



ENVIRONMENT
AGENCY

13.

Permit with introductory note

Pollution Prevention and Control Regulations 2000

Wincham Organic Specialities
Thor Specialities (UK) Limited
Wincham Avenue
Wincham
Northwich
Cheshire CW9 6GB

Permit number
BL6403

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Introductory note

This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No.1973), as amended, ("the PPC Regulations") to operate an installation carrying out activities covered by the description in Sections 4.1 A(1)(a)(ii), (iii), (iv) & (v) and 4.2 A(1)(a)(iv) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit:

Section 4.1 A(1)(a) - "Producing organic chemicals such as –

- (ii) organic compounds containing oxygen,
- (iii) organic compounds containing sulphur
- (iv) organic compounds containing nitrogen
- (v) organic compounds containing phosphorus"

Section 4.2 A(1)(a) – "Producing inorganic chemicals such as –

- (iv) salts. "

Aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the condition implied by Regulation 12(10) of the PPC Regulations, i.e. the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

In some sections of the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. The conditions do not explain what is BAT. In determining BAT, the Operator should pay particular attention to relevant sections of the IPPC Sector guidance, appropriate Horizontal guidance (H1 to H4) and other relevant guidance.

A non-technical description of the installation is given in the Application, but the main features of the installation are as follows:-

The purpose of the activity at the Installation is the manufacture of a range of products numbering seventy or so. They are mainly in the speciality organics category, but some inorganic salts are also produced. The product range covers three main areas:-

- Biocides and Preservatives. – These products are used to protect or preserve from microbiological spoilage other manufacturer's products such as paints, inks, adhesives, chemicals, water treatment, plastics and some personal care products such as cosmetics and toiletries.
- Textile treatment products. – These products, which are used to treat or modify textiles, are flame retardants, dye-stabilisers, fabric softeners, conditioners or give special finishes such as stone washed or low-iron.
- Other speciality chemicals. – These number only a few products and are very specialised e.g. paint dryers and a catalyst for curing or hardening polyurethane elastomers. These products are not currently manufactured at the installation but distributed from there only. They are stored in the warehouse which is an associated activity of the installation.

Manufacture is carried out in a custom designed three-storey production building. Products are manufactured in batches using autonomous reaction vessels referred to as Stirred Tank Reactors (STRs) ranging in capacity from 200kg to 10,000kg. Some reactors are fitted with a distillation column and associated condenser. Services such as steam, cooling water, hot-oil and vacuum are supplied centrally and shared by all the reactors. Adjacent to the production hall is a tank farm containing bulk storage tanks for finished goods and raw materials.

Directly associated activities forming part of the installation and covered by this permit are a small steam boiler, a small hot-oil heater, an effluent treatment plant and a warehouse for the storage of raw materials and finished products.

The installation operates on a shift system 5 days a week 24 hours a day. There are nine reaction vessels (one used solely as a cooling vessel) for product manufacture and an additional smaller vessel for pilot plant work. The Operator has supplied details of the throughput of the individual products, but has claimed commercial confidentiality on this information which was granted by the Agency.

Emissions from the production hall activities to air arise from the reaction vessel vents, the vacuum pumps and the general building extraction system which includes a number of specific local extraction points at for example reactor man-lids. All of the extraction ducting from all the sources eventually links together and discharges to atmosphere through a common stack. Abatement consists of a single break tank for the vents from the reactors to eliminate any liquid carryover, and the use of water liquid ring type vacuum pumps which ensure that the majority of any water soluble components are absorbed prior to discharge. Emissions to air from the stack will be small traces of VOCs, amines, ammonia and carbon dioxide. Concentration levels and total annual mass rates are however very small and have no significant environmental impact.

The steam boiler and hot-oil heater are relatively small units, and emissions from these are not significant.

There are no direct releases to controlled waters from the installation other than uncontaminated rainwater which drains to the adjacent Trent and Mersey canal.

Effluent from the production hall is pumped to the effluent treatment plant, from where after basic treatment (settling and pH adjustment) it is transferred to a large effluent holding tank. The effluent from this tank is pumped directly to the foul sewer. Drains which have the potential to be contaminated i.e. from the main site road, the warehouse loading and unloading areas and the tank farm are directed to the effluent holding tank. If the contents of the holding tank are found to be unsuitable for discharge to the sewer, then they can be directed to the effluent treatment plant for appropriate treatment.

There are no direct discharges to ground waters from the installation.

There are no sources likely to give rise to vibration associated with the installation. Measures have been incorporated into the design of the process and buildings for noise abatement, and it is not anticipated that there will be any significant issues related to noise during the operation of the activities forming the installation.

Waste generated by the activities is mainly used packaging, unusable raw materials and finished products and used maintenance and cleaning materials. Where it is not possible to recycle or reuse, the waste is disposed of by contractor.

