Determination of an Application for a PPC Permit under the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No.1973)

Decision Document recording the decision-making process

Note: all references to the "PPC Regulations" are to the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No.1973), as amended.

Administrative details

Application date and Agency reference ("the Permit Application")

Permit number (the "Permit") **BU 2322IF**

Applicant (the "Applicant") **Dynea UK Ltd**

Address/location of installation (the "Installation")]
Alyn Works
Denbigh Rd
Mold
Flintshire
CH7 1BF

Name of Account Officer Paul Stevens

Signature of Account Officer:

Signature of Authorising Officer:

All relevant documents have been sent to the IPPC Public Registers

Purpose of this document

The Decision Document ("DD") explains how the Applicant's Permit Application has been determined and why the specific conditions in the Permit have been imposed. It is a record of the decision-making process to show how all relevant factors and legislative requirements have been taken into account.

It should be noted that the Permit contains many conditions taken from the Agency's standard PPC Permit template. These standard conditions were developed by the Agency having regard to the legal requirements of the PPC Regulations and other relevant legislation. This Decision Document does not include an explanation for these standard conditions, but does provide an explanation and justification for the emission limit values (ELVs), the choices made between optional standard conditions and for additional conditions which have been imposed in order to take installation-specific factors into account.

Summary of the decision

A Permit for the Applicant to operate the Installation has been granted by the Agency, subject to the conditions set out in the Permit. Where the Permit includes standard Agency Permit conditions (see above), these have been considered to be appropriate for the Installation, in particular in ensuring that all appropriate measures will be taken against pollution and that no significant pollution will be caused. The Agency considers that in its decision to issue the Permit and in the conditions included therein, it has taken into account all relevant considerations and legal requirements.

Description of the Permitted Installation

A non-technical summary of the activities covered by the Permit is contained within the Application. There is also a description of the Installation included in the Introductory Note to the Permit but the main features are of the installation are as follows:

The Operator, Dynea, shares the Installation with another operator, Synthite Ltd, Permit application BU 2349. Dynea and Synthite's activities are highly integrated with large quantities of Dynea's raw material being supplied from Synthite and some of Dynea's waste material is returned to Synthite as a raw material. Synthite also provides steam and effluent treatment facilities for Dynea. Therefore Dynea's activities are directly associated with Synthite's and both operators where required to submit applications as a part of the same transitional arrangements defined in schedule 3 of the PPC regulations and established by Regulations 9 and 10(14).

Dynea's main process is the manufacture of formaldehyde resins, predominately urea formaldehyde and phenol formaldehyde resins with some production of melamine urea formaldehyde and melamine formaldehyde resins. Dynea manufacture approximately 45,000 tonnes of urea formaldehyde, 10,000 tonnes of phenol formaldehyde, 3,000 tonnes of melamine urea formaldehyde and 300 tonnes of melamine formaldehyde per annum.

Dynea is a lower tier COMAH installation. There are no releases to water, sewer or groundwater and the H1 assessment shows emissions to air are insignificant.

On the site visit appeared clear as to the basic extent of their, the Application is particularly weak in this describing this area. I.e. there is no statement clarifying the 'termination of supply' (*E.g. on pipeline 'x' is at valve 'y' which is under the control of Dynea.)* and some of the areas that Dynea control (every where not in a building or bund i.e. tanker loading) have surface water drains controlled by Synthite. Therefore in the event of a spill it would enter the surface water drain, from where it's automatically pumped to Synthite's Lagoon and effluent treatment plant.

Arguably the spill would not get of site as it would be contained in Synthite's Lagoons, however if there was a leak in the pipe/lagoon etc and contamination resulted, who would EA prosecute? The spills containment and appropriateness of surfacing is addressed in the SPMP and also covered by the use of fugitive emissions conditions. Issues regarding termination of supply should be made clearer at a local level and is highlighted in the hand-over document.

Glossary of terms used in this Decision Document

"*Application*" means the application for this Permit, together with any response to a Notice served under Schedule 4 to the PPC Regulations, and any other written information provided by the Operator for consideration in the determination of the Permit.

"*Applicant*" means…[Dynea UK Ltd]

"*Operator*" means…[Dynea UK Ltd]"

"Synthite" means…[The operator of the activities under permit BU 2349, known as "Synthite Ltd"]

The Agency's determination procedure

A1 "Duly made" check on Application received

The Application was not duly made as submitted on 29th August 2003 for the following reasons: Application fee not supplied.

Upon receipt of application fee the Application was determined to be duly made on 29th August 2003.

A2 Consultation on the Application

The Application was advertised by the Applicant according to the requirements of Part 1 of Schedule 4 to the PPC Regulations on 29/9/03 and 30/9/03 in Flintshire Evening Leader and London Gazette, respectively.

The Agency sent copies of the Application to the following statutory consultees in accordance with Part 2 of Schedule 4 to the PPC Regulations:

- Flintshire Local Health Board;
- Flintshire County Council;
- Food Standards Agency;
- Countryside Council for Wales;
- Health and Safety Executive, Wales;
- Bretton WTW, Welsh Water;
- Secretary of State for Wales.

A3 Consideration of consultation responses

Responses were received from the following statutory and non-statutory consultees:

- Flintshire Local Health Board;
- Secretary of State for Wales.
- Countryside Council for Wales;

No responses were received from members of the public during the determination period.

All responses have been considered by the Agency in determining the Application. The ways in which material responses have been taken into account are summarised in the appendix to this document

A4 Matters of commercial confidentiality or national security

The Operator has made no claim for commercial confidentiality and the Agency has not received any information in relation to this Application which appears to be confidential in relation to any party. There are no matters involving national security.

A5 Further information requirements

The Application was deemed duly made by the Agency, but further information was required in order for the Agency to be able to determine the Application. Further information was requested from the Applicant by notice/letter as follows:

Further information was requested for the Site Report. Information included references to raw materials, techniques and measures, waste handling, Effluent treatment plant, accidents and noise. The detailed responses were included in a letter to the Agency dated 19/7/04

Supplementary information to the Application was submitted by the Operator subsequent to the site visit. This supplementary information was placed on the public register and has been sent to the statuary consultees for information The supplementary information was primarily used for clarification purposes and confirmed the relatively small impact of the process. This additional information was not considered significant enough to warrant an extended consultation period.

A6 The Applicant

The Agency is satisfied that the Applicant (now the Operator) is the person who will have control over the operation of the Installation after the grant of the Permit, and that the Operator will be able to operate the Installation so as to comply with the conditions that have been included in the Permit

A site visit to the installation was conducted on date 6th May 2004.

The Operator has demonstrated that they have the technical competence, through knowledge and control of the installation, and through the operational and management systems in place the Agency is satisfied that the permit conditions will be complied with.

A6.1 OPRA profile

The Agency is satisfied that the OPRA profile submitted with the Application remains accurate following the determination of the Application, and it will be used as the basis for subsistence and other charging, and for all other relevant purposes at the commencement of the Permit. In accordance with the Agency's OPRA Scheme however, the Operator's OPRA profile for the installation may change over time.

