



**ENVIRONMENT
AGENCY**

Variation Notice with introductory note

Pollution Prevention and Control (England & Wales) Regulations 2000

Llantwit Fardre Polymer Plant

Clariant UK Ltd.
Llantwit Fardre
Pontypridd
CF38 2SN

Variation Notice Number
CP3630LT

Permit number
BL7396

Llantwit Fardre Polymer Plant, Clariant UK Ltd.

Permit Number CP3630LT

Introductory note

This introductory note does not form a part of the permit

The following notice is issued under regulation 17 of The Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No. 1973 (as amended) (the Regulations) to vary the conditions of a permit issued under the Regulations to operate an installation. The notice comprises schedule 1 containing conditions to be deleted, schedule 2 conditions to be amended and schedule 3 conditions to be added.

A polymer has been developed based on a new monomer (AMPS or 2-acrylamido-2methylpropanesulphonic acid). The polymer has a variety of applications as a thickening agent in personal care products and the oil industry, for example. It is intended to produce up to 500 tonnes a year of these polymers in a new plant on the existing site. This polymer has been permitted on this site since 15th April 2002 and this variation allows a second identical unit to be installed and used.

The polymer plant will comprise one original 5m³ reactor, one new 10m³ neutraliser and 8m³ reactor; one original 6m³ paddle dryer and one new 10m³ paddle dryer together with associated equipment. This consists of condensers and wet scrubbers for the removal of ammonia and solvent from the waste gas stream. One fresh solvent bulk storage tank and two recovered solvent tanks are provided together with pumps and piping, the new plant will draw solvent from the existing bulk storage facilities.

In addition, to support the operation of the reactors, the following ancillary operations are included in the permitted installation. (These are shared with other existing production processes at the site, which themselves do not form part of the defined installation):

- Boiler house comprising two gas-fired boiler units (with light oil back-up fuel).
- Materials storage warehousing, for the storage of raw materials, intermediates and finished goods with further dedicated storage for waste products.
- Cooling tower, Effluent drainage system and tanks, together with surface water drainage systems.

The reactors will be operated manually, on a shift basis, as a batch process supported by a process control computer.

The solvent used in the process is recovered for re-use, and exhaust gases from the reactor are passed through a condenser to achieve this. The use of a scrubber system minimises any residual releases to atmosphere.

A water-soluble polymer (named DPAS) is also manufactured under this permit BL7396, which is made from a solid added to an aqueous solution, which is then polymerised at relatively low temperatures (circa 90deg C) in the presence of an aqueous initiator. Each batch size will be 5-6 tonnes with production levels of typically 100 tonnes per month.

Surface waters from the manufacturing areas are collected and discharged under consent to sewers. Aqueous effluent from the process is directed through the site process effluent system to the effluent tanks for off-site disposal.

Rainwater falling on non-manufacturing areas is directed towards a marshy area outside the installation, to the south of the site.

There are minimal solid wastes requiring off-site disposal.

Status Log of the permit		
Detail	Date	Response Date
Application BL7396	Received 03/12/01	
Response to request for information	Request dated 11/02/02	Response dated 20/02/02 and 25/02/02
Response to request for information	Request dated 20/02/02	Response dated 01/03/02 and 04/03/02
Response to request for information	Request dated 11/03/02	Response dated 18/03/02
Permit BL7396	Determined 15/04/02	
Application for variation	Received 26/07/05	
Variation PP3037SG	Determined 30/09/05	
Application for variation	Received 24/03/06	
Variation MP3134LW	Determined 03/05/06	
Application for variation	Received 04/11/05	
Request for extension to determination	Dated 11/05/06	Granted 12/05/06
Request for extension to determination	Dated 13/06/06	Granted 16/06/06
Response to request for information	Request dated 30/05/06	Response dated 13/06/06
Request for extension to determination	Dated 28/06/06	Granted 04/07/06
Variation CP3630LT	Determined 14/07/06	

Other PPC permits relating to this installation		
Operator	Permit Number	Date of Issue
-	-	-

