

# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2010**

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Kemira Chemicals (UK) Limited

Bowling Park Drive Chemicals  
Bowling Park Drive  
West Bowling  
Bradford  
West Yorkshire  
BD4 7TT

**Variation application number**

EPR/TP3737SB/V003

**Permit number**

EPR/TP3737SB

# Bowling Park Drive Chemicals

## Permit number EPR/TP3737SB

### Introductory note

#### **This introductory note does not form a part of the notice.**

Under the Environmental Permitting (England & Wales) Regulations 2010 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. Only the variations specified in schedule 1 are subject to a right of appeal.

#### Main features of the installation

Bowling Park Drive Chemicals operated by Kemira Chemicals (UK) Limited is a chemical manufacturing facility producing a range of dry polyacrylamide powders on four production lines. The process comprises preparing monomer mixtures, then removing oxygen and metals which interfere with the reaction. The mixture is then cooled and caused to react by the addition of chemicals known as initiators. The mixture then turns into a firm rubbery jelly. The jelly is cut up finely before being dried using heated air in fluid bed dryers. These dried particles are then milled and sifted before being blended and finally packed.

The four production lines are supported by a boiler house containing the boilers, two cooling systems (which use cooling towers), glycol chilling plant and two nitrogen supply plants. Within the installation there is also an effluent treatment plant and a QC laboratory.

Bulk raw materials such as acrylamide monomer solution, sodium acrylate and acrylic acid are stored in bulk storage tanks within bunded tank farms. The operator has historically monitored fugitive emissions from these tanks and installed abatement such as carbon filters and wet scrubbers where appropriate.

Process emissions are similarly abated through the use of wet scrubbers and carbon filters to the point where they are insignificant. The exception to this is the emissions from the four fluid bed dryers where emissions are unabated. The only significant emission from the fluid bed dryers is cutting oil. ELVs and monitoring requirements are included in the permit to control these releases.

There are no direct discharges to controlled water from this installation. All surface water is discharged to sewer where it is treated at the Yorkshire Water Services Esholt STW. Process effluent is directed to the onsite effluent treatment plant where it is monitored and treated if required by the addition of chemicals prior to discharge to sewer.

The only significant waste stream produced at the installation is the off-specification polyacrylamide product which is disposed of to landfill.

There are no SSSI within 2km or European sites within 10km of the installation.

#### The changes introduced by this variation

This variation is in consequence of an application made by the operator to reflect the following changes:

- The introduction of a bio-acrylamide manufacturing plant which falls into regulation as a new listed activity under Section 4.1 Part A(1)(a)(iv).
- Expansion to the dry polyacrylamide production line No.4 comprising replacement of the reaction belt and dryer No.2 with higher capacity units.
- Addition of a new 14MW boiler and associated emission point A12 to support the expansion of line No.4.

- Relocation of emission points A4 and A10 to accommodate the expansion of line 4 and associated new emission point.
- Update to the registered office address.

In addition, as part of the permitting process, we have reviewed the permit and updated it into the modern format. In particular, the following changes have been made as an Environment Agency led variation:

- The Improvement Programme as per permit variation notice V002 has been updated to reflect completion of these requirements.
- Table S1.5 and associated conditions have been removed to reflect satisfaction of the previous pre-operational condition.
- Improvement Programme requirements IC10 and IC11 have been added to ensure actual monitoring data supports emissions data used in previous risk assessments.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application received EPR/TP3737SB/A001	Duly made 15/03/06	
Permit determined	19/12/06	Permit issued to Kemira Chemicals (UK) Limited.
Application for a variation EPR/TP3737SB/V002 [PAS Billing Ref: WP3737UP]	12/11/07	Permit issued.
Application EPR/TP3737SB/V003 (variation and consolidation)	Duly made 21/12/16	Application to vary and update the permit to modern conditions.
Variation determined EPR/TP3737SB/V003 [PAS Billing Ref: FP3135DM]	07/04/17	Varied and consolidated permit issued in modern condition format.

