

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Shell UK Limited

Shell Bacton Gas Terminal
Paston Road
Bacton
Norfolk
NR12 0JE

Variation application number

EPR/NP3637SW/V007

Permit number

EPR/NP3637SW

Shell Bacton Gas Terminal

Permit number EPR/NP3637SW

Introductory note

This introductory note does not form a part of the notice

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 28th October 2014.

The schedules specify the changes made to the permit.

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

Status log of the permit		
Description	Date	Comments
Application NP3637SW (under PPC Regulations)	Duly made 04/08/2006	
Additional information received		28/12/2006
Permit determined EPR/NP3637SW	11/05/2007	
Variation application EPR/NP3637SW/V003 (under EPR Regulations)	Duly made 18/08/2009	
Additional information received		18/03/2010–email#1
Additional information received		19/03/2010–email#1
Additional information received		23/03/2010–email#1
Variation determined EPR/NP3637SW/V003		
Variation application EPR/NP3637SW/V004	Duly made 08/07/2011	
Variation determined EPR/NP3637SW/V004	11/07/2011	
Variation application EPR/NP3637SW/V005 (variation and consolidation)	Duly made 10/01/14	Application to vary and update the permit to modern conditions.
Variation determined EPR/NP3637SW/V005	04/04/14	Varied and consolidated permit issued in modern condition format.
Environment Agency Led Variation EPR/NP3637SW/V006	08/12/2014	Environment Agency initiated variation to temporarily reinstate existing emission points

		(A1-A5) and monitoring requirements.
Variation determined EPR/NP3637SW/V006	27/02/2015	Varied permit issued.
Regulation 60 Notice sent to the Operator	05/11/15	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 Chapter II following the publication of the revised Best Available Techniques (BAT) Reference Document for the Refining of Mineral Oil and Gas.
Regulation 60 Notice response	30/01/16	Response received from the Operator.
Regulation 60 Notice further information	22/06/17	Confirmation of seal heater thermal rating and P&ID
Regulation 60 Notice further information	06/03/18	Confirmation of redundant equipment and effluent description.
Regulation 60 Notice further information	01/05/18	Description of The Integrated Effluent Management System
Update to Appendix I of Application NP3637SW	27/07/18	Inventory of Major Waste Streams from the Site
Regulation 60 Notice further information	07/08/18	Confirmation of redundant equipment.
Regulation 60 Notice further information	06/09/18	Confirmation of redundant equipment.
Variation determined EPR/NP3637SW/V007 (PAS Billing ref: CP3731RR)	15/10/18	Varied and consolidated permit issued.

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

Permit number

EPR/NP3637SW

Issued to

Shell UK Limited (“the operator”)

whose registered office is

Shell Centre

London

SE1 7NA

company registration number **00140141**

to operate an Installation at

Shell Bacton Gas Terminal

Paston Road

Bacton

Norfolk

NR12 0JE

to the extent set out in the schedules.

The notice shall take effect from 28/10/2018

Name	Date
M Bischer	15/10/18

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 2016

Permit number

EPR/NP3637SW

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/NP3637SW/V007 authorising,

Shell UK Limited (“the operator”),

whose registered office is

Shell Centre

London

SE1 7NA

company registration number **00140141**

to operate an installation at

Shell Bacton Gas Terminal

Paston Road

Bacton

Norfolk

NR12 0JE

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

Name	Date
M Bischer	15/10/18

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 red on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 (a) 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.

(b) 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 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.

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

2.3.3 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.

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

2.4 Improvement programme

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

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

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination

3.2 Emissions of substances not controlled by emission limits

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

3.3 Odour

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

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in tables S3.1 and S3.2.
 - (b) process monitoring specified in table 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 and S3.2 unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

- (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately—
- (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 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
- 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.
- 4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:
- (a) a decision by the Secretary of State not to re-certify the agreement;

- (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
- (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

