



Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Sabir UK Petrochemicals Limited

Wilton Olefins Installation
Wilton Site
PO Box 99
Redcar
Cleveland
TS10 4YA

Variation application number

EPR/BS3590IE/V009

Permit number

EPR/BS3590IE

Wilton Olefins Installation

Permit number EPR/BS3590IE

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 that all the conditions of the permit have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made and contains all conditions relevant to this permit.

Purpose of Variation EPR/BS3590IE/V009 - LCP

The requirements of the Industrial Emissions Directive (IED) 2010/75/EU are given force in England through the Environmental Permitting (England and Wales) Regulations 2010 (the EPR) (as amended).

This Permit, for the operation of large combustion plant (LCP), as defined by articles 28 and 29 of the Industrial Emissions Directive (IED), is varied by the Environment Agency to implement the special provisions for LCP given in the IED, by the 1 January 2016 (Article 82(3)). The IED makes special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V.

As well as implementing Chapter III of IED, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issued. Where possible, it also modernises conditions to reflect the conditions contained in our current generic permit template.

The Operator has chosen to operate this LCP under the Transitional National Plan (TNP) compliance route. This is a change from the previous operating regime which was NERPS.

The variation notice uses an updated LCP number in accordance with the most recent DEFRA LCP reference numbers. The LCP references have changed as follows:

- LCP 79 is changed to LCP 292;

The net thermal input of boiler LCP 292 is 73MW, it is a single unit venting into its own dedicated windshield

Purpose of original permit

The rest of the installation is unchanged and continues to be operated as follows:

The Wilton Olefins Installation is located on the Wilton Site, at Redcar, Teesside. The main production plant is Olefins, a large cracker, mostly using naphtha as a feedstock, but also having the flexibility to use propane and butane as well. The cracker produces a variety of aliphatic and aromatic hydrocarbons products which are the feedstocks for other plants on and off the Wilton Site. The site is currently operated by Sabic UK Petrochemicals Ltd and has been regulated under IPC and then EPR since 1993.

Average annual production is in the region of 1,250,000 tonnes of primary products (ethylene and propylene) with around another 1,000,000 tonnes of co-products (predominantly gasoline and mixed C4s) and materials recycled for use as fuel (methane). The process uses furnaces at elevated temperatures to breakdown the feedstocks into the products that are then separated and purified using distillation techniques.

Gasoline is further processed into a range of products on an associated Gasoline Treatment Unit. The mixed C4s are separated into a butadiene product and a raffinate product using a solvent extraction process on the butadiene 3 plant.

The products are then stored in and distributed from the other two parts of the installation - Central Control (CC) and Wilton Ethylene Control (WEC). Central Control is at the north end of the site and consists of above ground storage for liquid and gas products with a road tanker loading facility. Wilton Ethylene Control has

above ground storage for gases and liquids and below ground cavity storage for ethylene and mixed C4s. Products are distributed from Olefins WEC and CC by pipeline directly to customers or to ship loading facilities outside the installation.

The majority of releases to air are either products of combustion (primarily CO₂ & NO_x) or VOCs. NO_x is released continuously from up to 14 USC furnaces (B1701 A-P), 3 VMR furnaces (B1702A-C), 4 boilers (B1703 A-D) of which only B1703 C is operational and 3 superheaters (B1704 A-C) within the installation.

There are some point source releases of hydrocarbon feedstock's and products. The majority of potential emissions to air are routed to flare systems and rendered harmless. In addition there are intermittent fugitive releases (e.g. tank breathing etc). VOC emissions considered "significant" consist of benzene, released from area sources around the installation, together with 1, 3-butadiene, and ethylene released from a combination of area and point sources

Releases to water from the installation enter into the Wilton Site drains which are owned and operated by SUTL -SembCorp Utilities Teesside Ltd. These drains act as a private sewerage system. Internal ELVs have been set for the principal discharges to drains (W1, W2 and W3) and limits set for potential List 1 and List 2 substances. Effluent from the Wilton drainage system is discharged to the River Tees under Water Resources Act Consent Ref. No. QR.25/04/1528

Although the installation is within 10 km of a Natura 2000 site, no significant environmental impact from the installation is expected there.

The activities carried out at the installation have the potential to cause noise from flaring operations that may be audible beyond the installation boundary and cause annoyance. However this is restricted to intermittent operations not carried out on a daily basis. The activities carried out at the installation also have the potential to cause odour, but in normal operations such odour is not likely to cause annoyance. Waste arisings from the installation are relatively small for the size of operation.