Superseded or Partially Superseded Licences/Authorisations/Consents relating to this installation			
Holder	Reference Number	Date of Issue	Fully or Partially Superseded
-	-	-	-

Other existing Licences/Authorisations/Registrations relating to this site		
Holder	Reference Number	Date of issue
Clariant UK Ltd.	BV4339IX	28/04/04

End of Introductory Note

Variation Notice

Pollution Prevention and Control
(England and Wales) Regulations 2000

Variation Notice

Permit number

BL7396

Variation number

CP3630LT

The Environment Agency (the Agency) in exercise of its powers under Regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No 1973) hereby varies the permit held by you **Clariant UK Ltd.** ("the operator"),

whose registered office (or principal office) is

Calverley Lane

Horsforth

Leeds

West Yorkshire

LS18 4RP

Company registration number 3380658

to operate an installation at

Llantwit Fardre Polymer Plant


Llantwit Fardre

Pontypridd

CF38 2SN

to the extent set out in schedules 1 to 3 of this variation notice .

The notice shall take effect from 14th July 2006

Signed	Date
	14 th July 2006

Dr N P Allen

Authorised to sign on behalf of the Agency

SCHEDULE 1 – CONDITIONS TO BE DELETED

1. All conditions and schedules are deleted previously in BL7386 and subsequent variations PP3037SG and MP3134LW.

SCHEDULE 2 – CONDITIONS TO BE AMENDED

2. None

SCHEDULE 3 – CONDITIONS TO BE ADDED

3. The following conditions are added to the permit

Conditions

1 Management

1.1 General management

- 1.1.1 The activities shall be managed and operated:
 - (a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances and those drawn to the attention of the operator as a result of complaints; and
 - (b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Accidents that may cause pollution

- 1.2.1 The operator shall:
 - (a) maintain and implement an accident management plan;
 - (b) review and record at least every 4 years or as soon as practicable after an accident, (whichever is the earlier) whether changes to the plan should be made;
 - (c) make any appropriate changes to the plan identified by a review.

1.3 Energy efficiency

1.3.1 The operator shall:

- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
- (b) review and record at least every 4 years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (c) take any further appropriate measures by a review.

1.4 Efficient use of raw materials

1.4.1 The operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every 4 years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any appropriate further measures identified by a review.

1.5 Avoidance, recovery and disposal of wastes produced by the activities

1.5.1. The operator shall:

- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
- (b) review and record at least every 4 years whether changes to those measures should be made; and
- (c) take any further appropriate measures identified by a review.

1.6 Site security

1.6.1. Site security measures shall prevent unauthorised access to the site, as far as practicable.

1.7 Multiple operator installations

1.7.1 This is not a multiple operator installation.

2. Operations

2.1 Permitted activities

2.1.1 The operator is authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in red on the site plan at schedule 2 to this permit.

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1 table S1.2, unless otherwise agreed in writing by the Agency.

2.3.2 No raw materials or fuels listed in schedule 3 table S3.1 shall be used unless they comply with the specifications set out in that table.

2.4 Off-site conditions

2.4.1 There are no off-site conditions under this section.

2.5 Improvement programme

2.5.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Agency.

2.5.2 Except in the case of an improvement which consists only of a submission to the Agency, the operator shall notify the Agency within 14 days of completion of each improvement.

2.6 Pre-operational conditions

2.6.1 There are no pre-operational conditions in this permit.

2.7 Closure and decommissioning

- 2.7.1 The operator shall maintain and operate the activities so as to prevent or where that is not practicable, to minimise, any pollution risk on closure and decommissioning.
- 2.7.2 The operator shall maintain a site closure plan which demonstrates how the activities can be decommissioned to avoid any pollution risk and return the site to a satisfactory state.
- 2.7.3 The operator shall carry out and record a review of the site closure plan at least every 4 years.
- 2.7.4 The site closure plan (or relevant part thereof) shall be implemented on final cessation or decommissioning of the activities or part thereof.