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

Schedule 1 - Operations

Table S1.1 activities		
Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
S1.2 A1 (a): refining gas where this is likely to involve the use of more than 1000 tonnes or more of gas in any period of 12 months.	Refining of gas from the Shearwater Elgin-Franklin Area Line (SEAL) and through the main gas processing facilities (STACA).	From receipt of natural gas, natural gas liquids and raw materials to dispatch of treated gas, natural gas liquids and wastes and processing by-products.
S1.1 A1 (a): burning any fuel in an appliance with a rated thermal input of 50 megawatts or more	Aggregated natural gas fired combustion systems serving the gas refining activities.	From receipt of fuels and raw materials to release of combustion products to air, dispatch of products and waste.
Directly Associated Activity		
Utility systems	Utility systems including hot water circuit, hot oil circuits, fuel gas system, instrument air system, electricity generation, diesel storage, hydraulic system, nitrogen skid, firewater system, flash gas and vapour recovery system	From receipt of raw materials to dispatch for use and transfer of wastes off-site
Site drainage and effluent control	Surface water, effluent and domestic drainage and treatment	Handling and storage of site drainage and handling and storage of effluent (including the ETP) until discharge to the common sea outfall

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application NP3637SW	The response to section 2.1 and 2.2 in the Application	04/08/2006
Receipt of additional information to the application	Entire response	28/12/2006
Application EPR/NP3637SW/V004	Variation application report Ref. No. 933854-RPT-1 dated June 2011 submitted with V004 application relating to site water systems	Duly made 08/07/11
Minor operational change	CRA report reference 934197 Report Number 1	22/04/13
Application EPR/NP3637SW/V005	Application forms C2 and C3 and referenced supporting documentation.	Duly made 10/01/14
Environment Agency led variation EPR/NP3637SW/V006	'Air Emission Points' drawing ref. BN-00-841 REV. 04	14/01/2015
Minor operational change	Oxygen Scavenger injection trial.	09/10/2015

Table S1.2 Operating techniques		
Description	Parts	Date Received
Responses to regulation 60(1) Notice – request for information dated 05/11/15 EPR/NP3637SW/V007	Compliance and operating techniques identified in response to the BAT Conclusions for the refining of mineral oil and gas industry sector published on 28th October 2014.	30/01/16
Minor operational change	Procedure for Oxygen Scavenger injection.	16/11/16
Minor operational change	Procedure for the discharge to sea of used cleaning/inspection water from vessel inspections undertaken on site via the site's existing outfall	30/05/17
Additional information in response to regulation 60(1) Notice EPR/NP3637SW/V007	Confirmation of redundant equipment and effluent description.	06/03/18
Additional information in response to regulation 60(1) Notice EPR/NP3637SW/V007	Description of The Integrated Effluent Management System.	01/05/18
Update to Appendix I of Application NP3637SW	Inventory of Major Waste Streams from the Site.	27/07/18
Additional information in response to regulation 60(1) Notice EPR/NP3637SW/V007	Confirmation of redundant equipment.	07/08/18
Additional information in response to regulation 60(1) Notice EPR/NP3637SW/V007	Confirmation of redundant equipment.	06/09/18

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	A written procedure shall be submitted to the Agency for approval. The procedure shall contain list of parameters and methodologies used to monitor the six monthly composite sample taken from the final wastewater discharge monitoring point W1. The Operator shall implement the proposals as agreed in writing with the Environment Agency. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.	Complete 02/08/07
IC2	A written plan shall be submitted to the Agency for approval detailing the results of a survey of hard-standing, kerbing and secondary containment for raw material, intermediate, product and waste storage areas and the measures to comply with the requirements of section 2.2.5 of the Gasification, Liquefaction and Refining TGN. Where appropriate the plan shall contain dates for the implementation of individual measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan. The plan shall be implemented by the operator from the date of approval by the Agency.	Complete 02/11/07