Version 1 of the OPRA profile was reviewed and found to be satisfactory. The total EP OPRA score for the Permit is 172.

PART B – THE INSTALLATION AND ITS MANAGEMENT

B1 Permit Section 1.1.1 - The permitted activities

The principal listed activity at the Installation falls within the activity description in Section 4.1 Part A(1) (a)(viii) of Part 1 of Schedule 1: Producing organic chemicals such as plastic materials, such as polymers, synthetic fibres and cellulose-based fibres.

The Agency considers that this constitutes the "stationary technical unit". See section B3 of the decision document for the site plan.

The Agency considers that the following activities are directly associated with the stationary technical unit and therefore form part of the Installation:

- Operation of the two number Cooling Towers because it has a technical connection with the stationary technical unit.

The stationary technical unit and its directly-associated activities described above together constitute the Installation.

Some of the activities in the Installation are carried out by different operators. Their names and Permit Numbers are noted in the Permit's Introductory Note.

B2 Permit Condition 1.1.2 – Identification of exempt waste activities

This is a standard condition of all Permits but it is understood that it is not the Operator's intention to undertake any waste activities which are exempt from Waste Management Licensing (ie. activities listed in Schedule 3 of the Waste Management Licensing Regulations 1994) on the same site, which are not part of the Installation.

B3 Permit Section 1.2 - Site plan

The Applicant has provided a plan which the Agency considers is satisfactory for showing the site of the Installation and its extent including the location of the Installation on that. This plan is included in the Permit as Schedule 5, and the Operator is required to carry on the Permitted activities within the site boundary.

The site plan (Map 5) indicates that the Operator's activities occupies the minority of the area within the overall IPPC boundary. The remaining majority of the area is operated by another operator, Synthite, who are registered under IPPC regulations permit number BU 2349. The Operators activities are highly integrated into Synthite's operations however, with the exception of the storage facility and cooling towers, the Operators activities occur in one 'core' area as indicated on the site plan.
Operator occupies approximately one third of the storage facility the other two thirds are operated by Synthite. The area belonging to the Operator is clearly signed and segregated with a fence.
The operator controls two cooling towers to the north-west of the 'core' activity area.

The activities identified on the site plan do not currently highlight the cooling towers and storage areas which the Operator have control over.

B4 Permit section 1.5 - Minor operational changes; (Changes allowed within the scope of this Permit)

The Permit constrains the Operator to operate the activities subject to the limits and conditions in the Permit. However the Operator may make minor changes as defined within the Application by notifying the Agency in writing under Conditions 1.5.1 -1.5.4.

B5 Permit section 2.11 - Closure and decommissioning; (Prevention of deterioration of the site)

The Applicant has provided a Site Report as required by paragraph 1 of Part 1 of Schedule 4 to the Regulations, the main elements of which are described in appendix 2.

The Agency reviewed the information sent by Dynea UK Ltd. The response for queries raised in memo M-210404-BU2322-BU2349-Alyn Works are addressed in their letter reference IPPC Application BU2322 dated 19 July 2004 and Document 0903 Revision 2 'Review of Spillage Containment Measures'.

It should be noted that the applicant has presented a response to the additional points raised in the memo intended for future reference. These comments were supplied to assist them in the completion of their SPMP. It appears that they do not fully understand the requirements of the Agency policy H7 and it is strongly recommended that they review the H7 documents as soon as possible to enable them to successfully complete the SPMP.

The Agency is satisfied that the key queries raised have been addressed adequately in this submission. Sufficient information appears to have been collated to allow the applicant to complete the identification of 'emission' points (as per the Application Site report requirements) prior to undertaking the SPMP.

Information required and areas of concern to be considered at the SPMP stage have been highlighted in the original checklist table. As such the following standard conditions should apply. There is a reasonable possibility that there is potential for current or future pollution of the land from the installation. Reference data will need to be collected as part of the post permit Site Protection and Monitoring Programme. Apply conditions: 2.1.2, 2.10.9, 2.10.10, 2.10.10.1, 2.10.10.2, 3.1.7, 4.1.7 (reasonable possibility), 4.1.8, 5.1.4.

B6 Permit Section 2.12 - Multiple Operator installations

The Applicant has submitted proposals for techniques and measures to ensure that the joint operation of the installation is conducted in a satisfactory manner. These are to be found in section 2.12 of the Application.

The proposals are consistent with those of the other operators on the installation and indicate a suitable level of co-operation and co-ordination.

Management

B7 Permit Section 1.3 - Overarching Management Condition

Condition 1.3.1 in the Permit is a standard condition but, based upon the information submitted in the Application the Agency is satisfied that appropriate management systems and management structures are in place for this Installation, and that sufficient financial, technical

and manpower resource is available to the Operator to ensure compliance with all the Permit conditions.

B8 Permit Section 2.3 - Management

On the site visit Dynea confirmed which items in the "proposed improvement programme", volunteered in the Application they have implemented. However they have not confirmed this in writing. This is relevant here as the below references to "supplementary information" in conditions B8.1 and B8.2, refer to the above implemented "proposed improvement programme". Therefore I suggest that we should obtain this in writing.

The Agency has reviewed Application and the current arrangements relating to management and considers that they meet the minimum requirement for BAT at this installation at this time. At the time of issue of the Permit, the Operator has updated their EMS inline with BAT requirements including; formalisation of routine household procedures; development of management of change and decommissioning procedure; and development of formal process design procedures that consider BAT.

B8.1 Staffing and Training

The information provided in response to Questions in Section 2.3 of the Application, and supplementary provided by the Operator, indicates that the installation is operated by an adequate number of staff, who are suitably trained and supervised. Appropriate written operating instructions are available, and a system is in place for the recording of staff training.

B8.2 Operation and Maintenance

The information provided in response to Questions in Section 2.3 of the Application, and supplementary provided by the Operator, indicates that the installation is operated and maintained in compliance with the requirements of the regulations and that the Conditions in the Permit can be met.

The Operator has a formal computerised maintenance system which includes maintenance planning, programmed preventative maintenance, breakdown history and recording of all maintenance done.

B8.3 Incidents and Complaints

The information provided in response to Questions in Section 2.3 of the Application indicates that there is a suitable incident/complaint logging and response system in place.

B8.4 Fit and Proper Person

Condition not relevant there is no Specialist Waste Management Activity in the installation.

PART C: DETERMINATION OF PERMIT CONDITIONS

C1. Operating conditions and BAT determination

C1.1 Permit Section 2.1 In-Process controls – the Applicant's proposed techniques

Description	Parts	Justification
Main document describing main plant and equipment (excluding urea silo), principal reaction, material flows and control system	Appendix to Application document B2.1.1	Document contains key information on purpose, control system, failure events for the production of Urea, Melamine and Melamine Urea Formaldehyde.
Document describing the purpose of the Urea Silo, the material flows and control system	Appendix to Application document B2.2.1(B)	Document contains key information on purpose, control system, failure events on the Urea Silo.
Supplementary information primarily clarifying specific aspects of the Application	Supplementary information from the Operator	Information on raw materials, techniques and measures, effluent treatment and site drainage.