Sabic Petrochemicals has an Environmental Management System which is accredited to RC 14001 (incorporating ISO 14001).

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

Status log of the permit		
Description	Date	Comments
Application received (EPR/BS3590IE/A001)	Duly made 20/03/03	
Permit determined EPR/BS3590IE	19/11/03	Permit issued to Huntsmans Petrochemicals (UK) Ltd
Variation issued DP3339SU (EPR/BS3590/V002)	31/01/07	LCPD
Variation issued TP3731MG (EPR/BS3590IE /V003)	01/02/07	Change operator name and registered address (Sabic UK Petrochemicals Limited)
Variation issued WP3638UX (EPR/BS3590IE /V004)	30/04/07	Inspection and repair of EHS critical drainage system
Variation issued HP3139XH (EPR/BS3590IE/V005)	17/12/07	NERP
Variation issued JP3635XN (EPR/BS3590IE/V006)	04/04/08	Bring back on-line mothballed boiler B1703A

Status log of the permit		
Description	Date	Comments
Application (under EPR 2010) for variation EPR/BS3590IE/V007	Duly made 04/10/11	Additional storage for p-xylene
Variation issued EPR/BS3590IE/V007	10/10/11	
Application for variation. EPR/BS3590IE/V008	Duly Made 14/09/15	This variation is to increase oxides of nitrogen ELV for Boiler B1703C.
Schedule 5 notice	Issued 28/10/15	Responses received 13/11/15 and 20/11/15
Variation determined EPR/BS3590IE/V008	18/12/15	
Regulation 60 Notice sent to the Operator	31/10/14	Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency Initiated review and variation to vary the permit under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V. The permit is also updated to modern conditions
Regulation 60 Notice response	31/03/15	Response received from the Operator.
Additional information received	21/12/15	Response to request for further information (RFI) dated 18/12/15
Variation determined EPR/BS3590IE/V009 (Billing ref: SP3032AX)	24/12/15	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.

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/BS3590IE

Issued to

Sabir UK Petrochemicals Limited (“the operator”)

whose registered office is

**Wilton Centre
Wilton
Redcar
Cleveland
TS10 4RF**

company registration number **3767075**

to operate a regulated facility at

**Wilton Olefins Installation
Wilton Site
PO Box 99
Redcar
Cleveland
TS10 4YA**

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

Name	Date
Anne Nightingale	24/12/2015

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/BS3590IE

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BS3590IE/V009 authorising,

Sabir UK Petrochemicals Limited (“the operator”),

whose registered office is

Wilton Centre

Wilton

Redcar

Cleveland

TS10 4RF

company registration number **3767075**

to operate an installation at

Wilton Olefins Installation

Wilton Site

PO Box 99

Redcar

Cleveland

TS10 4YA

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

Name	Date
Anne Nightingale	24/12/2015

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) take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;
- (c) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (d) 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;
- (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 installation, being the land shown shaded in red 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 For the activities referenced in schedule 1, table S1.1: LCP292, without prejudice to condition 2.3.1, the activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” revision 1 dated February 2015 or any later version unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 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.
- 2.3.4 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.5 The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.4.
- 2.3.6 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.
- 2.3.7 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 Emissions to the Wilton Drainage System sewer from the specified emission points in Table S3.3 shall only arise from the sources specified in that Table. There shall be no release from the permitted process into any public sewer.
- 3.1.4 The Operator shall notify the Agency in writing if any known introduction or material change in respect of operations on site, occurs that may increase or introduce in to the emissions to the sewer any “dangerous substance” included in List I and List II and in the list of Dangerous Substances (as updated by the Environment Agency from time to time, and notified to the Operator in writing), included in this Permit, or any other substance considered by the Operator as having or likely to have a significant effect on the receiving waters (Controlled water receiving effluent from the Wilton Site outfall).
- 3.1.5 The Operator shall ensure that all emissions from the permitted site, including those listed in Table S3.3 and S3.5 do not cause a water resources Act Discharge Consent compliance failure for the Wilton Site outfall to controlled waters – (consent Ref. No. QR.25/04/15258 or its successor) or be the cause of a non consented release to controlled waters above background concentration levels.
- 3.1.6 The Operator shall record the occasions when, and the reasons for, diversion of the Wilton Drainage System to the Buffer Tanks is made due to abnormal operation occurring on its installation.
- 3.1.7 Total annual emissions from the LCP emission points set out in schedule 3 tables S3.1, of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.
- 3.1.8 Visible smoke from A1, A2, A3 and A4 shall not exceed the equivalent of Ringelmann Shade 2 within 15 minutes of starting from cold or from a trip and otherwise shall not exceed the equivalent of Ringelmann Shade 1.
- 3.1.9 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 continuous), 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.