End of introductory note

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

### Permit number

**EPR/TP3737SB**

### Issued to

**Kemira Chemicals (UK) Limited** ("the operator")

whose registered office is

**Bowling Park Drive**

**West Bowling**

**Bradford**

**West Yorkshire**

**BD4 7TT**

company registration number 00907866

to operate a regulated facility at

**Bowling Park Drive Chemicals**

**Bowling Park Drive**

**West Bowling**

**Bradford**

**West Yorkshire**

**BD4 7TT**

to the extent set out in the schedules.

The notice shall take effect from 07/04/2017

Name	Date
SIMON HEWITT	07/04/2017

Authorised on behalf of the Environment Agency

## **Schedule 1**

Only the conditions listed below have been varied by the consolidated permit EPR/TP3737SB/V003.

The following conditions were varied as a result of an Environment Agency initiated variation:

- Table S1.3, as referenced in condition 2.4.1, has been updated to reflect the completion of the improvement programme as per the previous permit.
- IC10 in Table S1.3, as referenced in condition 2.4.1, has been added to reflect the requirement for MCERTS certified monitoring of ammonia emissions from A4, A5, A6 and A8, a revised risk assessment and potential future ELVs and monitoring regime as set out in Compliance Assessment Report (CAR) TP3737SB/0276874.
- Table S1.5 and associated conditions have been removed to reflect satisfaction of the previous pre-operational condition.

The following conditions were varied as a result of the application made by the operator:

- Table S1.1, as referenced in condition 2.1.1, has been amended to reflect the addition of a new listed activity (Section 4.1 Part (A)1(a)(iv)) and the addition of the new boiler.
- Table S1.2, as referenced in conditions 2.3.1 and 2.3.2, has been amended to reflect the new operating techniques.
- IC11 in Table S1.3, as referenced in condition 2.4.1, has been added to reflect the requirement for the operator to undertake monitoring of the emissions from the A9, A10 and A12 to validate the emission concentrations used in the modelling report submitted in support of this application.
- Table S3.1, as referenced in conditions 3.1.1, 3.5.1 and 3.5.4, has been amended to reflect the addition of the emission point (A12) to serve the new boiler.
- Table S4.2, as referenced in condition 4.2.2, has been amended to reflect the requirement to report on annual bio-acrylamide production.
- The site plan in Schedule 7, as referenced in condition 2.2.1, has been updated to reflect the emission point locations.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2010

### Permit number

**EPR/TP3737SB**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/TP3737SB/V003 authorising,

**Kemira Chemicals (UK) Limited** (“the operator”),

whose registered office is

**Bowling Park Drive  
West Bowling  
Bradford  
West Yorkshire  
BD4 7TT**

company registration number 00907866

to operate an installation at

**Bowling Park Drive Chemicals  
Bowling Park Drive  
West Bowling  
Bradford  
West Yorkshire  
BD4 7TT**

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

Name	Date
SIMON HEWITT	07/04/2017

Authorised on behalf of the Environment Agency

# Conditions

## 1 Management

### 1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
  - (b) using sufficient competent persons and resources.
- 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 Energy efficiency

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

### 1.3 Efficient use of raw materials

- 1.3.1 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 four 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 further appropriate measures identified by a review.

### 1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
  - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
  - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

## **2 Operations**

### **2.1 Permitted activities**

2.1.1 The operator is only 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 green on the site plan at schedule 7 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 Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.4 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

- (a) the nature of the process producing the waste;
- (b) the composition of the waste;
- (c) the handling requirements of the waste;
- (d) the hazardous property associated with the waste, if applicable; and
- (e) the waste code of the waste.

2.3.5 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

### **2.4 Improvement programme**

2.4.1 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 Environment Agency.

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

## **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 3 tables S3.1 and S3.2.



- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

## **3.2 Emissions of substances not controlled by emission limits**

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
  - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, 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.

## **3.3 Odour**

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
  - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

## **3.4 Noise and vibration**

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
  - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

## **3.5 Monitoring**

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 and S3.2.
- 3.5.2 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.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 and S3.2 unless otherwise agreed in writing by the Environment Agency.

