



# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2016**

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Eastham Refinery Limited

Eastham Refinery  
North Road  
Ellesmere Port  
Wirral  
CH65 1AJ

Variation number

EPR/BS5215IZ/V005

Permit number

EPR/BS5215IZ

# Eastham Refinery

## Permit number EPR/BS5215IZ

### Introductory note

This introductory note does not form a part of the permit

Under the Environmental Permitting (England & Wales) Regulations 2016 (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. All the conditions of the permit have been varied and are subject to the right of appeal.

Article 21(3) of the Industrial Emissions Directive (IED) requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions. We have reviewed the permit for this installation against the revised BAT Conclusions for the refining of mineral oil and gas industry sector published on 9<sup>th</sup> October 2014.

The main features of the permit are as follows.

The Schedule 1 listed activities are:

Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
S1.2 A1(d) Gasification, Liquefaction and Refining Activities: Refining mineral oil	Production of bitumen by a two stage distillation process that uses crude oil and refinery residues as feedstock	From receipt of crude oil and other raw materials to release of refined oil from the Installation

The Installation is located in an industrial area near the village of Eastham, with the centre of the Installation at National Grid Reference SJ 373 810 and covers an area of 17 hectares. To the north of the Installation are the River Mersey and the Manchester Ship Canal. To the south the land rises to a hill and to the north west of the site are Eastham Village and Eastham Woods Country Park. It is a top Tier COMAH site.

The Installation produces bitumen by a two stage distillation process, using crude oil and refinery residues as a feed stock. Crude oil is received by pipeline from the nearby Tranmere Terminal and the residues by pipeline from Queen Elizabeth II dock. The raw material and products are stored within a tank farm at the Installation. In 2015 the operator processed 978,472 tonnes of feed stock oil.

The crude oil is treated by a combination of an atmospheric distillation column and a vacuum column to separate it to various final components. Heating of the raw and process materials is provided by combustion plant.

The principle releases are oxides of nitrogen, sulphur dioxide and particulates from the Atmospheric distillation column (point A1), pH from the water softening plant (Point W1) and releases to sewer (point S1) in the permit.

Eastham Refinery Ltd has a well-established ISO 140001 management system. Oxides of nitrogen and sulphur are reduced by using natural gas as the main source of fuel and using low NOx burners with continuous monitoring of oxygen. Gases from the bitumen blowing unit are wet scrubbed prior to incineration.

This variation makes the below changes following the review under Article 21(3) of the Industrial Emissions Directive (IED), consideration of the Water Framework Directive and the consolidation of the Environmental Permitting Regulations that came into force on the 4 January 2017 :

- Listed activities have been changed from S1.2 A1(g) to S1.2 A1(d) following the consolidation changes to the Environmental Permitting Regulations in 2016
- An improvement condition was set requiring the Operator to demonstrate that the treatment of effluent at the sewage treatment works is as effective as treatment on an onsite effluent treatment plant.
- An improvement condition was set requiring the Operator to demonstrate that the treatment of effluent at the sewage treatment works will not cause the receiving water body to deteriorate from one Water Framework status class to another, cause a significant localised impact or undermine any action being taken to get a water body to good status
- An improvement condition was set requiring the Operator to review the segregation of water streams

The status log of the 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 BS5215IZ	Duly made 15/08/2006	
Permit determined	28/06/2007	
Variation notice XP3639XC (V002) issued	14/12/2007	
Variation application EPR/BS5215IZ/V003	Duly Made 24/10/2013	
Further information received	29/10/2013	Information on emissions of sulphur dioxide
Variation determined EPR/BS5215IZ/V003	03/12/2013	Varied and consolidated permit issued in modern condition format
Variation application EPR/BS5215IZ/V004	Duly made 19/06/2015	Changing fuel type of three combustion units.
Variation determined EPR/BS5215IZ/V004 (Billing reference KP3331AS)	30/07/2015	
Response to Regulation 60 Notice (dated 10/11/15)	Response Received 14/01/2016	Operator returned a partially completed spreadsheet
Further Response to Regulation 60 Notice	Response Received 10/01/2017	Operator returned a revised spreadsheet
Request for further information by e-mail dated 18/1/17	Response Received 06/02/2017	The operator responded in an e-mail
Response to Regulation 60 Notice (dated 23/1/17)	Response Received 03/02/2017	Letter responding to questions in the Notice
Plan of emission points (Drawing No. PP 490 Rev 1 05/06/17)	Received 09/06/2017	Plot plan - Site Boundaries & Emission Point Locations