2.8 Site protection and monitoring programme

- 2.8.1 The operator shall implement and maintain the site protection and monitoring programme and shall carry out and record a review of it at least every 4 years.

3. Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 4 tables S4.1, S4.2 and S4.3.
- 3.1.2 The limits given in schedule 4 shall not be exceeded.
- 3.1.3 Where a substance is specified in schedule 4 table S4.2 or S4.3 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.
- 3.1.4 Total annual emissions from the emission point(s) set out in tables schedule 4 S4.1, S4.2 and S4.3 of a substance listed in schedule 4 table S4.4 shall not exceed the relevant limit in table S4.4.

3.2 Transfers off-site

- 3.2.1 Records of all the wastes sent off site from the activities, for either disposal or recovery, shall be maintained.

3.3 Fugitive emissions of substances

- 3.3.1 Fugitive emissions of substances (excluding odour, noise and vibration) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including those specified in schedule 1 table S1.4, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.3.2 All liquids, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.4 Odour

- 3.4.1 Emissions from the activities shall be free from odour at levels likely to cause annoyance outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including those specified in schedule 1 table S1.5, to prevent or where that is not practicable to minimise the odour.

3.5 Noise and vibration

- 3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause annoyance outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including those specified in schedule 1 table S1.6, to prevent or where that is not practicable to minimise the noise and vibration.

3.6 Monitoring

- 3.6.1 The operator shall, unless otherwise agreed in writing by the Agency, undertake monitoring for the parameters, at the locations and at not less than the frequencies specified in the following tables in schedule 4 to this permit:
- (a) point source emissions specified in tables S4.1, S4.2 and S4.3;
- 3.6.2 The operator shall maintain records of all monitoring required by this permit including 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.
- 3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Agency.

- 3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 4 tables S4.1, S4.2 and S4.3 unless otherwise specified in that schedule.

4. Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) the site protection and monitoring programme.

4.1.2 Any records required to be made by this permit shall be supplied to the Agency within 14 days where the records have been requested in writing by the Agency.

4.1.3 All records required to be held by this permit shall be held on the installation and shall be available for inspection by the Agency at any reasonable time.

4.2 Reporting

- 4.2.1 A report or reports on the performance of the activities over the previous year shall be submitted to the Agency by 31 January (or other date agreed in writing by the Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the assessment of the impact of the emissions submitted with the application;
 - (b) where the operator's management system encompasses annual improvement targets, a summary report of the previous year's progress against such targets;
 - (c) the annual production /treatment data set out in schedule 5 table S5.2;
 - (d) the performance parameters set out in schedule 5 table S5.3 using the forms specified in table S5.4 of that schedule; and
 - (e) details of any contamination or decontamination of the site which has occurred.
- 4.2.2 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 5 table S5.1;
 - (b) for the reporting periods specified in schedule 5 table S5.1 and using the forms specified in schedule 5 table S5.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.3 A summary report of the waste types and quantities accepted and removed from the site shall be made for each quarter. It shall be submitted to the Agency within one month of the end of the quarter and shall be in the format required by the Agency.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding 4 years, submit to the Agency, within 6 months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 All reports and notifications required by the permit shall be sent to the Agency using the contact details supplied in writing by the Agency
- 4.2.6 The results of reviews and any changes made to the site protection and monitoring programme shall be reported to the Agency, within 1 month of the review or change.

4.3 Notifications

4.3.1 The Agency shall be notified without delay following the detection of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution;
- (b) the breach of a limit specified in the permit;
- (c) any significant adverse environmental effects.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 6 to this permit within the time period specified in that schedule.

4.3.3 Prior written notification shall be given to the Agency of the following events and in the specified timescales:

- (a) as soon as practicable prior to the permanent cessation of any of the activities;
- (b) cessation of operation of part or all of the activities for a period likely to exceed 1 year; and
- (c) resumption of the operation of part or all of the activities after a cessation notified under (b) above.