3.6 Monitoring for the purposes of the Industrial Emissions Directive Chapter III

- 3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.
- 3.6.2 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with 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.
- 4.2.5 For the following activities referenced in schedule 1, table S1.1: LCP292. Unless otherwise agreed in writing with the Environment Agency, within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form IED RTA1, listed in table S4.4, the information specified on the form relating to the site's mass emissions.

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), 4.3.1 (b)(i) where the information relates to the breach of a condition 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:
- (c) any change in the operator's name or address; and
 - (d) any steps taken with a view to the dissolution of the operator.
- 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 30 days notice before implementation of any part of the site closure plan.

4.3.7 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

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

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	Section 4.1 A(1)(a)(i) Producing Hydrocarbons	Production of aliphatic and aromatic hydrocarbon products principally from naphtha.	Receipt of raw materials to despatch of finished products and by products.
A2	Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	LCP292: 73MW thermal input gas fired Boiler (B1703C) for the production of steam	From receipt of gas to Boiler B1703C discharge of exhaust gases and the generation of steam.
A3	Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	Gas fired process heaters Furnaces B1701 A-P Furnaces B1702 A-C Superheaters B1704 A-C	From receipt of fuel gas to discharge of exhaust gases

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to questions 2.1 and 2.2 given in pages 1 to 74 of Section 2.1, pages 1 to 58 of Section 2.2 in the application	20/03/03
Addenda to Application	Letter outlining additional changes made to the Installation since the Application was submitted.	16/10/03
Application for Variation EPR/BS3590IE/V006	All	04/01/08
Application for variation EPR/BS3590IE/V007	The techniques described in the Variation Application referenced Non-Technical Summary, and the amendments described in sections 2.1 and 2.2	04/10/11
Variation Application EPR/BS3590IE/V008	The response to questions in Form C3 Section3 and the supporting information Non-Technical Summary and Air Quality Assessment Report 60K26310/000/641/K/001 10 September 2015	14/09/15
Schedule 5 Notice dated 28/10/15	Response to Questions 1 and 2	13/11/15 and 20/11/15

Table S1.2 Operating techniques		
Description	Parts	Date Received
Response to regulation 60(1) Notice – request for information dated 31/10/14	<p>Compliance route and operating techniques identified in response to questions 1 (LCP identifier), 2 (compliance route), 3 (TNP and LLD notification), 4 (LCP configuration), 5 (net thermal input), 6 (MSUL/MSDL), 9i (proposed ELV's), 11 (monitoring requirements).</p> <p>Request for following Minor Operational changes to be included in S1.2:</p> <p>Second Flare stack on RBS: 27/02/05</p> <p>Change of Depropaniser Antifoulant: 20/02/06</p> <p>Mercury Guard Bed: 20/02/06</p> <p>Additional purge stream to flare: 25/05/06</p> <p>Change of boiler feedwater additive: 26/05/06</p> <p>Change of cooling water corrosion inhibitor: 08/12/06</p> <p>Change of cooling water additive: 23/05/07</p> <p>Mercury Guard Bed: 31/08/07</p> <p>D1705 catalyst change: 27/09/07</p> <p>Change to caustic tower operation: 16/01/08</p> <p>Reduction of Benzene in caustic: 01/07/08</p> <p>Reduction of Benzene in caustic – restart of equipment: 03/06/10</p> <p>Purge stream from LDPE plant: 30/06/08</p> <p>Additional Methanol in Propane trail: 10/08/10</p> <p>Change of corrosion inhibitor: 17/08/10</p> <p>Addition of phosphate additive: 11/02/12</p> <p>Condensate processing trail (Ormen Lange condensate): 18/09/12</p> <p>Quarterly reporting requirement – Form B1: 12/02/13</p> <p>Addition on Phosphate additive: 28/03/13</p> <p>Change of duty of tanks F1961 and F1962B: 01/10/13</p> <p>Arcton22 replacement programme: 19/08/14</p> <p>Benzene content of pyrolysis gasoline feed: 15/08/14</p>	Received 31/03/15