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Variation determined EPR/BS5215IZ/V005 (Billing reference BP3731RA)	26/06/2017	Permit reviewed, conditions revised to modern template and REF BATC implemented

End of introductory note

# Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies and consolidates

Permit number

**EPR/BS5215IZ**

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

Eastham Refinery Limited (“the operator”),

whose registered office is

**8 York Road**

**London**

**SE1 7NA**

company registration number **02205902**

to operate an installation at

**Eastham Refinery**

**North Road**

**Ellesmere Port**

**Wirral**

**CH65 1AJ**

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

Name	Date
<b>Principal Permitting Team Leader</b>	<b>26/06/2017</b>

Authorised on behalf of the Environment Agency

## **Schedule 1 – changes in the permit**

All conditions have been varied by the consolidated permit as a result of a review of the permit made by the Environment Agency.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number  
**EPR/BS5215IZ**

This is the consolidated permit referred to in the variation and consolidation notice for permit EPR/BS5215IZ/V005 authorising,

**Eastham Refinery Limited** (“the operator”),

whose registered office is

**8 York Road**

**London**

**SE1 7NA**

company registration number **02205902**

to operate an installation at

**Eastham Refinery**

**North Road**

**Ellesmere Port**

**Wirral**

**CH65 1AJ**

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

Name	Date
<b>Principal Permitting Team Leader</b>	<b>26/06/2017</b>

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, S3.2 and S3.3.
- 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, S3.2 and S3.3;

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, S3.2 and S3.3 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 Where the Environment 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 Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 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.

4.3.5 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.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

## **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>
S1.2 A1(d) Gasification, Liquefaction and Refining Activities: Refining mineral oil	Production of bitumen by a two stage distillation process that uses crude oil and refinery residues as feedstock	From receipt of crude oil and other raw materials to release of refined oil from the Installation Loading & unloading activities of volatile liquid hydrocarbon compounds are limited to an annual throughput of <5000m <sup>3</sup> /year (and for sea going vessels <1 million m <sup>3</sup> /year)
<b>Directly Associated Activity</b>		
Process utilities	Inert gas and compressed air generation	From generation of the utility to use within the Installation
Operation of combustion processes	Three natural gas fired atmospheric distillation column furnaces with a total thermal input of 30MW; Two natural gas fired boilers, each with a thermal input of 7.24MW; One fuel oil fired boiler, with a thermal input of 5.9MW; Two gas fired heaters each with a thermal input of 2.52MW; One gas fired heater with a thermal input of 1.32MW; One fuel oil fired heater with a thermal input of 2.76MW and Fuel oil fired bitumen blower incinerator with a thermal input of 4MW	From combustion of fuel to release of exhaust gases to atmosphere

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application BS5215IZ	The response to section 2.1 and 2.2 in the Application.	15/08/06
Application EPR/BS5215IZ/V003	Part C2 and C3 of the Application and supporting documentation.	20/09/13
Application EPR/BS5215IZ/V003 Further information	Email outlining details of emissions of sulphur dioxide.	29/10/13
Partial Response to Regulation 60 Notice (dated 10/11/15)	Spreadsheet	14/01/16
Full Regulation 60 Notice response	Spreadsheet	Received 10/01/17
Response to e-mail dated 18/1/17	Whole e-mail	Received 06/02/17

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Full Regulation 60(1) response (dated 23/1/17)	Whole letter	Received 03/02/17
Plan of emission points (Drawing No. PP 490 Rev 1 05/06/17)	Plot plan - Site Boundaries & Emission Point Locations	Received 09/06/2017