- 4.3.4 The Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.5 Where the Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Agency when the relevant monitoring is to take place. The operator shall provide this information to the Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.6 No condition applies
- 4.3.7 No condition applies
- 4.3.8 No condition applies
- 4.3.9 The Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- (a) any change in the operator's trading name, registered name or registered office address;
 - (b) 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); and
 - (c) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Climate Change Agreement

- 4.3.10 Where the operator has entered into a climate change agreement with the Government, the Agency shall be notified within one month of:
- (a) a decision by the Secretary of State not to re-certify the agreement;
 - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
 - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.
- 4.3.11 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:
- (a) a decision by the operator to withdraw from or the Secretary of State to terminate that agreement.
 - (b) a failure to comply with an annual target under that agreement at the end of the trading compliance period.

4.4 Interpretation

In this permit the expressions listed in schedule 7 shall have the meaning given in that schedule.

Schedule 1 - Operations

Table S1.1 activities		
Activity listed in Schedule 1 of the PPC Regulations	Description of specified activity	Limits of specified activity
S4.1 A(1)(a) (viii)	Co-polymerisation of unsaturated hydrocarbons. Production of a range of thickening agents via a co-polymerisation process	Receipt of raw materials to material being transferred to bulk packages.
Directly Associated Activity		
Steam raising boiler plant	Combustion of natural gas to raise steam and for process heating	Gas oil combustion limited to periods of natural gas interruption
Water discharges to soakaway	Discharge of uncontaminated rainwater falling on the roof of the warehouse.	From roof area, gutters and downspouts of new warehouse, to point of discharge on marshy land at south of site.
Water discharges to foul sewers	Discharge of process water and site drainage from the installation.	From interceptors to point of entry to sewer

Table S1.2 Operating techniques

Description	Parts	Date Received
Application for permit BL7396	The response to questions 2.3 and given in pages/section 22-48 section 2.3 of the application	03/12/01
Response to 1 st Schedule 4 Part 1 Notice	Response to questions 10-23	20/02/02
Response to 2 nd Schedule 4 Part 1 Notice	Response to questions 6, 10 and 11	04/03/02
Response to 3 rd Schedule 4 Part 1 Notice	Response to questions 3 & 4	18/03/02
Application for Variation PP3037SG		26/07/05
Application for Variation MP3134LW		24/03/06
Application for Variation CP3630LT	Response given to question 2.1 given in section 2.1 of the application	09/11/05
Response to Schedule 7 Notice	Response to questions 1-4	13/06/06

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
9.11	A commissioning report shall be sent to the Agency on completion of the first 5 batches of DPAS polymer. The report is to include, but should not be limited to, results of emissions monitoring for organic compounds undertaken during production, a mass balance assessment and an assessment of the noise and odour impact from the process.	31 st July 2006
9.12	A report shall be sent to the Agency on completion of commissioning of the new Polymer Plant. The report is to include, but should not be limited to, results of emissions monitoring for organic compounds undertaken during production, a mass balance assessment and an assessment of the noise and odour impact from the process.	31 st December 2006
9.13	The operator shall provide a full environmental impact assessment of the combined impact of both polymer plants after commissioning. The report shall use a methodology based on the Agency's guidance note H1 and shall provide a full BAT assessment including full air dispersion modelling assessment of the processes. Where BAT is not deemed to be met a programme for implementation of improvements shall be submitted.	31 st January 2007
9.14	The operator shall provide an assessment of the degree of compliance of all air monitoring activities for the permit with the MCerts standard and where the standard is not being met, provide a timetable for achieving compliance.	28 th February 2007

Table S1.4 Appropriate measures for fugitive emissions

Measure	Dates
A fugitive emission management plan shall be submitted to the Agency, detailing the measures to be used to control fugitives emissions and shall be accordance with section 2.2.5 of TGN S4.02 or Box 5 of H7 (Guidance on protection of land)). The plan shall be implemented by the operator from the date of approval in writing by the Agency	The plan shall be submitted by 30/09/2006