The Agency has reviewed the Application in relation to the process controls and process chemistry and considers that they appropriate and sufficient for this installation at this time.

C1.2 General summary of the aspects considered in determining BAT for the installation

Criteria	Justification of BAT	References
Use of low waste technologies	All effluent from the scrubber and other parts of the abatement system is passed into the phenol formaldehyde (PF) plant drains. From there it is pumped to a wash water tank, where it is held as a raw material for resin production. This reduces the use of primary water as well as reducing waste. The Agency has reviewed the Application and the current arrangements relating to the use of low waste technologies and considers that they meet the requirement for BAT at this installation at this time.	Appendix to Application document B2.1.1
Use of less hazardous substances	The operator has reviewed the raw materials and considered if suitable alternatives are available and, where the alternative is not used justifying the selection of the material. The Agency has reviewed Application and the current arrangements relating to the use of less hazardous waste and considers that they meet the requirement for BAT at this installation at this time.	Table 2.4.1.1 of the Application
Recovery and recycling of substances generated and used in the process and of	Although not a formal waste minimisation audit, the Operator has undertaken an assessment of best practical environmental options for some of the wastes produced. Dynea already recycle some wastes directly back to their own process, whilst other wastes are distributed to Synthite as a raw material for their processes. For other wastes	Table 2.6.1 of the Application

waste	Dynea have considered pre-treatment or recycle/recover options prior to disposal, but the merit of these options is not clear, and needs to be further tested in a waste minimisation study. The operator has also identified some possible improvements and has taken steps to make changes including implementation of a detailed inventory of raw materials used on site, maintained in line with BAT requirements. The Agency has reviewed the Application and the current arrangements relating to the use of recovery and recycling of substances generated and used in the process, and of waste, and considers that they meet the minimum requirement for BAT at this installation at this time. The overall impact of the wastes produced is relatively low. However it is considered that certain aspects can (may) be improved to achieve a higher level of environmental protection. The standard conditions requiring the Operator to conduct waste minimisation and water use efficiency audits (Section 2.4.1.2 of the Permit) are satisfactory and proportionate in this case.	
Comparable processes, facilities or methods of operation which have been tried with success on an industrial scale.	The Operator has justified the activities carried out on the site against the relevant sector specific guidance. A comprehensive review of this justification is enclosed as an appendix to this decision document (reference *BAT argument).* The Agency has reviewed the Application and the current arrangements relating to the use of comparable processes, facilities or methods of operation which have been tried with success on an industrial scale and considers that the current arrangements meet the minimum requirement for BAT at this installation at this time. However it is considered that certain aspects can (may) be improved upon to achieve a higher level of environmental protection. In particular: • An improvement condition (number 1) has been set requiring the operator to conduct a feasibility study into monitoring of the dust filter bags, with a view to minimising particulate releases by improved methods. • The standard conditions requiring the Operator to conduct a waste minimisation and water use efficiency audits (2.4.1.2) may identify improved methods. • A fugitive emission review (4.1.4) should result in changes to reduce these emissions. These conditions are considered satisfactory in this case.	Appendix to application: *BAT argument*
Technological advances and changes in scientific knowledge and understanding	The reactions undertaken are The Operator currently operates stirred tank (batch) reactors typical for the industry which they are in. The feasibility, and environmental benefits versus cost, of alternative operation methods, such as "Fast reactors", has not been tested. The Agency has reviewed the Application and the current arrangements relating to the use of Technological advances and changes in scientific knowledge and understanding and considers that they meet the minimum requirement for BAT	

	at this installation at this time. However it is considered that certain aspects can (may) be improved upon to achieve a higher level of environmental protection. In particular: • An improvement condition (number 5) has been set requiring the operator to conduct a feasibility study into environmental benefits versus cost balance of technological advances including, but not limited to fast reactors.	
Nature, effects and volume of emissions concerned	From H1, the release as a % of EAL and the annual mass emissions for the three main materials discharged is: • Formaldehyde 0.0187 % (Long Term –LT), 0.0189 % (Short Term – ST), 16 kg/year; • Methanol 0.00044 % (Long Term –LT), 0.000711 % (Short Term – ST), 20 kg/year; • Phenol 0.0035 % (Long Term –LT), 0.00364 % (Short Term – ST), 13 kg/year. This H1 assessment confirms that no significant pollution is caused from the releases to air. There are no direct emissions to water, sewer or ground water. The only transfers to the effluent treatment plant, operated by Synthite, are uncontaminated rainwater and water from bunds (which mainly consists of rainwater captured in the bunds). The uncontaminated rainwater is automatically transferred on level control, however the water from the bund is analysis and consent must be granted by Synthite prior to transfer. The Operator minimises or recycles wastes and where this is not possible, separates hazardous and non-hazardous waste for disposal off-site by specialist contractors. The Operator has qualitatively described the fugitive releases from the Installation in document B2.1.1 and the results of test indicate that no significant pollution is caused. However it is considered that certain aspects can (may) be improved upon to achieve a higher level of environmental protection. The standard condition 4.1.4 will provide further quantification of the fugitive emissions and will raise the site specific BAT. The Agency has reviewed the Application and the current arrangements relating to the nature, effects and volume of emissions concerned and considers that they meet the minimum requirement for BAT at this installation at this time.	Sections 2.3 and 2.6 of the Application
Consumption and nature of raw materials (including water) used on the process and the energy efficiency of the process	No by-products are created during the reaction stage. The only wastes produced are: • distillate (circa 50% of which is recycled), • sample waste (0.1% of a batch) which is recycled in the PF plant and • solid filter waste, (0.1% of a batch), which is disposed off-site. These low waste streams result in very high yields of greater than 99.5%. There are no Dangerous Substances Directive list I or list II	Appendix to Application document B2.1.1

	substances used or present on the site. The Operator has considered sector specific guidance in relation to the raw material usage (including water). Although no formal water use efficiency audit has been carried out, the Operator estimates that currently circa 99% of water used goes to product. The Operator is in the CCLA and considers energy consumption as one of the key performance parameters. The Operator sequences runs to minimise the hot and high-pressure water-washing of vessels. Currently the washing frequency is between 6 months to 1 year. All the effluent produced is captured and recycled in the process. The Agency has reviewed Application and the current arrangements relating to the consumption and nature of raw materials (including water) used on the process and the energy efficiency of the process and considers that they meet the minimum requirement for BAT at this installation at this time. However it is considered that certain aspects can (may) be improved upon to achieve a higher level of environmental protection. The standard conditions requiring the Operator to conduct a water use efficiency audit (Section 2.4.1.2 of the Permit) are satisfactory in this case.	
Need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it	The reactions undertaken by the Operator utilise greater than 99% of the major raw materials to form the product. Because efficient use of materials, the emissions and therefore the risks to the environment are minimised from the activities carried out on site. The Application justified the storage areas on site against sector specific guidance in document B2.2 appendix to the Application. This justification is reviewed in an appendix to this decision document (*BAT argument).* All emissions from the reactors from any stage of the process pass though the abatement system. The abatement system consists of: • a condenser removing condensable gases; • a scrubber recovering moisture and initial VOCs and • a catalytic oxidiser further removing VOCs. There are backup systems in place in the unlikely event if a failure of one of the aforementioned systems. From the H1 assessment the emissions to atmosphere from the installation are insignificant. Some mechanical seals and some packed seals are used on equipment. The operation of equipment with packed glands results in leaks. These leaks are minimised by the operator's maintenance programme. The Agency has reviewed the Application and the current arrangements relating to the need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it and considers that they meet the minimum requirement for BAT at this installation at this time. However it is considered that certain aspects can (may) be improved upon to achieve a higher level of environmental protection. In particular two improvement conditions have	Appendix to Application document B2.1.1 and B2.2

