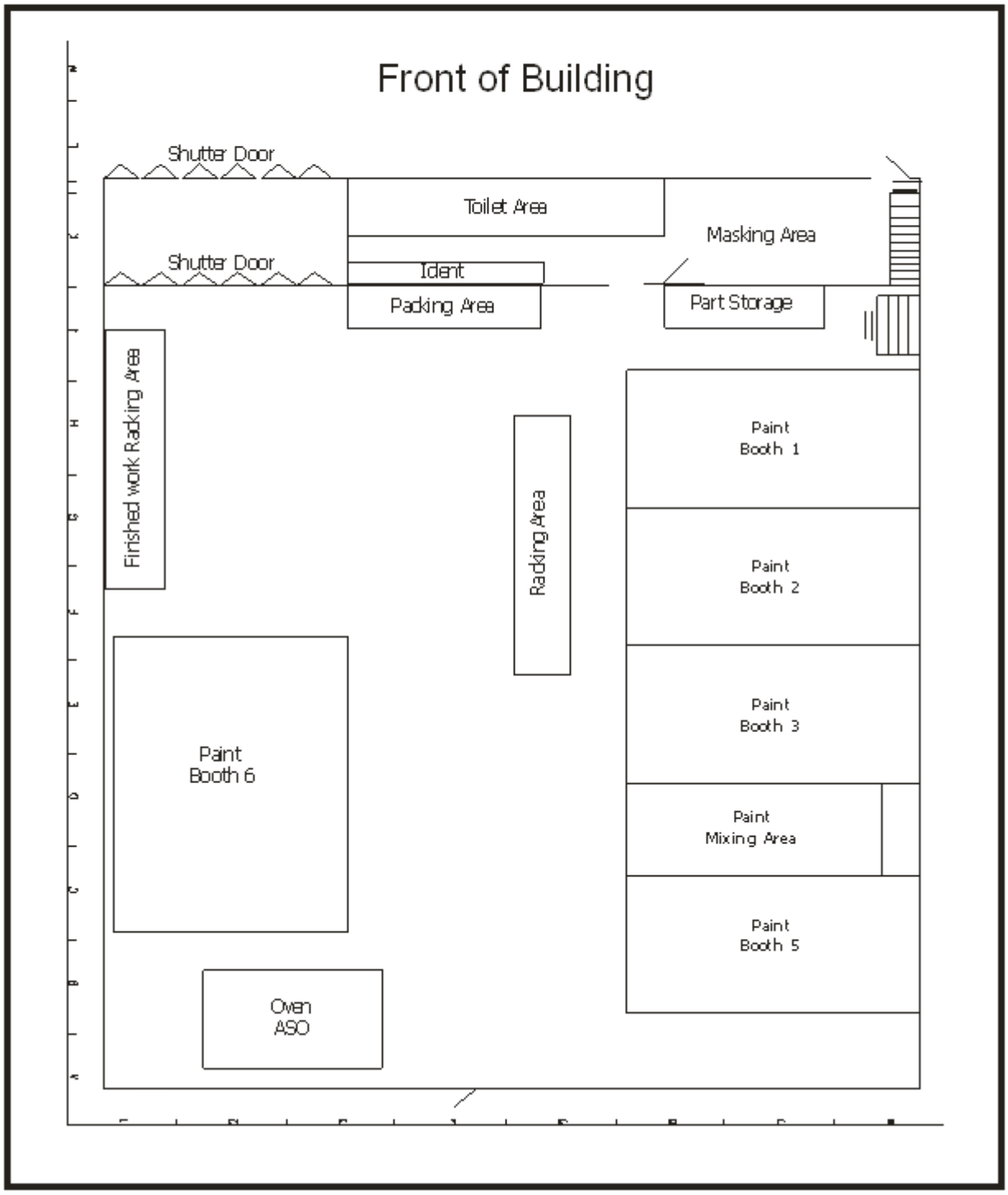
Schedule 2 – Plan of Installation and Emission Release Points

Installation	Aerospace Surface Treatments
Description	Unit 1 & 2 Shop Floor
Drawing	Map 2
Date	15th Nov 2018

Not to scale



Installation	Aerospace Surface Treatments
Description	Unit 3 Farrow Road
Drawing	Map 6 — Not to scale
Date	11th April 2018



Schedule 3 – 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

Construction of inventories of materials consumed and disposed of may involve the identification of individual organic solvents, or solids. This may give rise to an issue of commercial confidentiality. Information supplied must be placed on the public register, unless exclusion has been granted on the grounds of commercial confidentiality or national security. Further information can be found in the appropriate chapter of the relevant General Guidance Manual.