Some of the activities, particularly those using amines, could have the potential to generate odours. However abatement techniques are in place and experience at the Operator's previous installation indicates that it is unlikely that there will be any impacts from odour.

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The Installation is within 2 km of Witton Limebeds; a Site of Special Scientific Interest (SSSI). The emissions from the activity are however considered not to have any impact on this site.

The environmental management system of the Operator is accredited to BS EN ISO 14001.

Note that the Permit requires the submission of certain information to the Agency (see Sections 4 and 5). In addition, the Agency has the power to seek further information at any time under regulation 28 to the PPC Regulations provided that it acts reasonably.

Other PPC Permits relating to this installation		
Permit holder	Permit Number	Date of Issue
Not Applicable		

Superseded Licences/Authorisations/Consents relating to this installation		
Holder	Reference Number	Date of Issue
Not Applicable		

Other activities may take place on the site of this installation which are not regulated under this Permit or any other PPC Permit referred to in the Table above. These activities include:

Development and Technical Service Laboratories

Public Registers

Considerable Information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

Variations to the Permit

This Permit may be varied in the future (by the Agency serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must submit a formal Application. The Status Log within the Introductory Note to any such Variation Notice 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.

Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made by the Operator. For the application to be successful, the Operator must be able to demonstrate to the Agency that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit. If, however, the Permit authorises the carrying out of a specified waste management activity, the transfer will only be allowed if the proposed holder is also considered to be "a fit and proper person" as required by the PPC Regulations.

Talking to us

Please quote the Permit Number if you contact the Agency about this Permit.

To give a Notification under Condition 5.1.1, the Operator should use the Incident Hotline telephone number (0800 80 70 60) or any other number notified in writing to the Operator by the Agency for that purpose.

Status Log

Detail	Date	Comment
Application BL6403	Received 06/02/2003	
Response to request for information	Request dated 02/05/2003	Response dated 21/07/2003
Request to extend determination	Request dated 21/08/2003	Request accepted 27/08/03
Request to extend determination	Request dated 04/11/2003	Request accepted 05/11/2003
Permit determined	14/11/2003	

End of Introductory Note.

Permit

Pollution Prevention and Control
Regulations 2000



**ENVIRONMENT
AGENCY**

Permit

Permit number

BL6403

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations (SI 2000 No 1973), hereby authorises **Thor Specialities (UK) Limited** ("the Operator"),

Of/ whose Registered Office (or principal place of business) is

Wincham Avenue

Wincham

Northwich

Cheshire CW9 6GB

Company registration number 1761700

to operate an Installation at

Wincham Avenue

Wincham

Northwich

Cheshire CW9 6GB

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

Signed

Date

	14 November 2003.
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F.D. Newberry

Authorised to sign on behalf of the Agency

Conditions

1 General

1.1 Permitted Activities

- 1.1.1 The Operator is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

Table 1.1.1

Activity listed in Schedule 1 of the PPC Regulations / Associated Activity	Description of specified activity	Limits of specified activity
Section 4.1A(1)(a) (ii) Producing organic compounds containing oxygen	Manufacture of organic compounds	
Section 4.1A(1)(a) (iii) Producing organic compounds containing sulphur	Manufacture of organic compounds	
Section 4.1A(1)(a) (iv) Producing organic compounds containing nitrogen	Manufacture of organic compounds	
Section 4.1A(1)(a) (v) Producing organic compounds containing phosphorus	Manufacture of organic compounds	
Section 4.2A(1)(a)(iv) Producing inorganic chemicals such as salts	Manufacture of inorganic salts	
Directly associated activity: Blending and adjusting	Mixing, blending and adjusting organic and inorganic compounds	
Directly associated activity: Solvent removal	Solvent removal by distillation at elevated temperature or under vacuum	
Directly associated activity: Storage of materials	Receipt, handling, storage and despatch of raw materials and finished products both packed and in bulk.	
Directly associated activity: Combustion activities	Burning natural gas in a steam boiler (1.7MW output) and hot oil furnace (0.24MW output).	
Directly associated activity: Effluent treatment	Handling, treatment and discharge to sewer of aqueous effluent	
Directly associated activity: Waste handling and storage	Handling and storage of various solid and liquid wastes from the process.	

1.2 Site

- 1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the land shown edged in green on the Site Plan at Schedule 5 to this Permit.

1.3 Overarching Management Condition

- 1.3.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

1.4 Improvement Programme

- 1.4.1 The Operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency within 14 days of the completion of each such requirement.