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC3	<p>A written report shall be submitted to the Agency for approval. The report shall contain a review of VOC emissions to air (both fugitive and point source) from the installation. The report shall also contain the results, detailing mass emissions to air and identifying the main sources of loss, and proposals for improvements, taking into consideration BAT requirements as described in 2.1.4 of the Gasification, Liquefaction and Refining sector guidance note S1.02. This report shall be supplied to the Agency.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>2 The improvements identified in the report shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Complete 30/01/08
IC4	<p>A written report shall be submitted to the Agency for approval. The report shall contain a review of the feasible options for reduction of NOx and CO from release points A1, A2, A3, A4, A5 and A6 (as highlighted in the BAT assessment of propane compressors appendix D of the application) with proposed improvements to reduce emissions from these release points, having regard for the ELVs for Spark Ignition gas engines, as given within the Gasification, Liquefaction and Refining sector guidance note S1.02. The report shall also shall include a plan with dates for the implementation of the improvements identified as necessary.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The improvements identified in the report shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Complete May 08
IC5	<p>A written report shall be submitted to the Agency for approval. This report should include a detail BAT review of the energy efficiency of process equipment and related plant. The report shall have regard for Sector Guidance Note S1.02 and shall contain proposals to operate the site using equipment that has the lowest environmental impact.</p> <p>The operator shall implement the proposals as agreed in writing with the Environment Agency.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report</p>	Complete 07/11/08
IC6	<p>A written report shall be submitted to the Agency for approval. The report shall evaluate the potential for impact and/or harm to the aquatic environment of the releases to controlled waters from Release Point W1, having regard for the Agency Guidance Note 'The Use of Direct Toxicity Assessment in PPC Impact Assessments'. A report on the results, with interpretation, conclusions and proposed actions to prevent any acute toxic effects in the receiving waters, with timescales for implementation, shall be supplied to the Agency.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The improvements identified in the report shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Complete 24/07/17
IC7	<p>A written report shall be submitted to the Agency for approval. The report shall contain a review of the on-site measures for treating water against the BAT listed within the Gasification, Liquefaction and Refining Sector SGN IPPC S1.02 Section 2 for control of point source emissions to water, with proposed improvements to reduce emissions from these release points, having regard for the ELVs given within the SGN for releases to water from W1. The report shall also include, but not be limited to, all of the relevant techniques listed within the SGN, the reduction in the level of pollutants (for each option) and the costs of achieving the reduction (for each option).</p> <p>The Operator shall implement the proposals as agreed in writing with the Environment Agency.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p>	Complete 24/07/17

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC8	<p>The operator shall develop a written site closure plan with regard to the requirements of sect 2.11 of Agency Guidance note IPPC S1.02 Upon completion of the plan a summary of the document shall be submitted in writing to the Agency.</p> <p>The notification requirements of 2.5.2 shall be deemed to have been complied with on submission of the plan</p>	Complete 06/05/09
IC9	<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"> • The nature of the material handled; • The sources of emissions; • Justification of the monitoring techniques selected • How the monitoring data will be recorded and reviewed <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>	01/11/19
IC10	<p>The operator shall submit a written monitoring plan to the Environment Agency for approval that includes:</p> <p>(a) proposals to undertake representative monitoring of hazardous pollutants (as set out in the Environment Agency's Surface Water Pollution Risk Assessment guidance) in the discharge to surface water from point W1 including the parameters to be monitored, frequencies of monitoring and methods to be used.</p> <p>The operator shall carry out the monitoring in accordance with the Environment Agency's written approval.</p>	01/07/19
IC11	<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 in accordance with the Environment Agency's Surface Water Pollution Risk Assessment Guidance available on our website. The report shall:</p> <p>(a) be based on the parameters monitored in IC10 above; and</p> <p>(a) 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.</p>	01/11/20
IC12	<p>The Operator shall carry out an assessment of the impact of emissions of mercury present in raw natural gas. The report shall include;</p> <ul style="list-style-type: none"> • the measures used to remove the mercury, • mercury emissions to air from handling and treating the raw natural gas • how the mercury containing sludge/absorbent is recovered and handled • the final fate of any mercury containing waste streams. <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>	01/11/19

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC13	<p>The Operator shall review the measures and procedures in place to prevent and reduce/mitigate venting of gas from the process.</p> <p>The review must consider in detail all available options, both combustion and non-combustion based (including but not necessarily limited to flaring, vapour recovery, scrubbing and adsorption), for the reduction/abatement/mitigation of waste gas so as to minimise its environmental impacts as far as available techniques allow.</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>	01/05/20

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
-	-

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location [c]	Source	Parameter	Limit (including unit) [a]	Reference period	Monitoring frequency [b]	Monitoring standard or method
A7 [Point A7 on drawing BN-00-841]	Glycol reboiler F-01	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/m ³	1 hour	Quarterly	BS EN 14792
A7 [Point A7 on drawing BN-00-841]	Glycol reboiler F-01	Carbon monoxide	180 mg/m ³	1 hour	Quarterly	BS EN 15058
A8 [Point A8 on drawing BN-00-841]	Glycol reboiler F-02	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/m ³	1 hour	Quarterly	BS EN 14792
A8 [Point A8 on drawing BN-00-841]	Glycol reboiler F-02	Carbon monoxide	180 mg/m ³	1 hour	Quarterly	BS EN 15058
A10 [Point A10 on drawing BN-00-841]	Glycol reboiler F-04a	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/m ³	1 hour	Quarterly	BS EN 14792
A10 [Point A10 on drawing BN-00-841]	Glycol reboiler F-04a	Carbon monoxide	180 mg/m ³	1 hour	Quarterly	BS EN 15058
A11 [Point A11 on drawing BN-00-841]	Glycol reboiler F-04b	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/m ³	1 hour	Quarterly	BS EN 14792
A11 [Point A11 on drawing BN-00-841]	Glycol reboiler F-04b	Carbon monoxide	180 mg/m ³	1 hour	Quarterly	BS EN 15058
A12 [Point A12 on drawing BN-00-841]	Glycol reboiler F-05a	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/m ³	1 hour	Quarterly	BS EN 14792
A12 [Point A12 on drawing BN-00-841]	Glycol reboiler F-05a	Carbon monoxide	180 mg/m ³	1 hour	Quarterly	BS EN 15058
A13 [Point A13 on drawing BN-00-841]	Glycol reboiler F-05b	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/m ³	1 hour	Quarterly	BS EN 14792