## **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 Environment 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) off-site environmental effects; and
    - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

### **4.2 Reporting**

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment 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 the permit including an interpretive review of that data;
  - (b) the annual production/treatment data set out in schedule 4 table S4.2; and
  - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment 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 4 table S4.1;
  - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and
  - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six 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.

### 4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
    - (i) inform the Environment Agency,
    - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
    - (iii) take the measures necessary to prevent further possible incidents or accidents;
  - (b) of a breach of any permit condition the operator must immediately—
    - (i) inform the Environment Agency, and
    - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
  - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
  - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
  - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (a) the death of any of the named operators (where the operator consists of more than one named individual);

- (b) any change in the operator's name(s) or address(es); and
  - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.4 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
  - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.5 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.6 Where the operator has entered into a climate change agreement with the Government, the Environment 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.

## **4.4 Interpretation**

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

# Schedule 1 – Operations

<b>Table S1.1 activities</b>		
<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
Section 4.1 Part A(1)(a)(viii) <i>Producing organic chemicals comprising of plastic materials (including polymers).</i>	Lines 4, 5, 6 and 7: Manufacture of polymers based on acrylamide, its derivatives and other vinyl monomers.	From receipt of raw material to dispatch of products and disposal of waste arisings.
Section 4.1 Part A(1)(a)(iv) <i>Producing organic chemicals comprising of organic compounds containing nitrogen.</i>	Three reaction vessels each undertaking the production of Bio-acrylamide for the use in the manufacture of dry polyacrylamide flocculants.	From receipt of raw material to use of intermediate product and disposal of waste arisings.
<b>Directly Associated Activity</b>		
Steam Supply	Three dual-fuel boilers, each with a thermal input capacity of 14MWth (total aggregated thermal input of 42MWth) running on a 2 x duty, 1 x stand-by (low fire mode) basis.	From receipt of fuel to emission to atmosphere. Includes oil receipt and storage, and demineralised water plant.
Effluent treatment	An effluent treatment plant	From receipt of effluent to the dispatch of treated effluent.
Site utilities	Includes cooling towers, nitrogen generation, compressed air plant and process chiller plant.	From receipt of raw material to the use of utilities and dispatch of wastes.
Air emissions abatement	Includes water scrubbers and carbon filters.	From generation of process fume to emission to atmosphere. Includes disposal of waste arising.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application TP3737SB (EPR/TP3737SB/A001)	The response to Section 2.1 and 2.2 of the application and associated document CYBAT in the application.	15/03/06
Variation application WP3737UP (EPR/TP3737SB/V002)	Section C2 of document KEMVAR01 in the variation application.	26/07/07
Variation application EPR/TP3737SB/V003	The response to Table 3 – Technical Standards - in Application Form EPC3. The following sections of the Kemira Bradford Site EPR Variation Document EPR/TP3737SB/V003: Part D – General Process Description. Part E – Section 1 – Managing your activities. Part F – Section 2 – Operations. Part G – Section 3 – Emissions and Monitoring.	Duly made 21/12/16

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	<p>A written plan shall be submitted to the Environment Agency for approval detailing the provision of continuous monitoring or equivalent technical measures on all emission points where abatement is operated, including A1, A2, A3, A7 and A8, to comply with the requirements of section 2.10.1 of Technical Guidance Note S4.01. Any continuous monitoring proposed shall be MCERTS, unless otherwise agreed in writing by the Environment Agency, and any technical measures shall be shown to be similarly fit for purpose. Where appropriate the plan shall contain dates for the implementation of the individual measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Completed
IC2	<p>A written plan shall be submitted to the Environment Agency for approval detailing the results of a review of the hazard posed by firewater and improvements identified to mitigate the hazard. Where appropriate the plan shall contain dates for the implementation of individual improvement measures. The results of the review and improvements shall be included on the operators accident management plan for the installation. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Completed
IC3	<p>A written plan shall be submitted to the Environment Agency for approval detailing the results of a review of the possibilities for replacing cutting oil and zinc sulphate with raw materials of a lower environmental impact. Where appropriate the plan shall contain dates for the replacement of these raw materials. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Completed
IC4	<p>A written plan shall be submitted to the Environment Agency for approval detailing the site closure plan to comply with the requirements of Section 2.11 of TGN S4.02. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Completed
IC5	<p>The operator shall install bunding around monomer tanks L6 Make up and L6 Holding. The bunding shall be compliant with the requirements of Section 2.2.5 of Sector Guidance Note S4.02.</p> <p>The operator shall repair cracking in the tank farm access road hardstanding at the Southern speed hump. The repairs shall ensure that the hardstanding is compliant with the requirements of Section 2.2.5 of Sector Guidance Note S4.02.</p>	Completed