Table 1.4.1: Improvement programme		
Reference	Requirement	Date
1.4.1.1	The Operator shall provide the Agency in writing a commissioning report. The report shall include as a minimum:- • Confirmation that the limit values for releases as specified in the conditions of this permit can be met for all activities carried out. • Results of any monitoring carried out. • The results and conclusions of the noise survey carried out as proposed in section B2.9.3.3 of the application. • Details of any situations that arose that resulted in, or had the potential to cause, significant negative environmental impact.	3 months from the issue of this permit
1.4.1.2	The Operator shall provide the Agency with an update of the commissioning report (referenced in 1.4.1.1) which shall cover activities not previously reported on.	6, 9 and 12 months from the issue of this permit
1.4.1.3	The Operator shall provide the Agency in writing a report detailing how the installation meets the indicative BAT requirements for further energy-efficiency requirements as outlined in section 2.7.3 of the Agency Sector Guidance Note IPPC S4.02, or alternatively provide evidence that the installation is a participant to a Climate Change Agreement.	30 June 2004
1.4.1.4	The Operator shall determine the uncertainty values of the monitoring of the emissions to air for the parameters set out in table 2.2.2 and provide the Agency in writing a report detailing the results and the methodology used for determining them.	30 June 2004

- 1.4.2 Where the Operator fails to comply with any requirement by the date specified in Table 1.4.1 the Operator shall send written notification of such failure to the Agency within 14 days of such date.

1.5 Minor Operational Changes

- 1.5.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.1.1 of this Permit by sending to the Agency: written notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.
- 1.5.2 Any such change shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.
- 1.5.3 When the qualification "unless otherwise agreed in writing" is used elsewhere in this Permit, the Operator shall seek such agreement by sending to the Agency written notice of the details of the proposed method(s) or techniques.
- 1.5.4 Any such method(s) or techniques shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation using that method or technique, and relevant provisions in the Application (and the Site Protection and Monitoring Programme, as the case may be) shall be deemed to be amended.

1.6 Pre-Operational Conditions

- 1.6.1 There are no pre-operational conditions

1.7 Off-site Conditions

- 1.7.1 There are no off-site conditions

2 Operating conditions

2.1 In-Process Controls

- 2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

Table 2.1.1: Operating techniques

Description	Parts	Date Received
Application	The response to questions 2.1 and 2.2 given in sections B2.1.1, B2.1.2 and B2.2 of the application	06/02/2003
Response to Schedule 4 Part 1 Notice	The response to questions 6 to 23 inclusive given in sections B2.1, B2.2, appendices 1 to 6 and plans 6 to 10.	21/07/2003

- 2.1.2 The Permitted Installation shall, subject to the other conditions of this Permit, be operated using the techniques and in the manner described in the Site Protection and Monitoring Programme submitted under condition 4.1.7 of this Permit (as amended from time to time under condition 4.1.8), or as otherwise agreed in writing by the Agency.

2.2 Emissions

2.2.1 Emissions to Air, (including heat, but excluding Odour, Noise or Vibration) from Specified Points

- 2.2.1.1 This Part 2.2.1 of this Permit shall not apply to releases of odour, noise or vibration.
- 2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the source(s) specified in that Table.

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point
A1 Production Hall Stack	General ventilation – air out: LEV System: Reaction vessels-breathing/pressure release: Liquid ring vacuum pumps:	Point Stk 1 on site plan
A2 Steam Boiler Stack	Steam Boiler	Point Stk 2 on site plan
A3 Hot Oil Generator Stack	Hot Oil Generator	Point Stk 3 on site plan

- 2.2.1.3 The limits for emissions to air for the parameter(s) and emission point(s) set out in Table 2.2.2 shall not be exceeded.

Table 2.2.2 : Emission limits to air and monitoring

Emission point reference	Parameter	Limit (including Reference Period) ^(note1)	Monitoring frequency	Monitoring method
A1	Benzyl Chloride	10mg/m ³	3 Months	BS EN 13649
A1	Formaldehyde	1mg/m ³	3 Months	BS EN 13649
A1	Amines (total as DMA)	5mg/m ³	3 Months	BS EN 13649
A1	Ammonia	15mg/m ³	3 Months	Ion Chromatography; M2 version 1 table 6.6.4
A1	VOC total class B (expressed as carbon)	75mg/m ³ ^(note 2)	3 Months	BS EN 13649

Note 1: See Section 6 for reference conditions

Note 2: Concentration of 75mg/m³ if mass release rate > 2kg/h

2.2.2 Emissions to water (other than groundwater), including heat, from specified points

2.2.2.1 This Part 2.2.2 of this Permit shall not apply to releases of odour, noise or vibration or to releases to groundwater.