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	<p>The operator shall submit a written assessment to the Agency for approval of the bunding and containment measures at the installation, in line with the BAT requirements Sector Guidance Note S1.02, section 2.2.5. The assessment shall include, but not be limited to</p> <ul style="list-style-type: none"> <li>• Bund capacity</li> <li>• Bunding integrity to prevent releases to underlying land from the use of compacted earth</li> <li>• Hardstanding arrangements to prevent releases to underlying land from releases from pipework</li> </ul> <p>Where improvements are identified as being required the operator shall submit timelines for their implementation. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p>	Complete
IC2	<p>The operator shall submit a revised assessment of the potential impacts to water for releases from W1 (using the methodology given in Guidance Note H1 or equivalent) to the Agency for approval. The assessment shall include but not be limited to both the potential environmental impact and the comparisons with benchmarks for:</p> <ul style="list-style-type: none"> <li>• Ammoniacal nitrogen;</li> <li>• Phenols; and</li> <li>• Sulphide.</li> </ul> <p>The data used within the assessment shall be based on representative monitored data. Where the assessment identifies improvements which should be made to prevent impact upon the environment, or achieve benchmarks the operator shall supply timelines for their implementation. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report. The report shall be implemented by the operator from the date of approval by the Agency.</p>	Complete
IC3	<p>The Operator shall submit a diffuse VOC monitoring plan to the Environment Agency for written approval. This shall include but not be limited to:</p> <ul style="list-style-type: none"> <li>• The nature of the material handled;</li> <li>• The sources of emissions;</li> <li>• Justification of the monitoring techniques selected</li> <li>• How the monitoring data will be recorded and reviewed</li> </ul> <p>The plan shall take into account the appropriate techniques for VOC monitoring specified in BAT Conclusion 6 for the Refining of Mineral Oil and Gas. The Operator shall implement the approved plan and produce and submit an annual report on the results of the monitoring undertaken under the plan.</p>	30/11/2017



<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC4	<p>The operator shall submit a written monitoring plan to the Environment Agency for approval that includes proposals to undertake representative monitoring of the parameters of</p> <ul style="list-style-type: none"> <li>a) hazardous pollutants (as set out in the Environment Agency's Surface Water Pollution Risk Assessment guidance; and</li> <li>b) the "BAT Conclusions for the Refining of Mineral Oil and Gas" BAT Conclusion 12 Table 3) in the discharge to sewer from point S1. The plan shall include the parameters to be monitored, frequencies of monitoring and methods to be used;</li> </ul> <p>The operator shall carry out the monitoring in accordance with the Environment Agency's written approval.</p>	28/02/2018
IC5	<p>The operator shall submit a written report to the Environment Agency for approval that includes:</p> <ul style="list-style-type: none"> <li>a) results of an assessment of the impact of the emissions to surface water from the site for the parameters listed in "BAT Conclusions for the Refining of Mineral Oil and Gas" BAT Conclusion 12 Table 3 following the treatment of the effluent at the United Utilities treatment works in accordance with the Environment Agency's Surface Water Pollution Risk Assessment Guidance available on our website</li> <li>b) demonstration that the discharging of waste water to sewer for treatment is equivalent to the technique given in BAT 12 and that this treatment achieves the BAT-associated emission levels set out in BAT Conclusion Table 3.</li> </ul>	31/03/2018
IC6	<p>The operator shall submit a written report to the Environment Agency for approval that includes:</p> <p>the results of an assessment of the impact of the emissions to surface water from the site following the treatment of the effluent at the United Utilities treatment works in accordance with the Environment Agency's Surface Water Pollution Risk Assessment Guidance available on our website. The report shall:</p> <ul style="list-style-type: none"> <li>(a) be based on the parameters monitored in IC4(a) above; and</li> <li>(b) Include proposals for appropriate measures to mitigate the impact of any emissions where the assessment determines they are liable to cause pollution, including timescales for implementation of individual measures.</li> </ul>	30/09/2018
IC7	<p>The Operator shall carry out an assessment of the options available for segregation of water streams to reduce the volume of process water produced, as detailed in BAT Conclusion 11 for the Refining of Mineral Oil and Gas.</p> <p>A written report summarising the findings shall be submitted to the Agency for approval, along with a timetable for implementing improvements. The Operator shall implement the improvements to the approved timetable.</p>	31/03/2018

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

<b>Table S2.1 Raw materials and fuels</b>	
<b>Raw materials and fuel description</b>	<b>Specification</b>
Fuel oil (excluding commercial fuel oil)	<1% w/w sulphur content