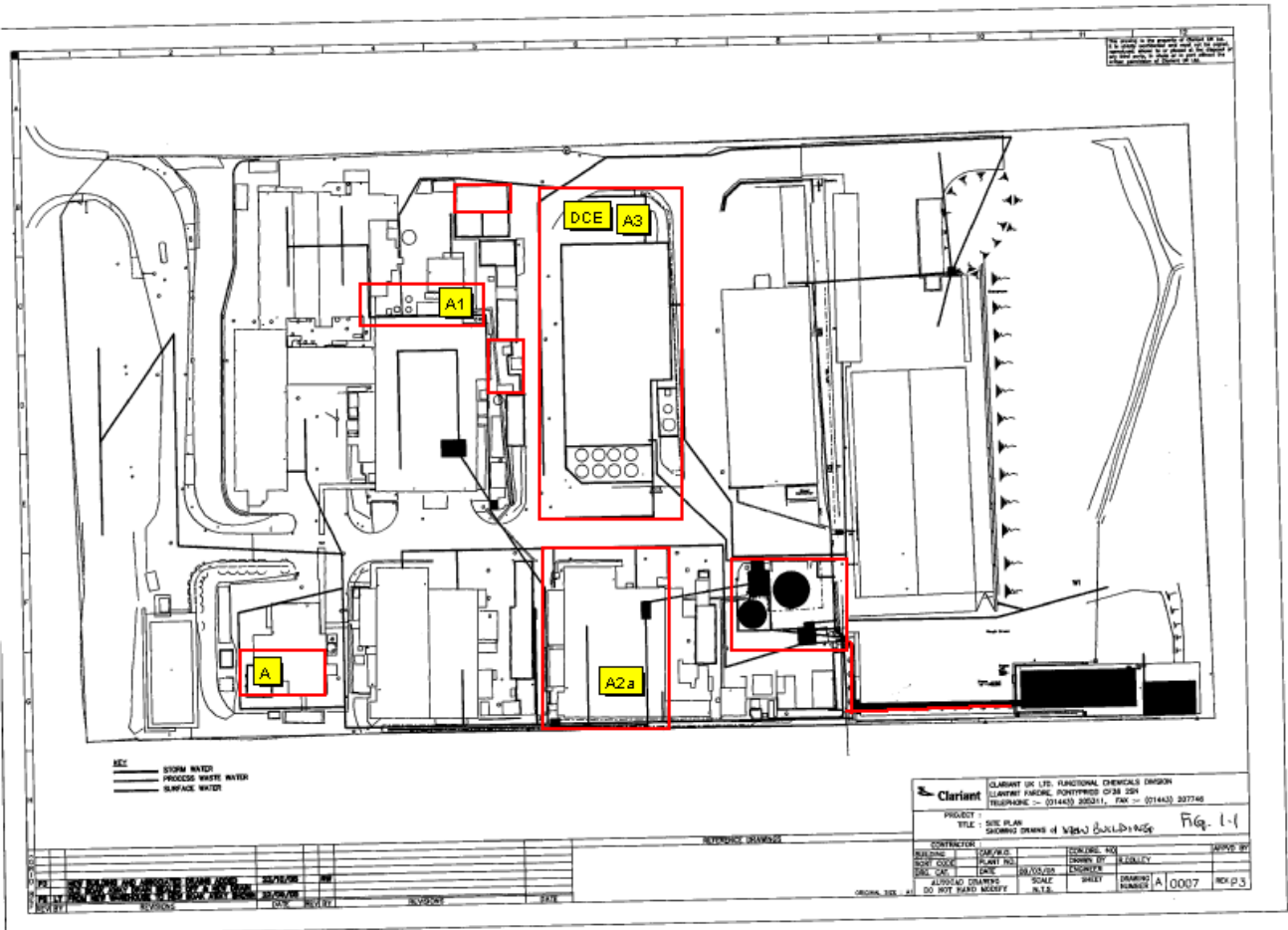
Table S1.5 Appropriate measures for odour