Emissions to Water (other than to Sewer)

2.2.2.2 Conditions 2.2.2.3 - 2.2.2.6 shall not apply to emissions to sewer.

2.2.2.3 No emission from the Permitted Installation shall be made to water except via the Operator's on-site effluent treatment plant as specified in this Permit

2.2.2.4 No condition applies

2.2.2.5 No condition applies

2.2.2.6 No condition applies

Emissions to sewer

2.2.2.7 Emissions to sewer from the emission points in Table 2.2.7 shall only arise from the sources specified in that Table. There are no other specific controls imposed upon emissions to water in Part 2.2.2 of the Permit.

Table 2.2.7 Emission points to sewer

Emission point reference or description	Source	Sewer
S1 Foul Sewer at reference CMH11 on PPC plan 2	'Conder' Effluent storage tank	United Utilities Water plc
S2 Foul Sewer at reference FMH32 on PPC plan 2	Warehouse amenity and toilet facilities	United Utilities Water plc

2.2.2.8 No condition applies

2.2.2.9 No condition applies

2.2.3 Emissions to groundwater

2.2.3.1 No emission from the Permitted Installation shall give rise to the introduction into groundwater of any substance in List I (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.2 No emission from within the Permitted Installation shall give rise to the introduction into groundwater of any substance in List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)) so as to cause pollution (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.3 For substances other than those in List I or II (as defined in the Groundwater Regulations 1998 (SI 1998 No.2746)), the Operator shall use BAT to prevent or where that is not practicable to reduce emissions to groundwater from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.4 Fugitive emissions of substances to air

2.2.4.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation in particular from:

- storage areas
- buildings
- pipes, valves and other transfer systems
- open surfaces

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.4.2 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of litter from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5 Fugitive emissions of substances to water and sewer

2.2.5.1 Subject to condition 2.2.5.2 below, the Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to water (other than Groundwater) and sewer from the Permitted Installation in particular from:

- all structures under or over ground
- surfacing
- bunding
- storage areas

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

- 2.2.5.2 There shall be no release to water that would cause a breach of an EQS established by the UK Government to implement the Dangerous Substances Directive 76/464/EEC.

2.2.6 Odour

- 2.2.6.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:

- limiting the use of odorous materials
- restricting odorous activities
- controlling the storage conditions of odorous materials
- controlling processing parameters to minimise the generation of odour
- optimising the performance of abatement systems
- timely monitoring, inspection and maintenance
- employing, where appropriate, an approved odour management plan

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.7 Emissions to Land

- 2.2.7.1 This Part 2.2.7 of this Permit shall not apply to emissions to groundwater.
- 2.2.7.2 No emission from the Permitted installation shall be made to land.
- 2.2.7.3 No condition applies.

2.2.8 Equivalent Parameters or Technical Measures

- 2.2.8.1 The Operator shall comply with the requirements specified in Table 2.2.11, which supplement or replace emission limit values in accordance with Regulation 12(8) of the PPC Regulations.

Table 2.2.11 Equivalent parameters and technical measures

Parameter or measure	Requirement or description of measure, and frequency if relevant
None	

2.3 Management

- 2.3.1 A copy of this Permit and those parts of the application referred to in this Permit shall be available, at all times, for reference by all staff carrying out work subject to the requirements of the Permit.

Training

- 2.3.2 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.

- 2.3.3 All staff shall be fully conversant with those aspects of the Permit conditions which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to carry out their duties.
- 2.3.4 The Operator shall maintain a record of the skills and training requirements for all staff whose tasks in relation to the Permitted Installation may have an impact on the environment and shall keep records of all relevant training.

Maintenance

- 2.3.5 All plant and equipment used in operating the Permitted Installation, the failure of which could lead to an adverse impact on the environment, shall be maintained in good operating condition.
- 2.3.6 The Operator shall maintain a record of relevant plant and equipment covered by condition 2.3.5 and for such plant and equipment:
 - 2.3.6.1 a written or electronic maintenance programme; and
 - 2.3.6.2 records of its maintenance.

Incidents and Complaints

- 2.3.7 The Operator shall maintain and implement written procedures for:
 - 2.3.7.1 taking prompt remedial action, investigating and reporting actual or potential non-compliance with operating procedures or emission limits and if such event occur;
 - 2.3.7.2 investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short term and long term remedial measures and near misses) and prompt implementation of appropriate actions; and
 - 2.3.7.3 ensuring that detailed records are made of all such actions and investigations.
- 2.3.8 The Operator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken.

2.4 Efficient use of raw materials

- 2.4.1 The Operator shall -
 - 2.4.1.1 maintain the raw materials table or description submitted in response to Section 2.4 of the Application and in particular consider on a periodic basis whether there are suitable alternative materials to reduce environmental impact;
 - 2.4.1.2 carry out periodic waste minimisation audits and water use efficiency audits. If such an audit has not been carried out in the 2 years prior to the issue of this Permit, then the first such audit shall take place within 2 years of its issue. The methodology used and an action plan for increasing the efficiency of the use of raw materials or water shall be submitted to the Agency within 2 months of completion of each such audit and a review of the audit and a description of progress made against the action plan shall be submitted to the Agency at least every 4 years thereafter; and
 - 2.4.1.3 ensure that incoming water use is directly measured and recorded.