	been set. • Improvement condition (number 2) requires the operator to conduct a feasibility study justifying the use of sumps and storage areas against the relevant sector specific guidance for fugitive releases to water, sewer and groundwater. • The other improvement condition (number 3) relates specifically carry out corrective works to make bund around Hydrochloric Acid storage tank impervious and resistant. The operator has also identified these possible improvements and has taken steps to implement changes including implementing procedures keeping lids closed and inspection of sump and surfaces and moving fill points inside bunded areas.	These do not align with the IC's in the permit (?)
Need to prevent accidents and to minimise the consequences for the environment	The installation is a Lower Tier COMAH site and is judged to have the highest accident potential. The COMAH assessment includes the implications of an incident at Dynea on Synthite under the DOMINO effect of the COMAH Regulations. COMAH considers major accidents hazards and dangerous substances, where PPC requires all accidents and substances to be considered where there is an environmental hazard. In Section 2.8 of the Application, the Operator assesses the additional requirement of PPC compared to the COMAH assessment. The Agency has reviewed Application and the current arrangements relating to the need to prevent accidents and to minimise the consequences for the environment and considers that they meet the minimum requirement for BAT at this installation at this time. However it is considered that certain aspects can (may) be improved upon to achieve a higher level of environmental protection. In particular: • an improvement condition number 4 has been set requiring the operator to conduct a study into the assessment of hazards resulting from the use of firewater on the site. The operator has identified possible improvements that may be made in this regard.	Section 2.8 not in the permit (?!)
Assessment of assumptions made by the Application	The H1 spreadsheet results were reviewed and agreed with based on the input data. The key input parameter of the effective stack height was checked with the Operator. The Operator has justified the selection of a 15 m effective stack height (this is the actual height of the stack) against the H1 guidelines. However, even if an effective height was zero - a very conservative approach - all the emissions would still be insignificant according to the H1 assessment. In Section 2.8 the Operator makes reference to COMAH documents (0901) and spillage containment assessment (0903) and other standard operating procedures. These form part of the COMAH assessment and therefore have already been assessed by the Agency. However these will be a topic for site inspection to ensure their relevance to the PPC permit.	

C2. Justification for ELVs or equivalent technical parameters set for specific emissions

The following emission limit values (or "equivalent measures" or "technical parameters") have been included in the Permit for the reasons described:

C2.1 Permit section 2.2.1 - Emissions to air

All the emissions to air from the Operator activities are insignificant in the H1 spreadsheet assessment. These insignificant releases occur under normal operation of the process and abatement equipment, therefore it is proportionate that an ELV is set at the benchmark concentration with an annual monitoring frequency. This monitoring shall be undertaken using MCERTs methods and equipment.

C2.2 Permit Conditions 2.2.2.3 - 2.2.2.6 - Emissions to water (other than sewer)

No emissions to water are permitted under this permit.

C2.3 Permit section 2.2.2.7 - 2.2.2.10 - Emissions to sewer

No emissions to sewer are permitted under this permit.

C2.4 Permit section 2.2.3 - Emissions to groundwater

No emissions to groundwater are permitted under this permit.

C2.5 Permit section 2.2.6 - Odour

On consideration of the Application and from its previous knowledge of the operation of the installation, the Agency considers that the activities carried out at the installation are inherently non-odorous and the Agency therefore considers that the standard Condition 2.2.6.1 is appropriate and sufficient.

There have been no justified complaints in the previous 2 years. The storage of odours material on site is minimised and procedures are employed to reduce emissions. The operations are conducted at the centre of the site with limited potential for annoyance off site. The reaction process consumes VOCs, as opposed to emitting them, and the emissions of VOCs even prior to abatement should be minimal. Minimal VOCs also arise from any fugitive emissions.

C2.6 Permit section 2.2.7 - Emissions to land

There are no soakaways on site and no direct emission to land from the installation.

C2.7 Permit section 2.9 - Noise (and vibration)

The Operator's activities are carried out within Synthite's site boundary therefore limiting the impact of noise on local residence.

There have been no complaints in the previous 2 years and noise from the Dynea installation is unlikely to cause annoyance.
On consideration of the Application and from its previous knowledge of the operation of the installation, the Agency considers that the activities carried out at the installation have the potential to cause noise, but that such noise is not likely to cause annoyance and that the Applicant's proposals in respect of noise and vibration control meet the minimum requirements for BAT.
However it is considered that certain aspects can (may) be improved upon to achieve a higher level of environmental protection. In particular an improvement condition (number 6) has been set in respect of noise and vibration from the installation, in addition to the standard condition 2.9.1.
The Operator has also identified these possible improvements and is planning steps to implement changes including a quantitative assessment of point noise sources.

C2.8 Permit section 2.13 - Transfer to effluent treatment plant

No effluent treatment plant is operated by Dynea, however they transfer rainwater and 'bund water' (which mainly consists of rainwater captured in the bunds) to Synthite's lagoons, which then feed the effluent treatment plant operated by Synthite. The pumping of uncontaminated rainwater from the 'effluent transfer sump' is level controlled under normal operation, but can be controlled manually at if required. The bund water is analysed by Synthite and if it is within the approved limit or a concession is granted it is transferred (a manual operation) to the effluent treatment plant. If it is outside of the approved limit then Synthite can grant a concession, or refuse to accept it. In this latter option the liquid will be taken off-site for treatment by specialist contractor.

Synthites are responsible for the emissions from the effluent treatment plant under their PPC permit BU 2349.

C3. Other BAT considerations – (where not covered in general section above)

C3.1 Permit section 2.4 - Efficient use of raw materials

The Agency has assessed the proposals set out in the Application in Section 2.4, Tables 2.4.1, 2.4.2 and 2.4.3, and that they are satisfactory and the standard Conditions 2.4.1.1-3 are sufficient and appropriate.

C3.2 Permit section 2.5 - Waste storage and handling

The Agency considers that the Applicant has appropriate measures in place for the storage and handling of waste to prevent releases during normal operations and to minimise the potential for accidental releases. The standard Permit Conditions 2.5.1 is considered to be appropriate and sufficient for the permit to be issued.
However it is considered that certain aspects can (may) be improved upon to achieve a higher level of environmental protection. In particular:

- an Improvement condition (number 2) has been set, in respect of waste storage and handling.