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. This should be in the form of a mass balance in order to determine the annual actual consumption of organic solvent (C):

Where: C = I1- O8

Solvent Management Plan

Operators buy solvents to replace those lost during the process or included in the product. There are both environmental and cost savings from reducing the losses. The industrial emissions Directive requires a solvent management plan to demonstrate compliance with fugitive emission limits and give the public access to information about solvent consumption etc.

The Industrial Emissions Directive (IED) provides guidance on what constitutes a solvent input and an output. This can be described more simply as needing data on:

Inputs:
How much solvent is:

- Bought, whether in pure form or contained in products;
- Recycled back into the process.

Outputs:
How much solvent is:

- Emitted to air, whether directly or via abatement equipment;
- Discharged to water, whether directly or via water treatment;
- Sent away in waste;
- Lost by spills, leaks etc;
- Leaving the installation in the product.

The definitions in Annex VII, Part 7 of the IED are as follows and are shown diagrammatically below.

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.

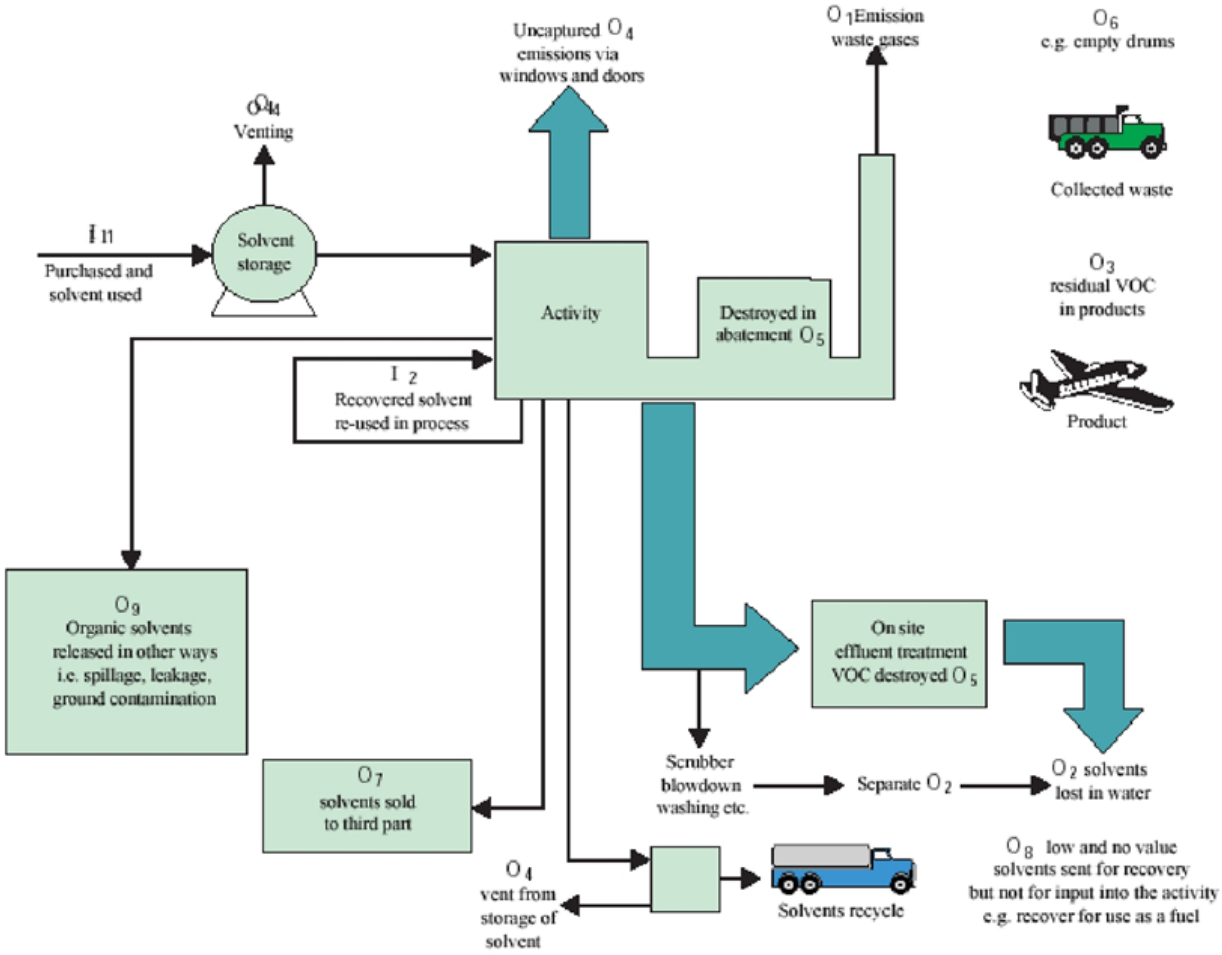
O_5 Organic solvents and/or organic compounds lost due to chemical or physical reactions. (Including for example those which are destroyed, e.g. by thermal oxidation or other waste gas or waste water treatments, or captured, e.g. by adsorption, as long as they are not counted under O_6, O_7 or O_8).