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC6	<p>A written plan shall be submitted to the Environment Agency for approval detailing how the integrity of the drainage system shall be maintained. The plan shall contain the following:</p> <ul style="list-style-type: none"> <li>- The results of a CCTV inspection of drainage ay the installation.</li> <li>- Dates for the implementation of individual improvement measures arising from the inspection.</li> <li>- A procedure for periodic inspection and maintenance of the drainage system.</li> </ul> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Completed
IC7	<p>A written plan shall be submitted to the Environment Agency for approval detailing how the environmental impact of emissions of hydrocarbon to air from emission points A4, A5, A6 and A8 shall be limited. The plan shall contain the following:</p> <ul style="list-style-type: none"> <li>- A revised impact assessment, including an evaluation of the proportion of hydrocarbon vapour that may condense after emission under worst case conditions (a windless winter day).</li> <li>- A review of techniques available for reducing the concentration of hydrocarbon emissions.</li> <li>- A cost benefit analysis (using the methodology given in Guidance Note H1 or equivalent) comparing possible techniques against each other, and against the current technique.</li> <li>- Dates for the implementation of individual improvement measures arising from the inspection.</li> </ul> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Completed
IC8	<p>A written report shall be submitted to the Environment Agency for approval detailing an evaluation of techniques for monitoring emissions of cutting oil from emission points A4, A5, A6 and A8. Techniques shall be MCERTS accredited.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Completed
IC9	<p>Upon completion of commissioning of gas boilers, monitoring of emissions from points A9 and A10 shall be carried out. The monitoring shall include NOx, SOx and CO. The proposed monitoring shall be to MCERTS, unless otherwise agreed in writing by the Environment Agency. A written report shall be submitted to the Environment Agency for approval detailing an evaluation of the results against the emissions modelling provided in variation WP3737UP.</p>	Completed

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC10	<p>The operator shall carry out quarterly MCERTS certified ammonia emissions monitoring on emission points A4, A5, A6 and A8 over a period of 12 months. The operator shall use these results to carry out a revised impact assessment in accordance with our guidance, and produce a report either proposing emission limit values and an associated monitoring regime, or appropriate justification if ELVs and monitoring is not considered to be required. The operator shall submit this report for approval in writing by the Environment Agency.</p> <p>The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the report.</p> <p>The operator shall notify the Environment Agency as soon as reasonably practicable of any detected ammonia emission monitoring results greater than 70 mg/m<sup>3</sup>.</p>	30 March 2018
IC11	<p>The operator shall undertake quarterly emissions monitoring of SO<sub>2</sub>, NO<sub>2</sub> and CO from emission points A9, A10 and A12 for a period of 12 months. Emissions monitoring data shall be used to compare the actual emissions with those assumed in the modelling report submitted with the application. A report detailing the results shall be submitted to the Environment Agency for approval in writing. In the event that the assessment shows that an EQS/EAL can be exceeded, the report shall include proposals for further investigative work.</p> <p>The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the report.</p>	Within 18 months of Boiler 3 becoming operational.



## Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Sodium hydroxide	Less than 0.2 mg/kg mercury. Less than 0.1 mg/kg cadmium.

## Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on site plan in Schedule 7]	Sodium acrylate preparation area abated by carbon filter	No parameters set	--	--	--	Permanent sampling access not required
A2 [Point A2 on site plan in schedule 7]	Line 6 abated by water scrubber	No parameters set	--	--	--	Permanent sampling access not required
A3 [Point A3 on site plan in schedule 7]	Cationic monomer bulk storage abated by carbon filter and water scrubber	No parameters set	--	--	--	Permanent sampling access not required
A4 [Point A4 on site plan in schedule 7]	Line 4 fluid bed dryer	Total cutting oil	500 mg/m <sup>3</sup>	Continuous, expressed as an hourly average	To be calculated monthly	Mass balance or as agreed in writing with the Environment Agency
A5 [Point A5 on site plan in schedule 7]	Line 5 fluid bed dryer	Total cutting oil	500 mg/m <sup>3</sup>	Continuous, expressed as an hourly average	To be calculated monthly	Mass balance or as agreed in writing with the Environment Agency
A6 [Point A6 on site plan in schedule 7]	Line 6 fluid bed dryer	Total cutting oil	660 mg/m <sup>3</sup>	Continuous, expressed as an hourly average	To be calculated monthly	Mass balance or as agreed in writing with the Environment Agency
A7 [Point A7 on site plan in schedule 7]	Line 4 and 5 process areas abated by carbon filter	No parameters set	--	--	--	Permanent sampling access not required

<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A8 [Point A8 on site plan in schedule 7]	Line 7 process vent abated by carbon filter and fluid bed dryer	Total cutting oil	300 mg/m <sup>3</sup>	Continuous, expressed as an hourly average	To be calculated monthly	Mass balance or as agreed in writing with the Environment Agency
A9 [Point A9 on site plan in schedule 7]	Boiler 1	No parameters set	--	--	--	Permanent sampling access not required
A10 [Point A10 on site plan in schedule 7]	Boiler 2	No parameters set	--	--	--	Permanent sampling access not required
A11 [Point A11 on site plan in schedule 7]	Temporary oil fired generator	No parameters set	--	--	--	Permanent sampling access not required
A12 [Point A12 on site plan in schedule 7]	Boiler 3	No parameters set	--	--	--	Permanent sampling access not required
Pressure relief valves	Process equipment	No parameters set	--	--	--	Permanent sampling access not required
Vents from tanks	Storage tanks	No parameters set	--	--	--	Permanent sampling access not required

<b>Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. Unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
S1 on site plan in schedule 7 emission to Yorkshire Water Esholt Sewage Treatment Works	Scrubber liquor, boiler and cooling water blowdown, washings and bund water treated in the site effluent treatment plant	No parameters set	--	--	--	Permanent sampling access not required

**Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site emission limits and monitoring requirements**

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. Unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
S2 on site plan in schedule 7 emission to Yorkshire Water Esholt Sewage Treatment Works	Surface water	No parameters set	--	--	--	Permanent sampling access not required
S3 on site plan in schedule 7 emission to Yorkshire Water Esholt Sewage Treatment Works	Surface water	No parameters set	--	--	--	Permanent sampling access not required
S4 on site plan in schedule 7 emission to Yorkshire Water Esholt Sewage Treatment Works	Surface water	No parameters set	--	--	--	Permanent sampling access not required

## Schedule 4 – Reporting

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

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A4, A5, A6 and A8	Every 3 months	1 January

Parameter	Units
Polyacrylamide powders	Tonnes
Bio-acrylamide production	Tonnes

Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes
Energy usage	Annually	MWh
Total acrylamide (expressed as 100% acrylamide) solution raw material used	Annually	Tonnes/tonne of product
Hazardous waste produced	Annually	Tonnes/tonne of product
Non-hazardous waste produced	Annually	Tonnes/tonne of product
Total mass release of cutting oil to air	Annually	Tonnes/tonne of product

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Environment Agency	19/12/06
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	19/12/06
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	19/12/06
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	19/12/06

# Schedule 5 – 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 EP Regulations.

## Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

<b>(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution</b>	
<b>To be notified within 24 hours of detection</b>	
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>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Measures taken, or intended to be taken, to stop the emission	

<b>Time periods for notification following detection of a breach of a limit</b>	
<b>Parameter</b>	<b>Notification period</b>

<b>(c) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
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 facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“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 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment 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.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission 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.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

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:

- 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
- 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.

“year” means calendar year ending 31 December.



# Schedule 7 – Site plan



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END OF PERMIT