The Operator has also identified possible improvements and has taken steps to implement changes including:

- implementing procedures,

- dating and labelling the waste and
- updating a waste management spreadsheet, which documents all the waste disposed or recovered from the installation, as required by the indicative BAT requirements.

C3.3 Permit section 2.6 - Waste recovery or disposal

The Agency has considered the proposals in the Application for the avoidance of waste production and in respect of such waste as is produced, its potential recovery. (See Section 2.6 of the Application]. The Agency is satisfied that the proposals show that waste production will be avoided as far as possible, and where produced will be recovered insofar as that is technically and economically possible. The Agency is further satisfied that the proposals show that the installation will be operated in such a way that waste which is unable to be recovered can be disposed of so as to avoid or reduce impact on the environment. Standard Conditions 2.6.1 – 2.6.3 are considered to be appropriate and sufficient.

The Operator sequences runs to minimise the hot and high-pressure water-washing of vessels. Currently the washing frequency is between 6 months and 1 year. All the effluent produce is captured and recycled in the process.

Up to 50% of the distillate produced is recycled back into the process. The remainder is sent off-site for disposal. This is the most significant waste produced and a key performance parameter for the Operator. The limiting factor in relation to volumes of distillate produced is the concentration of formalin (formaldehyde solution) used as a raw material. The Operator has previously used at 52% strength formalin, but has currently secured a 53% strength formalin from its suppler (Synthite), and is working with them to achieve even higher strength solutions. The Agency has reviewed the Application relating to the use of low waste technologies and considers that they meet the requirement for BAT at this installation at this time

C3.4 Permit section 2.7 - Energy efficiency

The Agency has considered the information in the Application in respect of energy efficiency, including that for the Applicant's energy management system. (See Section 2.7 of the Application and Table B2.7.2 of the appended to the Application). The Agency is satisfied that at the commencement of the Permit, the installation should be operated in an energy efficient manner, and that Standard Conditions 2.7.1 – 2.7.3 are appropriate and sufficient.

The Agency has noted that this installation is subject to a Climate Change Agreement. The certificate for Climate Change Agreement included in Appendix B2.7.3 of the Application.

C3.5 Permit section 2.8 - Accident prevention and control

The Agency has considered the accident management plan submitted under Section 2.8 of the Application and considers that in addition to the standard requirements of Condition 2.8.1, the Applicant is required to assess the firewater hazards, in line with BAT requirements, through Improvement Condition number 4.

The Agency has taken into account that the site is subject to COMAH and considers that Standard Condition 2.8.1 is consistent with, and does not conflict with, any obligations on the Operator under those Regulations.

C4. Other legal requirements relevant to the determination of the Application and to the setting of ELVs and other conditions of the Permit

C4.1 Waste Management Licensing Regulations 1994

Condition not relevant there is no Specialist Waste Management Activity in the installation.

C4.2 The Conservation (Natural Habitats etc) Regulations 1994

The continued use of BAT by the Applicant in operating the installation will meet the requirements of these Regulations

There are three Special Areas of Conservation (SAC) within 10 km of the installation. HR01 form has been completed and sent out to statutory consultees. There are no emissions to water, sewer or ground water, and releases to air are insignificant, as demonstrated by H1. The conclusion of HR01 form suggest that the emissions are not likely to have a significant effect 'alone or in combination' on a European site.

C4.3 CROW

The continued use of BAT by the Applicant in operating the installation will meet the requirements of this Act.

There are no SSSI sites with in 2 km of the Installation. The installation is not on the list of site/substances that are of particular interest to English Nature or Countryside Council for Wales.

C4.4 Dangerous Substances Directive

The continued use of BAT by the Applicant in operating the installation will meet the requirements of this Directive.

C4.5 Solvent Emissions Directive

The continued use of BAT by the Applicant in operating the installation will meet the requirements of this Directive

C4.6 Groundwater Regulations 1998

There are no current emissions to groundwater, and the continued use of BAT by the applicant in operating the installation will meet the requirements of these Regulations.

C4.7 Environment Act 1995 – Section 4 (Pursuit of Sustainable Development)

The continued use of BAT by the Applicant in operating the installation will meet the requirements of this Act

C4.8 Environment Act 1995 – Section 7 (Pursuit of Conservation Objectives)

The continued use of BAT by the Applicant in operating the installation will meet the requirements of this Act

draft

C4.9 Human Rights Act 1998

The continued use of BAT by the Applicant in operating the installation will meet the requirements of this Act.

C4.10 Relevant Secretary of State Directions

There are no Secretary of State Directions made under the Pollution Prevention and Control (England and Wales) Regulations 2000, as amended, which are relevant to the determination of this application.

C5 Other conditions included in the Permit

C5.1 Permit section 1.4 - The Improvement Programme

The Improvement Conditions described below have been imposed on the Operator for the reasons given in the table below.

NOTE: FOLLOWING DISCUSSION WITH THE OPERATOR, THE IMPROVEMENT CONDIITIONS IN THE TABLE BELOW WERE ALTERED/REMOVED. TO KEEP THE NUMBERING IN THE DECISION DOCUMENT RELEVENT, THE REASONS FOR THE IMPROVEMENT CONDITION CHANGE ARE HIGHLIGHTED IN THE TEXT BELOW.

Ref	Requirement	Due date	Justification
1	The Operator shall provide the Agency, in writing, a report investigating the feasibility of installing monitoring equipment to detect the release of particulate matter resulting from failure of the dust filter bags. The Operator shall further propose a plan to implement any recommendations from the report, with time scales, and shall agree these proposals with the Agency in writing prior to implementation.	12 months from the issue of permit	Refer to section C1.2 of the Decision Document Item amended – the scale of the bag filters on top of the silo was considered so small that a procedure was more appropriate.
2	The Operator shall provide the Agency, in writing, a report justifying the use of sumps and storage areas for the capture of fugitive releases to water, sewer and groundwater, taking into account the relevant sector specific guidance. It should consider, but not be limited to, the appropriateness of the surfacing of such sumps in the event of accidents, such as spills of raw materials, wastes and products. The Operator shall further propose a plan to implement any recommendations from the report, with time scales, and shall agree these proposals with the Agency in writing prior to implementation	12 months from the issue of permit	Refer to section C1.2 of the Decision Document Most of the issues raised are covered by the SPMP. A concern over the releases of fugitives would still be addressed by standard conditions.
3	The Operator shall carry out corrective works to make the bund(s) around the hydrochloric acid storage tank impervious and resistant to the stored material	6 months from the issue of permit	Refer to section C1.2 of the Decision Document
4	The Operator shall conduct a study to justify the techniques to minimise the environmental risks resulting from the use of firewater on the site, compared to indicative BAT requirements. The Operator shall further propose a plan to implement any recommendations from the	18 months from the issue of permit	Refer to section C1.2 of the Decision Document This aspect has been addressed by the COMAH report and is