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 1	The Operator shall review the operation of the existing flares and make proposals, complete with timescales, of techniques or methods they will use to ensure that there is adequate steam supply to the flares at all times	Complete
IC 2	The Operator shall investigate suitable methods/ techniques (such as alternative flare tip designs, methods of steam injection etc) in order to assess the practicality of further minimising the noise from the Olefins flares L1719 A/B, and shall provide a written report to the Agency detailing the conclusions of the review.	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 3	The operator shall review current use of flare systems on the installation in order to assess what changes can be made to the operation of the plant which will further minimise the number of unplanned flare events. The Operator shall provide a written report to the Agency detailing the conclusions of the review.	Complete
IC 4	The Operator shall investigate suitable methods/ techniques to improve the combustion efficiency on the fourteen UCS furnaces. The Operator shall provide a written report to the Agency detailing the conclusions of the review.	Complete
IC 5	The Operator shall report on the progress made to install closed loop sampling on gasoline systems in order to reduce fugitive VOC emissions. The Operator shall provide a written report to the Agency identifying the proposed completion date.	Complete
IC 6	The Operator will put in place a programme for reduction of fugitive emissions of Butadiene from valve glands by repackaging with low leakage gland materials. The Operator shall provide a written report to the Agency setting out the scope of the work involved, the principal areas of release to be progressively targeted, and the timescales expected for completion of each element of the programme.	Complete
IC 7	The Operator will put in place a programme for reduction in fugitive emissions of Butadiene from pump seals by replacement of single mechanical seals on pumps on process streams containing butadiene, by higher integrity, minimum leakage seals. The Operator shall provide a written report to the Agency setting out the scope of the work involved, the principal areas of release to be progressively targeted, and the timescales expected for completion of each element of the programme.	Complete
IC 8	The Operator shall investigate the potential reduction in fugitive emissions from Refrigerated Butadiene Storage (RBS) Fire Flaps by replacement of a higher integrity design. The investigation shall include undertaking an adequate risk assessment which considers risks to safety as well as to the environment. The Operator shall provide a written report to the Agency outlining the conclusions of the investigation, the potential reductions which may be made, and the timescales involved for their replacement.	Complete
IC 9	The Operator will put in place a programme for reduction of fugitive emissions of Benzene from valve glands by repackaging with low leakage gland materials. The Operator shall provide a written report to the Agency setting out the scope of the work involved, the principal areas of release to be progressively targeted, and the timescales expected for completion of each element of the programme.	Complete
IC 10	The Operator will put in place a programme for reduction in fugitive emissions of Benzene from pump seals by replacement of single mechanical seals on pumps on process streams containing benzene, by higher integrity, minimum leakage seals such as double mechanical seal or water seals. The Operator shall provide a written report to the Agency setting out the scope of the work involved, the principal areas of release to be progressively targeted, and the timescales expected for completion of each element of the programme.	Complete
IC 11	The Operator will put in place a programme for reduction in fugitive emissions of Benzene from storage tanks by means upgrading them to a higher standard. The Operator shall provide a written report to the Agency setting out the scope of the work involved, the principal areas of release to be progressively targeted, and the timescales expected for completion of each element of the programme.	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 12	The Operator will put in place a programme for reduction in fugitive emissions of Benzene from Oil water separators by methods or techniques such as additional covering etc The Operator shall provide a written report to the Agency setting out the scope of the work involved, the principal areas of release to be progressively targeted, and the timescales expected for completion of each element of the programme.	Complete
IC 13	The Operator shall investigate suitable methods or techniques, such a process heat integration schemes, across the installation with the aim of reducing the thermal load on the cooling tower and hence reduce its water vapour plume. The Operator shall provide a written report to the Agency identifying where possible reductions can be made, the potential reductions in thermal which can be achieved	Complete
IC 14	The Operators shall report, in writing, on the progress made in reviewing the potential energy saving schemes identified in Table 2.7.4.2 of the application.	Complete