2.5 Waste Storage and Handling

- 2.5.1 The Operator shall design, maintain and operate all facilities for the storage and handling of waste on site such that there are no releases to water or land during normal operation and that emissions to air and the risk of accidental release to water or land are minimised.

2.6 Waste recovery or disposal

- 2.6.1 Waste produced at the Permitted Installation shall be recycled or recovered unless technically and/or economically impossible.
- 2.6.2 The Operator shall maintain the waste recovery or disposal table or description submitted in response to Section 2.6 of the Application and in particular identify the best practicable environmental options for waste disposal.
- 2.6.3 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin, destination (including whether this is a recovery or disposal operation) and where relevant removal date of any waste that is produced at the Permitted Installation.

2.7 Energy Efficiency

- 2.7.1 The Operator shall produce a report on the energy consumed at the Permitted Installation over the previous calendar year, by 31 January each year, providing the information required by condition 4.1.2.
- 2.7.2 The Operator shall maintain and update annually an energy management system which shall include, in particular, the monitoring of energy flows and targeting of areas for improving energy efficiency.
- 2.7.3 The Operator shall design, maintain and operate the Permitted Installation so as to secure energy efficiency, taking into account relevant guidance including the Agency's Energy Efficiency Horizontal Guidance Note H2 as from time to time amended. Energy efficiency shall be secured in particular by:
- ensuring that the appropriate operating and maintenance systems are in place;
 - ensuring that all plant is adequately insulated to minimise energy loss or gain;
 - ensuring that all appropriate containment methods, (e.g. seals and self-closing doors) are employed and maintained to minimise energy loss;
 - employing appropriate basic controls, such as simple sensors and timers, to avoid unnecessary discharge of heated water or air;
 - where building services constitute more than 5% of the total energy consumption of the installation, identifying and employing the appropriate energy efficiency techniques for building services, having regard in particular to the Building services part of the Agency's Energy Efficiency Horizontal Guidance Note H2; and
 - maintaining and implementing an energy efficiency plan which identifies energy saving techniques that are applicable to the activities and their associated environmental benefit and prioritises them, having regard to the appraisal method in the Agency's Energy Efficiency Horizontal Guidance Note H2.

2.8 Accident prevention and control

- 2.8.1 The Operator shall maintain and implement when necessary the accident management plan submitted or described in response to Section 2.8 of the Application. The plan shall be reviewed at least every 2 years or as soon as practicable after an accident, whichever is the earlier, and the Agency notified of the results of the review within 2 months of its completion.

2.9 Noise and Vibration

- 2.9.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of noise and vibration from the Permitted Installation, in particular by:
- equipment maintenance, eg. of fans, pumps, motors, conveyors and mobile plant;
 - use and maintenance of appropriate attenuation, eg. silencers, barriers, enclosures;
 - timing and location of noisy activities and vehicle movements;
 - periodic checking of noise emissions, either qualitatively or quantitatively; and
 - maintenance of building fabric,

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.10 On-site Monitoring

- 2.10.1 The Operator shall maintain and implement an emissions monitoring programme which ensures that emissions are monitored from the specified points, for the parameters listed in and to the frequencies and methods described in Tables 2.2.2, unless otherwise agreed in writing, and that the results of such monitoring are assessed. The programme shall ensure that monitoring is carried out under an appropriate range of operating conditions.
- 2.10.2 The Operator shall carry out environmental or other specified monitoring to the frequencies and methods described in Table 2.10.1

Table 2.10.1 : Other monitoring requirements

Emission point reference	Parameter	Monitoring frequency	Monitoring method
S1	BOD	Monthly	APHA ref 5210B ⁽¹⁾
S1	COD	Monthly	APHA ref 5220C ⁽¹⁾

note 1: American Public Health Association 'Standard Methods for the Examination of Water and Wastewater'

- 2.10.3 No condition
- 2.10.4 No condition
- 2.10.5 The Operator shall notify the Agency at least 14 days in advance of undertaking monitoring and/ or spot sampling, where such notification has been requested in writing by the Agency.
- 2.10.6 The Operator shall maintain records of all monitoring taken or carried out (this includes records of the taking and analysis of samples instrument measurements (periodic and continual), calibrations, examinations, tests and surveys) and any assessment or evaluation made on the basis of such data.
- 2.10.7 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1 of this Permit shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing.