	report, with time scales, and shall agree these proposals with the Agency in writing prior to implementation		most relevant to the synthite installation.
5	The Operator shall provide to the Agency, in writing, a study into the balance of environmental benefits and cost of alternative operation methods including, but not limited to fast reactors. The Operator shall further propose a plan to implement any recommendations from the report, with time scales, and shall agree these proposals with the Agency in writing prior to implementation	24 months from the issue of permit	Refer to section C1.2 of the Decision Document Reviewed as part of a standard condition in the permit.
6	The Operator shall provide to the Agency, in writing, a noise and vibration survey in accordance to BS 4142 and demonstrate BAT for the installation. The Operator shall further propose a plan to implement any recommendations from the report, with time scales, and shall agree these proposals with the Agency in writing prior to implementation.	18 months from the issue of permit	Refer to section C2.7 of the Decision Document Altered to take account of the low noise footprint of the Dynea installation. Only one source was considered to have the potential for impact.
7	The Operator to use MCERTS accredited companies and MCERTS accredited techniques for the monitoring of emissions to air as Section 2.2.1 of this Permit describes. The Operator shall inform the Agency, in writing, of the decision and justification regarding the selection of monitoring method.	6 months from the issue of permit	Refer to section C5.4 of the Decision Document

C5.2 Permit section 1.6 - Pre-operational conditions

The Agency considers that the circumstances do not require the imposition of any pre-operational Conditions.

C5.3 Permit section 1.7 - Off-site Conditions (including Off-site monitoring)

The Agency considers that it is not necessary to impose any off-site Conditions

C5.4 Permit section 2.10 - On-site monitoring

The Agency has decided that emissions monitoring should be carried out for the parameters listed in Table 2.2.2, using the methods and to the frequencies it has specified in this Table. (See Condition 2.10.1.) These monitoring requirements using the more accurate MCERTS methodology and equipment have been imposed in order to corroborate the level of insignificance of the release to air.
The Operator has selected a number of options, as a replacement to the current monitoring techniques, all of which are consistent with MCERTS guidelines. The Operator has stated in the Application (Section 2.10) that they will inform the Agency of the decision and justification regarding the selection of monitoring method.
An improvement condition has been set requiring the Operator to achieve MCERTS accreditation for the techniques and equipment used for the monitoring of emissions to air. In

addition the Operator shall inform the Agency, in writing, of the decision and justification regarding the selection of monitoring method. This shall be completed 6 months after the issue of the permit. This time scale shall enable the operator to comply with the condition requiring MCERTS monitoring techniques or an acceptable alternative.

C5.5 Permit section 3. - Records

The Agency considers that the standard condition requirements are appropriate and sufficient for the Permit.

C5.6 Permit section 4. - Reporting

The Agency considers that the standard condition requirements are appropriate and sufficient for the Permit.

In respect of Condition 4.1.3, the information that has to be reported and which is listed in the Tables S4.2-3 in Schedule 4 is required as described below:
Reporting of Formaldehyde, Methanol and Phenol releases to air are required to ensure the releases to air are maintained at insignificant levels.
The reporting of water usage, energy usage, waste disposal and/or recovery are required to assess the consumption and disposal of recourses at the installation.
The reporting of fugitive emissions will further quantify the fugitive releases from the activities on site as required from condition 4.1.4 I thee Permit.

C5.7 Permit section 5. - Notifications

The Agency considers that the standard condition requirements are appropriate and sufficient for the Permit.

C6. Other principal considerations taken into account in the determination process

APPENDIX – Consultee responses

Summary of consultation responses received and the way in which they have been taken in to account in the determination process:

Response received from	Brief summary of issues raised	Summary of actions taken or show how this has been covered
Local Health Board	1. Operator should implement an environmental management system to the certified standard in a defined time frame; 2. A full noise survey should be carried out in accordance with BS 4142 and BAT for noise should be demonstrated; 3. Monitoring of all fugitive emissions to atmosphere and background measurements.	1. The Agency considers the Operators management meets the minimum requirements for BAT at this installation at this time. The Agency support the Operator if they implemented an environmental management system to the certified standard. 2. Noise survey and BAT justification is incorporated in improvement programme number 6, 3. Reporting of fugitive emissions is required under standard condition 4.1.4 of the permit.
Secretary of State for Wales	1. Typing error in page 102 of 102. Sentence has one too many negatives. 2. No Appendix 4 of Site Report was attached in copy sent to Secretary of State for Wales. 3. Is it likely that Anthrax spores might be found on this site as the past history was a cotton mill followed by a tinplate works?	1. No action required agree with statement. 2. Agency resent relevant sections. 3. Agency consider that this is not likely. No action required.

Relevant Sector Specific guidance is Speciality Organic Chemicals S4.02 rev 19/9/02

Section	Description	Covered? If so highlight key arguments and comment	Meets indicative BAT?	Comments
BAT Justification Section 2.1				
2.1.2.1	Ventilation systems	VOCs considered insignificant due to control of process. Formaldehyde average emission close to reactor is 0.45 mg/m³. However away from reactor concentration falls to below Level of Detection for formaldehyde. (note from EH40 MEL LT 2.5 mg/m³, ST 2.5 mg/m³). Phenol below detectable limits (note from EH40 MEL LT 2 ppm). Diagram 2.1.1. C - Blender process has filter membrane to reduce local exposure nuisance issues for operators. It is not expected that dust would leave the building area if the Blender did not have a filter. "Potential for contamination by extract air of rain water is considered extremely unlikely" - no further explanation given. Possibility of ventilation system fed to abatement unit not addressed. However due to the insignificant release levels abatement unit would be unlikely to make cost – benefit balance. "Noise considered Health and Safety risk assessments" This is also covered in the qualitative noise survey carried out on site.	OK. Characterisation of VOCs and other pollutants not very comprehensive. However emissions levels of main pollutants to ventilation system do appear to be insignificant. OK. Presence of filter further reduce the likely hood of dust emissions whilst charging blender. Tolerate. Emissions are considered to be insignificant. Ok. Emissions are considered to be insignificant. Ok.	Overall Tolerate – All based on insignificant emissions to the ventilation system. Look to standard condition (4.1.4) to characterise fugitive releases.
2.1.2.2	Over-Pressure Protection	Ref to HAZOP and DIERS calculations.	OK. Bursting discs vent to dedicated pressure vessel. LT COMAH site therefore will meet most BAT conditions	OK. Link to site inspection topic #1 on PPC – COMAH overlap.