IC 15	The Operator shall propose suitable methods/ techniques for the reduction in benzene emissions to water through for example improvements to spent caustic and management treatment. The Operator shall provide a written report to the Agency quantifying the potential reductions and indicating the expected time scale for completion.	Complete
IC 16	The Operator shall propose and agree with the Agency suitable alternative techniques or methods for incoming water monitoring by which they can demonstrate compliance with the objectives of Permit conditions 2.4.1.2 and 2.4.1.3	Complete
IC 17	The Operator shall undertake a detailed review of water usage and evaluate potential options for reducing water usage on the installation. The Operator shall provide a written report to the Agency quantifying the potential reductions and indicating the likely time scale for completion	Complete
IC 18	The Operator shall provide, in writing, the protocol used by the Operator to determine the 'total uncertainty' values associated with the sampling and measurement of NOx to be reported for each emission point, based on the STA "Guidance on Assessing Uncertainty in Stack Emissions Monitoring".	Complete
IC 19	The operator shall review the provision of MCERTS accreditation for the monitoring equipment, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1, and where suitable standards are available at the time of the review, propose a time table for achieving this standard for any elements that are not MCERTS certified. The review shall include a comparison of the performance standards of process oxygen analysers against certified CEMs.	Complete
IC 20	The operator shall review further techniques and methods for prevention, minimisation, including segregation and treatment of aqueous streams for complex effluents, prior to discharge from the installation. The operator will produce a written report having regard for section 2.2.2 in the Large Volume Sector Guidance Note IPPC S4.01 and Guidance for Speciality Organic Chemicals IPPC S4.02 and provide a timetable for any improvements identified.	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 21	The operator shall undertake a direct toxicity assessment of direct releases to controlled waters from release points W1, W2 and W3 or otherwise demonstrate to the Agency's satisfaction that the installation does not give rise to acute toxic effects in controlled waters. The results of this assessment shall be submitted in writing to the Environment Agency including where appropriate, a timetable for improvements to prevent any acute toxic effects in the receiving waters.	Complete
IC 22	The operator shall report on the progress made in the improvement areas identified in Table 2.6.8 (Primary Solid hazardous Wastes) and Table 2.6.9 (Primary Liquid Hazardous Waste) in the application, for increasing the quantity of waste materials being recycled or recovered.	Complete
IC 23	The operator shall report on the progress made in with the replacement of cooling water dispersant Nalco 23110 with a suitable substitute containing lower levels of cadmium.	Complete
IC 24	The Operator shall provide a written report to the Agency identifying the progress of the proposed programme to improve protection against spills by upgrading overfill protection and bunding (S6 P1&2)	Complete
IC 25	The Operator shall review the monitoring arrangements of the furnaces and superheater with a view to bringing one of the furnaces and one of the superheaters up to the requirements of monitoring standard BS EN 13284-1:2002 for the sampling plane, sampling ports, and working platform. (It is considered that the monitoring arrangements for these two upgraded stacks can then be used as a reference by which the releases from the remaining stacks can be adequately assessed.) The operator shall provide a report indicating which stacks can be changed at minimum cost, where there are unavoidable discrepancies from the standard, and a proposed time table for conversion.	Complete
IC 26	The Operator shall review the processes which give rise to release of Chloroform into the Wilton Drainage System and propose suitable techniques or methods by which the shall be able to meet the requirements of the Dangerous Substances Directive 76/464/EEC and comply with an EL of 24 µg/l for total discharges from the installation.	Complete
IC 27	Where neither continuous nor discontinuous monitoring is currently provided for or carried out, The Operator shall install sampling/monitoring ports and commence discontinuous monitoring at a frequency at least every 6-months for oxides of nitrogen on release points B1703A, B1703B, B1703C, and B1703D	Complete
IC28	With reference to the mass NO _x rates modelled in Air Quality Assessment Olefins 6 Plant, Wilton Ref. 60K26310/000/641/K/001 10 September 2015, the operator shall submit a report to the Environment Agency for approval providing evidence to show that sufficient furnaces have been converted to low NO _x burners for the modelled reduction in NO _x mass emission rate to outweigh the modelled increase from Boiler B1703C. This improvement condition is complete on receipt of written approval from the Environment Agency.	01/01/20
IC 29	For LCPD LCP 79 (now LCP 292 under IED). Annual emissions of dust, sulphur dioxide and oxides of nitrogen including energy usage for the year 01/01/2015 to 31/12/2015 shall be submitted to the Environment Agency using form AAE1 via the NERP Registry. If the LPCD LCP was a NERP plant the final quarter submissions shall be provided on the RTA 1 form to the NERP Registry.'	28/01/16