## Schedule 3 – Emissions and monitoring

Table S3.1 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 [Point A1 on Drawing No. PP 490]	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	Atmospheric column furnace	150 mg/Nm <sup>3</sup>	As monitoring method	Annually	BS EN 14792 <sup>(1)</sup>
A1 [Point A1 on Drawing No. PP 490]	Particulate matter	Atmospheric column furnace	25 mg/Nm <sup>3</sup>	As monitoring method	Annually	BS EN 13284-1 <sup>(1)</sup>
A1 [Point A1 on Drawing No. PP 490]	Carbon monoxide	Atmospheric column furnace	100 mg/Nm <sup>3</sup>	As monitoring method	Annually	BS EN 15058 <sup>(1)</sup>
A2 [Point A2 on Drawing No. PP 490]	No parameters set	Boiler A	No limit set	--	--	Permanent sampling access not required
A3 [Point A3 on Drawing No. PP 490]	No parameters set	Boiler B	No limit set	--	--	Permanent sampling access not required
A4 [Point A4 on Drawing No. PP 490]	No parameters set	Boiler C	No limit set	--	--	Permanent sampling access not required
A5 [Point A5 on Drawing No. PP 490]	No parameters set	Off-site heater 1	No limit set	--	--	Permanent sampling access not required
A6 [Point A6 on Drawing No. PP 490]	No parameters set	Off-site heater 2	No limit set	--	--	Permanent sampling access not required
A7 [Point A7 on Drawing No. PP 490]	No parameters set	Beverley oil heater 1	No limit set	--	--	Permanent sampling access not required
A8 [Point A8 on Drawing No. PP 490]	No parameters set	Beverley oil heater 2	No limit set	--	--	Permanent sampling access not required
A9 [Point A9 on Drawing No. PP 490]	No parameters set	Bitumen blower incinerator	No limit 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>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A10 [Point A10 on Drawing No. PP 490]	No parameters set	Biotreater scrubber	No limit set	--	--	Permanent sampling access not required
<p><sup>(1)</sup>Note: these monitoring standards shall be in accordance with the latest Environment Agency Technical Guidance Note (Monitoring) M2 standards and as may subsequently be agreed in writing with the Environment Agency following revisions to the M2 guidance.</p>						

<b>Table S3.2 Point source emissions to water (other than sewer) – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (incl. Unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
W1 [Point W1 on Drawing No. PP 490]	pH	Water softening plant	6-9	Spot sample	3 monthly or as agreed in writing with the Environment Agency	BS ISO 10523 <sup>(1)</sup>
W2 [Point W2 on Drawing No. PP 490]	No parameters set	Surface water run-off	No limit set	--	--	Permanent sampling access not required
<p><sup>(1)</sup>Note: this monitoring standard shall be in accordance with the latest Environment Agency Technical Guidance Note (Monitoring) M18 standard and as may subsequently be agreed in writing with the Environment Agency following revisions to the M18 guidance.</p>						

<b>Table S3.3 Point source emissions to sewer – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (incl. Unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
S1 [Point S1 on Drawing No. PP 490]	No parameters set	Process waste water	No limit 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.

<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Emissions to air – Parameters as required by condition 3.5.1.	A1	Every 12 months or as agreed in writing with the Environment Agency	01/07/2007
Emissions to water – Parameters as required by condition 3.5.1	W1	Every 12 months	01/07/2007

<b>Parameter</b>	<b>Units</b>
Quantity of crude oil processed	Tonnes

<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Water usage per tonne of crude processed	Annually	m <sup>3</sup> /tonne
Recovered water usage	Annually	tonnes
Electrical energy usage per tonne of crude processed	Annually	MW/tonne
Fuel oil energy usage per tonne of crude processed	Annually	MW/tonne
Gas energy usage per tonne of crude processed	Annually	MW/tonne

<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Air	Form air 1 or other form as agreed in writing by the Environment Agency	03/12/2013
Water	Form water 1 or other form as agreed in writing by the Environment Agency	03/12/2013
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	03/12/2013
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	09/06/2017

<b>Table S4.4 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	03/12/2013

## 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	<b>EPR/BS5215IZ</b>
Name of operator	<b>Eastham Refinery Limited</b>
Location of Facility	<b>Eastham Refinery North Road Ellesmere Port Wirral CH65 1AJ</b>
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	

<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>	
Date and time of monitoring	
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.

“annually” means once a 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 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.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 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.

“emissions to land” includes emissions to groundwater

“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.

“Hazardous property” has the meaning in Annex III of the Waste Framework Directive.

“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.