Section	Description	Covered? If so highlight key arguments and comment	Meets indicative BAT?	Comments
2.1.2.3	Vacuum Systems	Use liquid ring pumps and re-use seal liquor in process. Essential to process so claim proactive and reactive maintenance. No mention of direct instrumentation, just indirect measurement if steam consumption is high. Noise issues poorly covered, not consider as noise source as building act as barriers.	OK. Noise issues - no justification however noise impact insignificant. Therefore look to IMP 6 to conduct noise survey.	Tolerate. Would be OK if noise was covered. Pick this up in noise section.
2.1.2.4	Pumps	No direct justification of BAT. Basic high risk substances are pumped using low/nil leak pumps. Gear pump have leaks, however these are minor risks. No justification made and no indication if it's covered in continual improvement	Tolerate. Major risk items are in nil/low leak pumps. Therefore consider BAT at present	Monthly Environmental Checks by operator should identify any leaky (gear pumps) low risk pumps.
2.1.2.5	Gas Compressors	Air compressors with service contract. No impact	OK	
2.1.2.6	Agitators	Mechanical seal on some. Packed seal on others mostly in vapour phase. Only two packed seal in liquid phase (high risk). Company looking to replace one packed seal. (Not stated what phase this seal is in.)	OK. Some Mech seals and some packed seals are used. The operation of equipment with packed glands results in leaks. These leaks are minimised by the operators maintenance programme.	Recommended site inspection topic review maintenance programme and reports. #2
2.1.2.7	Valves	Hazardous substances use lower leak potential valves. Key valves are routinely checks. However no indication as to what determines key (i.e. key for process? Or environment?).	OK.	Tolerate.
2.1.2.8	Heating & cooling	Any leaks would be into product because of high heating/cooling fluid pressure. No direct monitoring, however frequent check as part of preventative maintenance programme (PMP) (not supplied)	OK. Look for evidence of PMP on site inspection #2	PMP Inspection topic #2.
2.1.2.9	Purging	Not a Dynea operation	N/a	

Section	Description	Covered? If so highlight key arguments and comment	Meets indicative BAT?	Comments
2.1.3.1	Fundamental Design Points	Dynea will consider BAT in future changes to or new plant and where appropriate be applied.	OK	
2.1.3.2	Minimise Liquid Loss	Planning of products and groups minimise wastes produced and tables produced to eliminate reactor wash outs. Tanks are cleaned out annually to remove debris. Here the use of water is minimised.	OK. Planning and systems in place to minimise.	
2.1.3.3	Minimise Vapour Loss	Filling of volatile is by bottom charging. Condensers drastically reduce VOCs. Abatement system is working at optimum	OK.	
	Vapour-Solid separation	Urea Silo conveyors use dust filter bags. This system meet the SSG for conveyors. There is also a back up system in case of failure in the main conveyor. However no monitoring incase of failure of filter bags.	OK. BAT is achieved at present.	OK. However look to IMP #1 for feasibility of monitoring incase of dust filter bag failure
2.1.4.1	Liquid-vapour separation	Only applicable process is distillation. Low coolant and low/high temp alarms are in place. Currently this is a major cost making up 66% of waste cost.	OK. However some areas could be covered in more detail. Including steam introduction if insufficient distillate is removed and demister.	Standard Waste minimisation condition (2.1.4.2) will focus on this area, with aim of achieving a higher level of environmental protection.
2.1.4.2	Liquid-liquid separation	Not a Dynea operation	N/a	
2.1.4.3	Solid- liquid separation	Filtration is carried out to remove solid resins from reactors or tanks farms. Solid resin which cannot be recycled is drummed for off site disposal and liquid resin is recycled via bulk grade resins.	OK.	

Section	Description	Covered? If so highlight key arguments and comment	Meets indicative BAT?	Comments
2.1.5.1	Purification of liquid	Filters separate solids at end of reaction process. Limited vapour lost (previous test have shown no detectable VOC emissions). Liquid waste are collected and recycled back to resin production.	OK.	
2.1.5.2	Purification of Solid	No specific plant fits into this section, however UF effluent sump pits could be considered as counter current. Solids separated from liquid and disposed of separately.	OK.	Standard Waste minimisation condition (2.1.4.2) will focus on this area, with aim of achieving a higher level of environmental protection.
2.1.6	Design of new process	No formal procedures. Operator offered improvement programme	OK. No new process planned at present ands standard text also covers this.	Standard condition adequately address this.
2.1.7	Environmental indicators	Waste disposal, Waste disposal costs and material recycled are monitored. Electricity, steam and water are monitored per tonne of product.	OK. Some benchmarking, however wastes not properly benchmarked.	Schedule 4 of Permit, Reporting addresses this area.
No ref	Abnormal op conditions	Batch process therefore start-up and shut down not considered as normal operations.	OK	
BAT Justification Section 2.2				
2.2.1	Point source emission to air	Main *(this is only identified)* is stack A18, catalytic oxidiser outlet. H1 considers the adequacy of the chimney height and velocities.	*This is only heading main points below*	
	2.2.1.1	Control of VOCs – not considered a problem due to process control.	OK. Insignificant emissions according to H1	
	2.2.1.2	Control of particulates – not considered a problem due to	OK. Low visibility of emissions	

Section	Description	Covered? If so highlight key arguments and comment	Meets indicative BAT?	Comments
		process control. They are minimised by scrubber and catalytic oxidiser.		
	2.2.1.3	Control of plumes – No droplets are ejected because of drift eliminators. Only emission is water droplets. Towers located to minimise visibility off-site. Will fit inverters by end of 2003, which will reduce energy consumption.	OK. No complaints regarding cooling tower plumes.	
2.2.2	Point source emission to water or sewer.	No point source release to water or sewer. Some liquid wastes are passed to Synthite for treatment in their ETP, or use as raw material. Other liquid wastes are taken of site by specialist contractors	OK.	Standard Waste minimisation condition (2.1.4.2) will focus on wastes taken off site etc, with aim of achieving a higher level of environmental protection.
2.2.3	Point source emission to groundwater	No point source release to groundwater	OK	
2.2.4	Fugitive emissions to air			
	5. Dust Skips & vessels -	• Urea silo vented through bag. Skips are covered. Operator has offered IMP to include checking the lids are closed. This was implemented at time of writing permit. • Avoid outdoor , uncovered stockpiles – compliant • Where unavoidable use of sprays, etc.. n/a • Regular wheel cleaning – Dynea ensure that areas are kept clean & routine checks performed. • Closed conveyors etc – closed conveyors used from urea	OK OK OK OK Tolerate.	

Section	Description	Covered? If so highlight key arguments and comment	Meets indicative BAT?	Comments
		silo to hopper. Belts not enclosed in hopper bay, but contained in silo building. Filters not required because air to naturally drawn to reactors		
		• Housekeeping – no formal procedure, however supervisor walks around highlights action areas for appropriate shifts	Formal procedure should be encouraged in standard text	
		• Enclosed silos – urea silo vented through bag filter, captured items returned to silo	OK. However monitoring of filter bags in case of failure could achieve higher environmental protection.	IMP #1 evaluate feasibility of monitoring incase of dust filter bag failure
		• Enclosed containers – sealed bags used for substances	OK	
	2. VOCs	• Flammable substances are bottom loaded. Extraction via abatement system.	OK	
		• The tank operates at 50 ^{0}C with the normal vent line to the abatement plant lagged and trace heated. Pressure/vacuum valves are fitted to the phenol tank they are a secondary safety system and are vented to atmosphere. Venting these secondary line to the abatement system would lead to inefficient abatement under normal circumstances due to the large over capacity (see document B2.1)	Tolerate.	Tolerate – All based on insignificant emissions to atmosphere. Standard condition (4.1.4) will characterisation fugitive releases
		All other vessels operate nominally at 25 ^{0}C. VOC emissions are minimal and the tanks vent to atmosphere.	OK	
		• Most bulk storage vessels lagged	OK	
		Following techniques should be used		
		• Low solar paint – no solar paint however tanks are lagged and metal clad or painted white and kept at standard temperatures	OK	
		• Temperature control – storage tanks have temp indicators and cooling systems, some with agitators	OK	
		• Inventory management – stock management and rotation	OK	
		• Floating tank roofs – not considered BAT as temp control and nature of reactions result in insignificant emissions	OK	