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC30	<p>The operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP292. The net rated thermal input is the 'as built' value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised).</p> <p>Evidence to support this figure, in order of preference, shall be in the form of:-</p> <ul style="list-style-type: none"> a) Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes), b) Performance test results after a significant modification (quoting the specified standards or test codes), c) Manufacturer's contractual guarantee value, d) Published reference data, e.g., Gas Turbine World Performance Specifications (published annually); e) Design data, e.g., nameplate rating of a boiler or design documentation for a burner system; f) Operational efficiency data as verified and used for heat accountancy purposes, g) Data provided as part of Due Diligence during acquisition, <p>*Performance test results shall be used if these are available.</p>	31/12/16

Table S1.4 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	"Minimum start up load" Steam flow rate in t/h and as percent of rated thermal output (%)	"Minimum shut-down load" Steam flow rate in t/h and as percent of rated thermal output (%)
A4 Unit LCP292	5t/h steam – 7.5% of maximum thermal output	5t/h steam – 7.5% of maximum thermal output

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Natural gas	-
Diesel	<0.1% Sulphur

Schedule 3 – Emissions and monitoring

Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down. (Note: 2)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on emission point plan in schedule 7] (Note:3)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	B1701A-P Furnaces (14 off)	225 mg/m ³	-	Annual	Spot Sample
A2 [Point A2 on emission point plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	B1702 A/B Furnaces (2 off)	350 mg/m ³	-	Annual	Spot Sample
A3 [Point A3 on emission point plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	B1702 C Furnace	350 mg/m ³	-	Annual	Spot Sample
A4 [Point A4 on emission point plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 292 Boiler plant fired on natural gas/process generated off gas	450 mg/m ³ (Note: 1)	-	At least every 6 months	BS EN 14792
A4 [Point A4 on emission point plan in schedule 7]	Carbon Monoxide	LCP No. 292 Boiler plant fired on natural gas/process generated off gas	110 mg/m ³	-	At least every 6 months	BS EN 15058
A4 [Point A4 on emission point plan in schedule 7]	Sulphur dioxide	LCP No. 292 Boiler plant fired on natural gas/process generated off gas	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down. (Note: 2)	Reference period	Monitoring frequency	Monitoring standard or method
A4 [Point A4 on emission point plan in schedule 7]	Dust	LCP No. 292 Boiler plant fired on natural gas/process generated off gas	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A4 [Point A4 on emission point plan in schedule 7]	Oxygen	LCP No. 292 Boiler plant fired on natural gas/process generated off gas	-	-	Periodic as appropriate to reference	BS EN 14789
A4 [Point A4 on emission point plan in schedule 7]	Water Vapour	LCP No. 292 Boiler plant fired on natural gas/process generated off gas	-	-	Periodic as appropriate to reference	BS EN 14790
A4 [Point A4 on emission point plan in schedule 7]	Stack gas volume flow	LCP No. 292 Boiler plant fired on natural gas/process generated off gas	-	-	-	BS EN 16911 & TGN M2
A4 [Point A4 on emission point plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 292 Boiler plant fired on natural gas/process generated off gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A5 [Point A5 on emission point plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	B1704 A-C Superheaters	300 mg/m ³	-	Annual	Spot Sample
A6 L1712 Caustic OWS[Point A6 on emission point plan in schedule 7]	No parameters set	L1712 Caustic OWS	-	-	-	-

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down. (Note: 2)	Reference period	Monitoring frequency	Monitoring standard or method
A7 L1748 OWS [Point A7 on emission point plan in schedule 7]	No parameters set	L1748 OWS	-	-	-	-
A8 BFS OWS [Point A8 on site plan No 1.9]	No parameters set	BFS OWS	-	-	-	-
A9 Olefins analysers [Points A9 on emission point plan in schedule 7]	No parameters set	Olefins analysers	-	-	-	-
A10 Olefins L1719 A/B Flares [Point A10 on emission point plan in schedule 7]	No parameters set	Olefins L1719 A/B Flares	-	-	-	-
A11 WEC L1009A Flare [Point A11 on site plan No 1.8]	No parameters set	WEC L1009A Flare	-	-	-	-
A12 RBS B1945 Flare [Point A12 on site plan No 1.8]	No parameters set	RBS B1945 Flare	-	-	-	-
A13 F1962 A/B Naphtha tanks [Point A13 on site plan No 1.7]	No parameters set	F1962 A/B Naphtha tanks	-	-	-	-

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down. (Note: 2)	Reference period	Monitoring frequency	Monitoring standard or method
A14 F1961 Pyrolysis gasoline tank [Point A14 on site plan No 1.7]	No parameters set	F1961 Pyrolysis gasoline tank	-	-	-	-
A15 F1781 Naphtha tank [Point A15 on site plan No 1.7]	No parameters set	F1781 Naphtha tank	-	-	-	-
A16 Recovered oil tanks [Point A16 on emission point plan in schedule 7]	No parameters set	Recovered oil tanks	-	-	-	-
A17 FA 1721 GTU surge tank [Point A17 on emission point plan in schedule 7]	No parameters set	FA 1721 GTU surge tank	-	-	-	-
A18 Bf5 Naphtha tank [Point A18 on site plan No 1.8]	No parameters set	Bf5 Naphtha tank	-	-	-	-
A19 Nf1 &Nf3 Raw C5s tanks [Point A19 on site plan No 1.9]	No parameters set	Nf1 &Nf3 Raw C5s tanks	-	-	-	-

Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down. (Note: 2)	Reference period	Monitoring frequency	Monitoring standard or method
A20 Bf1 Bf2 DPHG (2 off) [Point A20 on site plan No 1.9] Nf24, Nf29 P-Xylene (2 off) [Points Nf24 and Nf29 on drawing OL-531432	No parameters set	Bf1 Bf2 DPHG (2 off) Nf24, Nf29 P-Xylene (2 off)	-	-	-	-

Note 1: The limit for emission point A4 is 400mg/m³ until written approval from the Environment Agency of completion of Improvement Condition IC28.

Note 2: See Schedule 6 for reference conditions

Note 3: Spot samples taken from B1701A, B1701B, and B1701J shall be considered representative for Emission Point A1

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
-	-	-	-	-	-	-

Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Benzene	Olefins Area (including B 7 Area)	18 mg/l	24 hr composite sample	Daily	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Toluene	Olefins Area (including B 7 Area)	7 mg/l	24 hr composite sample	Daily	Note 3

Table S3.3 Point source emissions to sewer						
Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Xylenes (total)	Olefins Area (including B 7 Area)	5 mg/l	24 hr composite sample	Daily	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	EDC - 1.2 Dichloroethane	Olefins Area (including B 7 Area)	No limit	Spot sample	Monthly	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Ammoniacal Nitrogen (as N)	Olefins Area (including B 7 Area)	No limit	Spot sample	Monthly	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Cadmium	Olefins Area (including B 7 Area)	No limit	Spot sample	Monthly	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Mercury	Olefins Area (including B 7 Area)	No limit	Spot sample	Monthly	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Zinc	Olefins Area (including B 7 Area)	No limit	Spot sample	Monthly	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Phenol	Olefins Area (including B 7 Area)	No limit	Spot sample	Monthly	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Chloroform	Olefins Area (including B 7 Area)	No limit	Spot sample	Monthly	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	TOC	Olefins Area (including B 7 Area)	1400 kg	24 hr composite sample	Daily	Note 3
W1 on site plan in schedule 7 emission to Wilton Site Drainage System	Suspended Solids	Olefins Area (including B 7 Area)	1800 kg	24 hr composite sample	Daily	Note 3

Table S3.3 Point source emissions to sewer						
Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
W2 on site plan in schedule 7 emission to Wilton Site Drainage System	Benzene	Wilton Ethylene Control Area Drainage	No limit	Spot sample	Daily	Note 3
W2 on site plan in schedule 7 emission to Wilton Site Drainage System	Toluene	Wilton Ethylene Control Area Drainage	No limit	Spot sample	Daily	Note 3
W2 on site plan in schedule 7 emission to Wilton Site Drainage System	Xylenes (total)	Wilton Ethylene Control Area Drainage	No limit	Spot sample	Daily	Note 3
W3 on site plan in schedule 7 emission to Wilton Site Drainage System	Benzene	Central Control Area Drainage	No limit	Spot sample	Daily	Note 3
W3 on site plan in schedule 7 emission to Wilton Site Drainage System	Toluene	Central Control Area Drainage	No limit	Spot sample	Daily	Note 3
W3 on site plan in schedule 7 emission to Wilton Site Drainage System	Xylenes (total)	Central Control Area Drainage	No limit	Spot sample	Daily	Note 3

Note1: Limits for Cadmium, Mercury, and Zinc are expressed as the respective total metals

Note 2: Limits for Benzene, Toluene, Xylenes samples are based on 5 day moving average.