Measure	Dates
An odour management plan shall be submitted to the Agency, detailing the measures to be used to control emissions of odour and shall be accordance with Appendix 7 (template for an odour management plan) of Horizontal Guidance Note H4 (Horizontal Guidance for Odour (Part 1). The plan shall be implemented by the operator from the date of approval in writing by the Agency	The plan shall be submitted by 30/09/2006

Table S1.6 Appropriate measures for noise

Measure	Dates
A noise management plan shall be submitted to the Agency, detailing the measures to be used to control emissions of noise and shall be accordance with Appendix 4 (noise management plan) of Horizontal Guidance Note H3 (Horizontal Odour Guidance) Part 2). The plan shall be implemented by the operator from the date of approval in writing by the Agency.	The plan shall be submitted by 30/09/2006

Schedule 2 - Site plan



Schedule 3 - Waste types, raw materials and fuels

Table S3.1 Raw materials and fuels

Raw materials and fuel description	Specification
Light Fuel Oil	Less than 0.2% sulphur content until 31 st December 2007 Less the 0.1% from 1 st January 2008

Schedule 4 – Emissions and monitoring

Table S4.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Old Polymer Plant Scrubber]	Total VOCs as Carbon	Reactor	0.2kg/hr	Batch Average	Continuous Note2	ASTM D6348-03 or US EPA Method 320
A1 [Old Polymer Plant Scrubber]	Total VOCs as Carbon	Reactor	2kg/hr	Instantaneous Maximum	Continuous Note2	ASTM D6348-03 or US EPA Method 320
A1 [Old Polymer Plant Scrubber]	Ammonia	Reactor	10mg/m3	Batch Average	Continuous Note2	US EPA Method 320
A1 [Old Polymer Plant Scrubber]	Ammonia	Reactor	250mg/m3	Instantaneous Maximum	Continuous Note2	US EPA Method 320
A2 [Combined boiler vent stack]	Note1	Boilers	Note1	-	-	-
A2a [DPAS vent in P3 Building]	Total VOCs as Carbon	Reactor	0.2kg/hr	Batch Average	Continuous Note2	ASTM D6348-03 or US EPA Method 320
A3 [New Polymer Plant Scrubber]	Total VOCs as Carbon	Reactor	0.2kg/hr	Batch Average	Continuous Note2	ASTM D6348-03 or US EPA Method 320
A3 [New Polymer Plant Scrubber]	Total VOCs as Carbon	Reactor	2kg/hr	Instantaneous Maximum	Continuous Note2	ASTM D6348-03 or US EPA Method 320
A3 [New Polymer Plant Scrubber]	Ammonia	Reactor	10mg/m3	Batch Average	Continuous Note2	US EPA Method 320
A3 [New Polymer Plant Scrubber]	Ammonia	Reactor	250mg/m3	Instantaneous Maximum	Continuous Note2	US EPA Method 320
DCE Dust Unit	Visible dust		No visible emission	--	--	Permanent sampling access not required

Note 1 – When firing on natural gas, smoke emissions should be invisible except for start up from cold, when emissions should not exceed Ringelmann Shade 1. When firing on Light Fuel Oil smoke emissions should not exceed Ringelmann Shade 1 except for start up from cold, when emissions should not exceed Ringelmann Shade 2.

Note 2 – Monitoring should be carried out continuously for a minimum of 24 hours at each release point once per quarter.