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_8 Organic solvents contained in preparations recovered for reuse but not as input into the process/activity, as long as not counted under O_7.

O_9 Organic solvents released in other ways.



Solvent management plan

Consumption = $I_1 - O_8$

Actual solvent emission = $I_1 - O_5 - O_6 - O_7 - O_8$

Fugitive emission (F) = $I_1 - O_1 - O_5 - O_6 - O_7 - O_8$

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

Solvent Emission Directive (SED) activities

Fugitive emission value = $\frac{F}{I_1 + I_2} \times 100\%$

Total emission = O_1 + Fugitive emission (F)

Explanatory Note to Environmental Permit
(This note does not form a part of the Permit)

The enclosed Permit is issued under Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 (As Amended) (EP Regulations), to operate an installation carrying out:

- Surface Treating Metals and Plastic Materials - Using an electrolytic or chemical process where the aggregated volume of the treatment vats is more than 30m^3 (Section 2.3 A2(a)(iii) of Part 2 to Schedule 1 of the EP Regulations).

- Coating Activities, Printing and Textile Treatments - Repainting or re-spraying aircraft or railway vehicles or parts of them if the activity may result in the release into the air of particulate matter or of any volatile organic compound and the carrying on of the activity is likely to involve the use in any period of 12 months of 5 or more tonnes of organic solvents (Section 6.4, Part B(c)(iii) of Part 2 of Schedule 1 of the EP Regulations).

And the following associated activities:

- Risk Phrase surface cleaning activities where consumption of VOC used is less than 1 tonne in any 12-month period.

This Permit shall be subject to replacement, variation or amendment as may be considered appropriate by Chelmsford City Council, at any time, according to the provisions of Regulation 20 of the EP Regulations.

Best Available Techniques (BAT)

Aspects of the operation of the installation which are not regulated by specific conditions of the Permit are subject to the general condition included in the Permit requiring the operator to use BAT to prevent or reduce emissions that are not covered by specific permit conditions.

The determination of what constitutes BAT is made on a case-by-case basis however where Process Guidance Notes are available these will be used as the baseline for what is BAT. Formal definitions of BAT can be found in the IPPC Directive.

Process Changes

The Permit contains a condition requiring you to notify the Council of any proposed change in operation at least 14 days before making the change. This must be in writing and must contain a full description of the proposed change in operation and the likely consequences to the permitted activity. Failure to do so is an offence. It is also good practice to notify the Council of any administrative changes, such as the name or address of the operator.