Section	Description	Covered? If so highlight key arguments and comment	Meets indicative BAT?	Comments
		• Bladder roofs – not considered BAT as temp control and nature of reactions result in insignificant emissions • Pressure/vacuum valves – on phenol tank, all other tanks are vented to atmosphere. • Specific release treatment – phenol tank is connected to the abatement system	OK. OK.	
	3. Odour	See section 2.2.6		
	4. Identify and develop procedures for VOCs	Valve gland leakage is minimal all sources identified in table 2.2.4.1	OK.	
2.2.5	Fugitive emissions to water			
	1. subsurface structure	• Establish and record all subsurface pipework – Drain Map included, however Synthite control all drain below ground. • Identify subsurface sumps & vessels – no vessels, several semi-subsurface sumps – Map 5 • Minimise leaks and detected – preventative maintenance system in place – CCTV for phenol and two main UF and PF loading points. Human presence at phenol unloading. • Secondary containment or detection for subsurface items – None for sumps. Offer IMP to develop procedure and inspect sumps regularly • Establish inspection and maintenance programme – as above	OK OK Tolerate. Tanker un/loading points are at most risk, so CCTV and human presence proportionate. However other areas are also checked in standard practices Tolerate. No justification as to 2nd containment. However with procedure should be satisfactory. OK. All areas highlighted above	

Section	Description	Covered? If so highlight key arguments and comment	Meets indicative BAT?	Comments
	2. Surfacing	• Design quality assurance and inspection and maintenance programme – Table 2.2.5.4- design quality assurance in place. No formal procedure in place for checks operator volunteer that it will be done with 'monthly safety and environmental checks' • Justify where operational areas have not been protected – Table 2.2.5.5, all areas have impervious surface and sealed joints. However most areas not provided with kerbs, justification for this is surface area is large enough to contain most spills or divert to drain. Operators normally present when spill occur, and drains can be sealed.	Ok. Inspection, maintenance programme operator will do monthly. Tolerate. However what if operators not present? Operator has some understanding of potential spills and their containment. Physical nature of product means that a small (ca. 1 m^3) will not flow. However larger spills will flow because it retains heat.	IMP#2 Review of appropriateness of surfacing of areas in respect to accidents and spills.
	3. Bunds on tanks	Table 2.2.5.6, generally bunds to BAT. However Operator acknowledges routine checks are poor and will incorporate this into other checks. Bunds have been extended to incorporate some pipe that run out side of bunds.	Tolerate. Bund for HCl is not impervious to stored materials. IMP must address this.	IMP#3 corrective works to make HCl bund impervious and resistant to stored material.
	4. Sumps	'As above.' Table 2.2.5.6 does not specifically mention sumps (of which 3 have been previously identified)	No justification, or at least not clear if present. IMP#2 to incorporate this also.	
	5. Storage Areas	Operator has not proposed to review waste IBC drum area. No alternative locations are available. Some improvements proposed regarding lids for IBC's, marking for limit of storage area.	Bunding review required for storage area, particularly critical in it's location next to watercourse. IMP #2 to review this storage area and propose option.	
	Storage time	Labelling normally enables the storage time to be evaluated. Checking will be incorporated into 'monthly safety and environmental checks' Waste stored in the plant areas is generally for short period only. Therefore does not exceed the storage time.	Tolerate. Relatively small volume of waste held in plant areas use the same bunding as the rest of the process.	
	Procedures to deal with	Not currently formalised, however proposed to be incorporated into the 'monthly safety and environmental checks'	OK. If incorporated into 'monthly safety and environmental checks'.	Site inspection topic to ensure Operator is

Section	Description	Covered? If so highlight key arguments and comment	Meets indicative BAT?	Comments
	leaking containers			clear of the aims for this all-encompassing check.

IMP	Title	Description
1	Dust Filter Bag Monitoring	The Operator shall provide the Agency, in writing, a report investigating the feasibility of installing monitoring equipment to detect the release of particulate matter resulting from failure of the dust filter bags. The Operator shall further propose a plan to implement any recommendations from the report, with time scales, and shall agree these proposals with the Agency in writing prior to implementation.
2	Review of appropriateness of sumps and storage areas.	The Operator shall provide the Agency, in writing, a report justifying the use of sumps and storage areas for the capture of fugitive releases to water, sewer and groundwater, taking into account the relevant sector specific guidance. It should consider, but not be limited to, the appropriateness of the surfacing of such sumps in the event of accidents, such as spills of raw materials, wastes and products. The Operator shall further propose a plan to implement any recommendations from the report, with time scales, and shall agree these proposals with the Agency in writing prior to implementation
3	Corrective works to make HCl bund impervious and resistant to stored material.	The Operator shall carry out corrective works to make the bund(s) around the hydrochloric acid storage tank impervious and resistant to the stored material
4	Fire Water assessment	The Operator shall conduct a study to justify the techniques to minimise the environmental risks resulting from the use of firewater on the site, compared to indicative BAT requirements. The Operator shall further propose a plan to implement any recommendations from the report, with time scales, and shall agree these proposals with the Agency in writing prior to implementation
5	Alternative operating methods	The Operator shall provide to the Agency, in writing, a study into the balance of environmental benefits and cost of alternative operation methods including, but not limited to fast reactors. The Operator shall further propose a plan to implement any recommendations from the report, with time

		scales, and shall agree these proposals with the Agency in writing prior to implementation
6	Noise Survey	The Operator shall provide to the Agency, in writing, a noise and vibration survey in accordance to BS 4142 and demonstrate BAT for the installation. The Operator shall further propose a plan to implement any recommendations from the report, with time scales, and shall agree these proposals with the Agency in writing prior to implementation.
7	MCERTs	The Operator to use MCERTS accredited companies and MCERTS accredited techniques for the monitoring of emissions to air as Section 2.2.1 of this Permit describes. The Operator shall inform the Agency, in writing, of the decision and justification regarding the selection of monitoring method.

Inspection Topic		
1	PPC – COMAH overlap	Investigate relevant of COMAH report for the PPC regulations. Look at the areas not covered by COMAH (normally smaller environmental incidents)
2	preventative maintenance programme (PMP)	Look for evidence of suitability of PMP. With focus on packed gland seals and how any leaks are minimised by the Operator
3	Monthly safety and environmental checks'.	Review the objective of the check. Operator should have clear idea of aims etc. Lots of different items where incorporate into this section.