2.10.8 There shall be provided:

2.10.8.1 safe and permanent means of access to enable sampling/monitoring to be carried out in relation to the emission points specified in Schedule 2 to this Permit, unless otherwise specified in that Schedule; and

2.10.8.2 safe means of access to other sampling/monitoring points when required by the Agency.

2.10.9 The Operator shall carry out the on-going monitoring identified in the Site Protection and Monitoring Programme submitted under condition 4.1.7, unless otherwise agreed in writing by the Agency.

2.10.10 The Operator shall, within 6 months of the issue of this Permit, in accordance with and using the format given in the Land Protection Guidance:

2.10.10.1 collect the site reference data identified in the Site Protection and Monitoring Programme submitted under condition 4.1.7, and

2.10.10.2 report that site reference data to the Agency,
- unless otherwise agreed in writing by the Agency.

2.11 Closure and Decommissioning

2.11.1 The Operator shall maintain and operate the Permitted Installation so as to prevent or minimise any pollution risk, including the generation of waste, on closure and decommissioning in particular by:-

2.11.1.1 attention to the design of new plant or equipment;

2.11.1.2 the maintenance of a record of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out; and

2.11.1.3 the maintenance of a site closure plan to demonstrate that the installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.

2.11.2 Notwithstanding condition 2.11.1 of this Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.

2.11.3 The site closure plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.

2.11.4 The Operator shall give at least 30 days written notice to the Agency before implementing the site closure plan.

2.12 Multiple Operator installations

2.12.1 This is not a multi-Operator installation

2.13 Transfer to effluent treatment plant

2.13.1 No transfers to effluent treatment plant are controlled under this part of this Permit.

2.13.2 No condition applies.

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:-
- 3.1.1 be made available for inspection by the Agency at any reasonable time;
 - 3.1.2 be supplied to the Agency on demand and without charge;
 - 3.1.3 be legible;
 - 3.1.4 be made as soon as reasonably practicable;
 - 3.1.5 indicate any amendments which have been made and shall include the original record wherever possible;
 - 3.1.6 be retained at the Permitted Installation, or other location agreed by the Agency in writing, for a minimum period of 4 years from the date when the records were made, unless otherwise agreed in writing; and
 - 3.1.7 where they concern the condition of the site of the Installation, or are related to the implementation of the Site Protection and Monitoring Programme, be kept at the Permitted Installation, or other location agreed by the Agency in writing, until all parts of the Permit have been surrendered.

4 Reporting

- 4.1.1 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 Agency using the contact details notified in writing to the Operator by the Agency.
- 4.1.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:-
 - 4.1.2.1 in respect of the parameters and emission points specified in Table S2 to Schedule 2;
 - 4.1.2.2 for the reporting periods specified in Table S2 to Schedule 2 and using the forms specified in Table S3 to Schedule 3;
 - 4.1.2.3 giving the information from such results and assessments as may be required by the forms specified in those Tables; and
 - 4.1.2.4 to the Agency within 28 days of the end of the reporting period.
- 4.1.3 The Operator shall submit to the Agency a report on the performance of the Permitted Installation over the previous year, by 31 January each year, providing the information listed in Tables S4.1 and S4.2 of Schedule 4, assessed at any frequency specified therein, and using the form specified in Table S3 to Schedule 3.
- 4.1.4 The Operator shall review fugitive emissions, having regard to the application of Best Available Techniques, on an annual basis, or such other period as shall be agreed in writing by the Agency, and a summary report on this review shall be sent to the Agency, detailing such releases and the measures taken to reduce them, within 3 months of the end of such period.
- 4.1.5 Where the Operator has a formal environmental management system applying to the Permitted Installation which encompasses annual improvement targets the Operator shall, not later than 31 January in each year, provide a summary report of the previous year's progress against such targets.
- 4.1.6 The Operator shall, within 6 months of receipt of written notice from the Agency, submit to the Agency a report assessing whether all appropriate preventive measures continue to be taken against pollution, in particular through the application of the 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.
- 4.1.7 The Operator shall, within two months of the date of this permit, submit a detailed Site Protection and Monitoring Programme, in accordance with and using the appropriate template format given in the Land Protection Guidance.
- 4.1.8 The Operator shall maintain the Site Protection and Monitoring Programme (SPMP) submitted under condition 4.1.7, and shall carry out regular reviews of it. The results of such reviews and any changes made to the SPMP shall be reported to the Agency within 1 month of the review or change.

5 Notifications

5.1.1 The Operator shall notify the Agency **without delay** of:-

- 5.1.1.1 the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;
- 5.1.1.2 the detection of any fugitive emission which 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;
- 5.1.1.3 the detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution; and
- 5.1.1.4 any accident which has caused, is causing or has the potential to cause significant pollution.

5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1, by sending:-

- 5.1.2.1 the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and
- 5.1.2.2 the more detailed information listed in Part B of that Schedule as soon as practicable thereafter;

and such information shall be in accordance with that Schedule.