Variations to the Permit

If you consider that a proposed change could result in the breach of the existing permit conditions or is likely to require the variation of permit conditions then you may apply in writing under Regulation 20 of the EP Regulations. Additionally, if this involves a SUBSTANTIAL CHANGE (A change in operation which, in the opinion of the Council may have significant negative effects on human health or the environment) to the installation you will be required to submit an application, pay the relevant fee and the application will be subject to publicity and consultation.

The Council may decide that the existing permit conditions require amendment without receiving any notification or an application for variation from the operator. This is most likely to occur when the Council has conducted a periodic review in accordance with EP regulation 34 or in the light of revised guidance from Defra. The Council will serve a Variation Notice under EP Regulation 20 on the Operator and may issue a consolidated Permit under EP Regulation 18.

Transfer of the Permit or Part of the Permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with EP Regulation 21. A transfer will be allowed unless Chelmsford City Council considers that the proposed holder will not be the person who will have control over the operation of the installation or will not operate the installation in accordance with the Permit.

Annual Subsistence Fee

Operators must pay an annual subsistence fee for the Permit in accordance with EP Regulation 65. This fee is payable annually on 1st April and the level of the subsistence fee payable is contained within the relevant charging scheme issued annually by the Secretary of State. The charging scheme is risk based for all standard activities (i.e. not dry cleaning, petrol stations, small waste oil burners and vehicle refinishers). The risk-based method uses a point scoring method and applies a low, medium or high risk rating to activities operating at an installation. The resulting subsistence fees are proportionate to the risk rating. You will receive an invoice each year with respect to this payment and you are advised that if prompt payment of the fee is not forthcoming, Chelmsford City Council may revoke your Permit under EP Regulation 22.

Public Register

The Council is required by Regulation 46 of the EP Regulations to maintain a Public Register containing information on all LA-IPPC and LAPPC installations and mobile plant.

Confidentiality

An operator may request certain information in relation to the Permitted installation to remain confidential and not to be placed on the Public Register for reasons of National Security or commercial or industrial confidentiality. The operator must provide clear justification for each item he or she wishes to be kept form the register. Chelmsford City Council must consider and determine all requests of confidentiality of information in accordance with EP Regulation 51.

Talking to Us

Any communication with Chelmsford City Council with respect to this Permit should quote the Permit Reference Number, and should be made to:

Chelmsford City Council
Public Health & Protection Services
Civic Centre,
Duke Street,
Chelmsford,
Essex, CM1 1JE
Tel: 01245 606606
Email: envpermits@chelmsford.gov.uk

Appeals

Under Regulation 31 of the EP Regulations operators have the right of appeal against the conditions contained within their permit. An appeal does not have the effect of suspending the Permit conditions. Notice of appeal against the conditions attached to the permit must be given within six months of the issue date of the Permit, which is the subject matter of the appeal.

How to Appeal

There are no charges for making an appeal, application forms can be obtained from http://www.planning-inspectorate.gov.uk/pins/environment/environmeny/index.htm.

For an appeal to be valid, appellants (the person/operator making the appeal) are legally required to provide:

- Written notice of the appeal;
- A statement of the grounds of appeal;
- A statement indicating whether the appellant wishes the appeal to be dealt with by written representations procedure or a hearing - a hearing must be held if either the appellant or enforcing authority requests this, or if the Planning Inspector or the Secretary of State decides to hold one. *(appellants must copy the above three items to the local authority when the appeal is made)*
- A copy of any relevant application;
- A copy of any relevant permit;
- A copy of any relevant correspondence between the appellant and the regulator; and
- A copy of any decision or notice, which is the subject matter of the appeal.

Where to Send Your Appeal Documents

Appeals should be addressed to:

The Planning Inspectorate
Environment Team, Major and Specialist Casework
Room 4/04 – Kite Wing
Temple Quay House
2 The Square
Temple Quay
Bristol BS1 6PN
0117 372 8726

In the course of an appeal process, the main parties will be informed of procedural steps by the Planning Inspectorate. To withdraw an appeal the appellant must notify the Planning Inspectorate in writing and copy the notification to the local authority.