“Nm<sup>3</sup>” means normal cubic meter (volume at 101.325 kPa, 273 K)

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“volatile liquid hydrocarbon compounds” means petroleum derivatives with a Reid vapour pressure (RVP) of more than 4 kPa, such as naphtha and aromatics (Best Available Techniques (BAT) Reference Document for the Refining of Mineral Oil & Gas, 2015, EU27140EN)

“WFD” means the Water Framework Directive (200/60/EC).

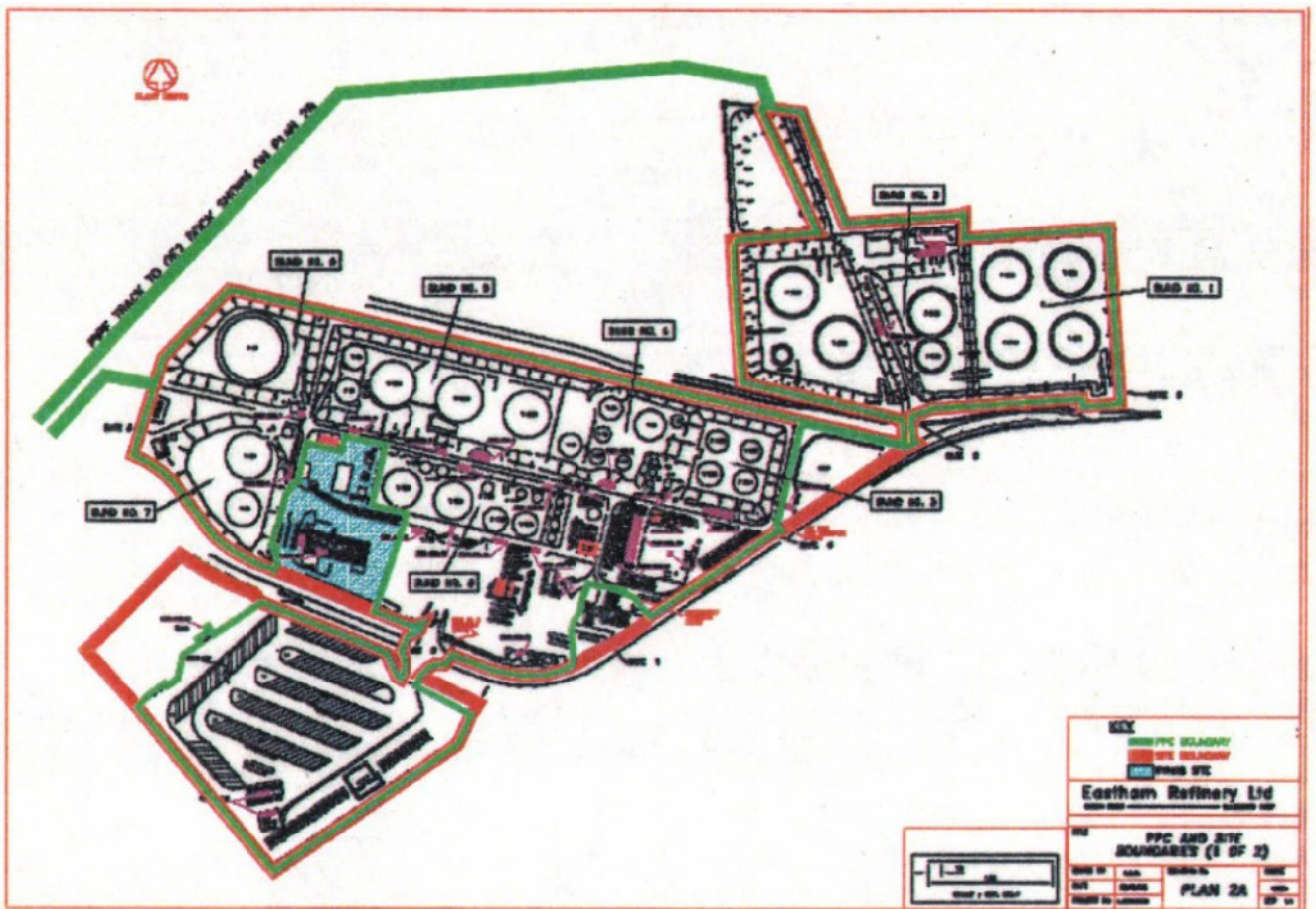
“year” means calendar year ending 31 December.

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:

- 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.

# Schedule 7 – Site plan



END OF PERMIT