5.1.3 The Operator shall give written notification as soon as practicable prior to any of the following:-

- 5.1.3.1 permanent cessation of the operation of part or all of the Permitted Installation;
- 5.1.3.2 cessation of operation of part or all of the Permitted Installation for a period likely to exceed 1 year; and
- 5.1.3.3 resumption of the operation of part or all of the Permitted Installation after a cessation notified under condition 5.1.3.2.

5.1.4 The Operator shall notify the Agency, as soon as reasonably practicable, of any information concerning the state of the Site which adds to that provided to the Agency as part of the Application, or to that in the Site Protection and Monitoring Programme submitted under condition 4.1.7 of this Permit.

5.1.5 The Operator shall notify the following matters to the Agency in writing within 14 days of their occurrence:-

- 5.1.5.1 where the Operator is a registered company:-
 - any change in the Operator's trading name, registered name or registered office address;
 - any change to 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 with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up;
- 5.1.5.2 where the Operator is a corporate body other than a registered company:
 - any change in the Operator's name or address;
 - any steps taken with a view to the dissolution of the Operator.

5.1.5.3 In any other case: -

the death of any of the named Operators (where the Operator consists of more than one named individual);
any change in the Operator's name(s) or address(es);
any steps taken with a view to the Operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case them being in a partnership, dissolving the partnership;

5.1.6 Where the Operator has entered into a Climate Change Agreement with the Government, the Operator shall notify the Agency within one month of:-

5.1.6.1 a decision by the Secretary of State not to re-certify that Agreement.

5.1.6.2 a decision by either the Operator or the Secretary of State to terminate that agreement.

5.1.6.3 any subsequent decision by the Secretary of State to re-certify such an Agreement.

5.1.7 Where the Operator has entered into a Direct Participant Agreement in the Emissions Trading Scheme which covers emissions relating to the energy consumption of the activities, the Operator shall notify the Agency within one month of:-

5.1.7.1 a decision by the Operator to withdraw from or the Secretary of State to terminate that agreement.

5.1.7.2 a failure to comply with an annual target under that Agreement at the end of the trading compliance period.

Interpretation

6 Interpretation

6.1.1 In this Permit, the following expressions shall have the following meanings:-

"Application" means the application for this Permit, together with any response to a notice served under Schedule 4 to the PPC Regulations and any operational change agreed under the conditions of this Permit.

"background concentration" means such concentration of that substance as is present in:

water supplied to the site; or

where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or

where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation on to the site.

"BAT" means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: "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"; "best" means "in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole" and "techniques" "includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned." . In addition, Schedule 2 of the PPC Regulations has effect in relation to the determination of BAT.

"BOD" means biochemical oxygen demand.

"COD" means chemical oxygen demand

"Fugitive emission" means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.2.1.3, 2.2.2.4, 2.2.2.5, 2.2.2.8 or 2.2.2.9 of this Permit.

"Groundwater" means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"Land Protection Guidance" means the version of the Agency guidance note "H7 - Guidance on the Protection of Land under the PPC Regime: Application Site Report and Site Protection and Monitoring Programme", including its appended templates for data reporting, which is current at the time of issue of the Permit.

" $L_{Aeq,T}$ " means the equivalent continuous A-weighted sound pressure level in dB determined over time period, T.

" $L_{A90,T}$ " means the A-weighted sound pressure level in dB exceeded for 90% of the time period, T.

" L_{AFmax} " means the maximum A weighted sound level measurement in dB measured with a fast time weighting.

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"Monitoring" includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

"Month" means calendar month.

Interpretation

"*Permitted Installation*" means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

"*PPC Regulations*" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 (as amended) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit.

"*Sewer*" means sewer within the meaning of section 219(1) of the Water Industry Act 1991.

"*Staff*" includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors.

"*VOC*" means Volatile Organic Compound

"*Year*" means calendar year ending 31 December.

- 6.1.2 Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.
- 6.1.3 Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means:-
- 6.1.3.1 in relation to gases from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
 - 6.1.3.2 in relation to gases from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.
- 6.1.4 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 wording of the document(s) with the most recent date shall prevail to the extent of such conflict.

Schedule 1 - Notification of abnormal emissions

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the PPC Regulations.

Part A

Permit Number	
Name of Operator	
Location of Installation	
Location of the emission	
Time and date of the emission	

Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place

Measures taken, or intended to be taken, to stop the emission	
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Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission	
The dates of any unauthorised emissions from the installation in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of Thor Specialities (UK) Limited

Schedule 2 - Reporting of monitoring data

Parameters for which reports shall be made, in accordance with conditions 4.1.2 and 4.1.3 of this Permit, are listed below.