Table S4.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 (being the weir of the diverted rainwater sump Drawing No A0007 Rev P2)	-	Discharge of uncontaminated rainwater falling on the roof of the warehouse.	-	-	-	-

Table S4.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 (being Sample Point X on drawing B of Dwr Cymru Consent TE159)	CODmg/l	Surface water drainage system as per Drawing No 2.3.2-1b, also containing process water.	2000mg/l	Daily spot sample	Quarterly	BS ISO 15705:2002, BS 6068-2.80:2002
S1 (being Sample Point X on drawing B of Dwr Cymru Consent TE159)	Methanol mg/l	Surface water drainage system as per Drawing No 2.3.2-1b, also containing process water.	300 mg/l	Daily spot sample	Quarterly	Note 3
S1 (being Sample Point X on drawing B of Dwr Cymru Consent TE159)	Ethanol mg/l	Surface water drainage system as per Drawing No 2.3.2-1b, also containing process water.	100 mg/l	Daily spot sample	Quarterly	Note 3
S1 (being Sample Point X on drawing B of Dwr Cymru Consent TE159)	Propanol mg/l	Surface water drainage system as per Drawing No 2.3.2-1b, also containing process water.	100 mg/l	Daily spot sample	Quarterly	Note 3
S1 (being Sample Point X on drawing B of Dwr Cymru Consent TE159)	Para-hydroxybenzoic Acid (PHBA) mg/l	Surface water drainage system as per Drawing No 2.3.2-1b, also containing process water.	80 mg/l	Daily spot sample	Quarterly	Note 3
S1 (being Sample Point X on drawing B of Dwr Cymru Consent TE159)	Phenol mg/l	Surface water drainage system as per Drawing No 2.3.2-1b, also containing process water.	30 mg/l	Daily spot sample	Quarterly	BS EN ISO 14402:1999 BS 6068-2.68:1999
S1 (being Sample Point X on drawing B of Dwr Cymru Consent TE159)	pH	Surface water drainage system as per Drawing No 2.3.2-1b, also containing process water.	6 to 11	Daily spot sample	Quarterly	BS 6068-2.50:1995, ISO 10523:1994
S1 (being Sample Point X on drawing B of Dwr Cymru Consent TE159)	Hourly flow m ³	As above	7.2 m ³		Quarterly	
S1 (being Sample Point X on drawing B of Dwr Cymru Consent TE159)	Daily flow m ³	As above	172.8 m ³		Quarterly	

Note 3 – CEN, ISO, BSI, or Blue Book method to be agreed in writing with the Environment Agency.

Table S4.4 Annual limits

Substance	Medium	Limit (including unit)
Ammonia	Air	-
Total Class B Volatile Organic Compounds (as Carbon)	Air	-

Schedule 5 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S5.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.6.1.	A1, A2, A2a A3	Quarterly	01/07/06
Emissions to sewer Parameters as required by condition 3.6.1	S1	Quarterly	01/07/06

Table S5.2: Annual production/treatment

Parameter	Units
Total polymer production	tonnes

Table S5.3 Performance parameters

Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes
Energy usage	Annually	MWs
Total raw material used	Annually	tonnes

Table S5.4 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Agency	14/07/06
Sewer	Form sewer 1 or other form as agreed in writing by the Agency	14/07/06
Water usage	Form water usage1 or other form as agreed in writing by the Agency	14/07/06
Energy usage	Form energy 1 or other form as agreed in writing by the Agency	14/07/06

Schedule 6 - Notification

These pages outline the information that the operator must provide.

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	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period
-	-

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

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 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 Clariant UK Ltd.

Schedule 7 - Interpretation

"*accident*" means an accident that may result in pollution.

"*annually*" means once every year.

"*application*" means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 4 to the PPC Regulations.

"*authorised officer*" means any person authorised by the Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

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

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

"*emissions to land*", includes emissions to groundwater.

"*fugitive emission*" means an emission to air, water or land from the activities which is not controlled by an emission or background concentration limit.

"*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 Agency guidance "H7 - Guidance on the protection of land under the PPC Regime: application site report and site protection monitoring programme".

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

"*notify/notified without delay*" means that a telephone call can be used, whereas all other reports and notifications must be supplied in writing, either electronically or on paper.

"*PPC Regulations*" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

"*quarter*" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"*site protection and monitoring programme*" means a document which meets the requirements for site protection and monitoring programmes described in the Land Protection Guidance.

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

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.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- (a) in relation to emissions 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
- (b) in relation to emissions 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

END OF PERMIT