Note 3: Method as agreed with the Environment Agency

Table S3.4 Annual limits (excluding start up and shut down except where otherwise stated).				
Substance	Medium	Limit (including unit)		Emission Points
Dust, Sulphur dioxide and Oxides of nitrogen	Air	Assessment year	LCP TNP Limit	Emission point A4 LCP292 as per the TNP
		01/01/16 and subsequent years until 31/12/19	Emission allowance figure shown in the TNP Register as at 30 April the following year	
		01/01/20-30/06/20		

Table S3.5 Annual limits for discharge to sewer	
Substance	Annual limit - kg
Cadmium	0.50
Mercury	0.60
Zinc	4000

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
Oxides of nitrogen	A4	Every 6 months for periodic monitoring	1 January, 1 July
Oxides of nitrogen	A1, A2, A3, A5	Annual	1 January
Carbon Monoxide Parameters as required by condition 3.5.1	A4	Every 6 months for periodic monitoring	1 January, 1 July
Sulphur dioxide	A4	Every 6 months for periodic monitoring	1 January, 1 July
Dust	A4	Every 6 months for periodic monitoring	1 January, 1 July
Benzene	W1,W2,W3	Every 6 months	1 January, 1 July
Toluene	W1,W2,W3	Every 6 months	1 January, 1 July
Xylenes (total)	W1,W2,W3	Every 6 months	1 January, 1 July
EDC-1.2 Dichloroethane	W1	Every 6 months	1 January, 1 July
Ammoniacal Nitrogen (as N)	W1	Every 6 months	1 January, 1 July
Cadmium	W1	Every 12 months	1 January
Mercury	W1	Every 12 months	1 January
Zinc	W1	Every 12 months	1 January
Phenol	W1	Every 12 months	1 January
Chloroform	W1	Every 12 months	1 January
TOC	W1	Every 6 months	1 January, 1 July
Suspended Solids	W1	Every 6 months	1 January, 1 July

Parameter	Units
Annual production tonnage not required to be disclosed but made available on inspection	-

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Thermal Input Capacity for LCP 292	Annually	MW
Annual Fuel Usage for LCP 292	Annually	TJ
Total Emissions to Air of NO _x for LCP 292	Annually	tonnes
Total Emissions to Air of SO ₂ for LCP 292	Annually	tonnes
Total Emissions to Air of dust for LCP 292	Annually	tonnes
Operating Hours for each LCP 292	Annually	hours
BOD	Monthly	mg/l
COD	Monthly	mg/l
Waste Hazard Score	Annually	
Waste Disposal Score	Annually	

Table S4.4 Reporting forms				
Media/ parameter	Reporting format	Starting Point	Agency recipient	Date of form
Air & Energy	Form IED AR1 – SO ₂ , NO _x and dust mass emission and energy	01/01/16	National	31/12/15
Air	Form IED RTA1 –TNP quarterly emissions summary log	01/01/16	National	31/12/15
LCP	Form IED HR1 – operating hours	01/01/16	National	31/12/15
Air	Form IED PM1 - discontinuous monitoring and load.	01/01/16	Area Office	31/12/15
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	31/12/15
Sewer	Form sewer 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	31/12/15
Flaring Events	Form B2 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	19/11/03
Air	Form A1	N/A	Area Office	N/A
Energy	Form E1	N/A	Area Office	N/A
Waste return	Form R1	N/A	Area Office	N/A

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	EPR/BS3590IE
Name of operator	Sabir UK Petrochemicals Limited
Location of Facility	Wilton Olefins Installation
Time and date of the detection	

(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	
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 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.

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

- water supplied to the site; or
- where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or
- where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation on to the site.

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.

“base load” means: (i) as a mode of operation, operating for >4000hrs pa; and (ii) as a load, the maximum load under ISO conditions that can be sustained continuously, i.e. maximum continuous rating.

“breakdown” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

“calendar monthly mean” means the value across a calendar month of all validated hourly means.

“CEN” means Comité Européen de Normalisation.

“Combustion Technical Guidance Note” means IPPC Sector Guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by Environment Agency.

“disposal”. Means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“DLN” means dry, low NO_x burners.

“Energy efficiency” the annual net plant energy efficiency means the value calculated from the operational data collected over the year.

“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 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.

“hazardous property” has the meaning given in Schedule 3 of the Hazardous Waste (England and Wales) Regulations 2005 No.894 and the Hazardous Waste (Wales) Regulations 2005 No. 1806 (W.138).

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

“large combustion plant” or “LCP” is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MW or more, based on net

calorific value. The calculation of thermal input, excludes individual combustion plants with a rated thermal input below 15MW.

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

“MCR” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU.

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU.

“Natural gas” means naturally occurring methane with no more than 20% by volume of inert or other constituents.

“ncv” means net calorific value.

“operational hours” are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

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

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“SI” means site inspector.

“TNP Register” means the register maintained by the Environment Agency in accordance with regulation 4 of the Large Combustion Plants (Transitional National Plan) Regulations 2015 SI2015 No.1973.

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 gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous 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