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins
Benzyl Chloride mg m ⁻³	A1	Every 3 months	01/01/04
Formaldehyde mg m ⁻³	A1	Every 3 months	01/01/04
Amines mg m ⁻³ (total as DMA)	A1	Every 3 months	01/01/04
Ammonia mg m ⁻³	A1	Every 3 months	01/01/04
VOC total class B (expressed as carbon)	A1	Every 3 months	01/01/04
BOD mg l ⁻¹	S1	Annually	01/01/04
COD mg l ⁻¹	S1	Annually	01/01/04
Water Usage		Annually	01/01/04
Energy Usage		Annually	01/01/04

Schedule 3 - Forms to be used

Table S3: Reporting Forms		
Media / parameter	Form Number	Date of Form
Air	A1	31/10/2003.
Energy	E1	31/10/2003
Water usage	WU1	31/10/2003
Performance indicators	PI1	31/10/2003.

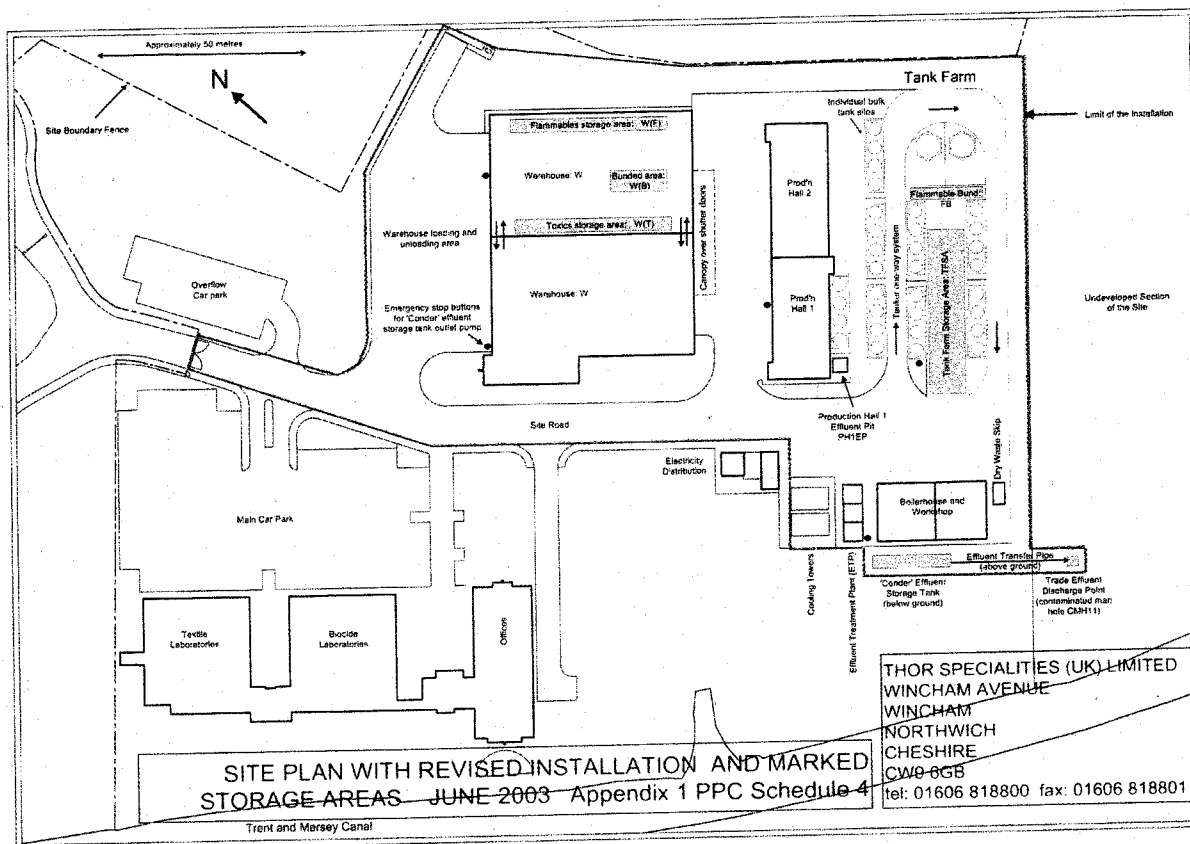
Schedule 4 - Reporting of performance data

Data required to be recorded and reported by Condition 4.1.3. The data should be assessed at the frequency given and reported annually to the Agency.

Table S4.1: Annual Production	
Production of organic chemicals	tonnes
Production of inorganic salts	tonnes

Table S4.2: Performance parameters			
Parameter		Frequency of assessment	Performance indicator
BOD		Monthly	BOD/t
COD		Monthly	COD/t

Schedule 5 - Site Plan



END OF PERMIT