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location [c]	Source	Parameter	Limit (including unit) [a]	Reference period	Monitoring frequency [b]	Monitoring standard or method
A13 [Point A13 on drawing BN-00-841]	Glycol reboiler F-05b	Carbon monoxide	180 mg/m ³	1 hour	Quarterly	BS EN 15058
A15 [Point A15 on drawing BN-00-841]	Trim heaters – south	Oxides of nitrogen and carbon monoxide	-	-	-	-
A16 [Point A16 on drawing BN-00-841]	Sales gas heater 22100	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	1 hour	Quarterly	BS EN 14792
A16 [Point A16 on drawing BN-00-841]	Sales gas heater 22100	Carbon monoxide	400 mg/m ³	1 hour	Quarterly	BS EN 15058
A17 [Point A17 on drawing BN-00-841]	Sales gas heater 23100	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	1 hour	Quarterly	BS EN 14792
A17 [Point A17 on drawing BN-00-841]	Sales gas heater 23100	Carbon monoxide	400 mg/m ³	1 hour	Quarterly	BS EN 15058
A21 [Point A21 on drawing BN-00-841]	Glycol Desalination Plant	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	-	-	-	-
A23 [Point A23 on drawing BN-00-841]	Hot oil heater 1	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/m ³	1 hour	Annual	BS EN 14792
A23 [Point A23 on drawing BN-00-841]	Hot oil heater 1	Carbon monoxide	60 mg/m ³	1 hour	Annual	BS EN 15058
A24 [Point A24 on drawing BN-00-841]	Hot oil heater 2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/m ³	1 hour	Annual	BS EN 14792
A24 [Point A24 on drawing BN-00-841]	Hot oil heater 2	Carbon monoxide	60 mg/m ³	1 hour	Annual	BS EN 15058
A29 [Point A29 on drawing BN-00-841]	Standby generator	Oxides of nitrogen and carbon monoxide	-	-	-	-

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location [c]	Source	Parameter	Limit (including unit) [a]	Reference period	Monitoring frequency [b]	Monitoring standard or method
A30 [Point A30 on drawing BN-00-841]	Firewater pump 1	Oxides of nitrogen and carbon monoxide	-	-	-	-
A31 [Point A31 on drawing BN-00-841]	Firewater pump 2	Oxides of nitrogen and carbon monoxide	-	-	-	-
A32 [Point A32 on drawing BN-00-841]	Main plant vent stack	Methane and non-methane hydrocarbons	-	-	-	-
A33 [Point A33 on drawing BN-00-841]	Seal vent stacks	Methane and non-methane hydrocarbons	-	-	-	-
A34 [Point A34 on drawing BN-00-841]	Heat transfer fluid system	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	100 mg/m ³	1 hour	Quarterly	BS EN 14792
A34 [Point A34 on drawing BN-00-841]	Heat transfer fluid system	Carbon monoxide	100 mg/m ³	1 hour	Quarterly	BS EN 15058
A35 [Point A35 on drawing BN-00-841]	Sodium carbonate silo	Particulates	-	-	-	-
A36 Flash gas vent	New desalination plant pre-treatment vessel	Benzene, toluene, ethylbenzene and xylenes	-	-	-	-
Pressure relief valves	Low pressure gas service	Methane and non-methane hydrocarbons	-	-	-	-
Vacuum pressure safety valves	Condensate storage tanks	Methane and non-methane hydrocarbons	-	-	-	-
Vacuum pressure safety valves	Glycol storage tanks	Methane and non-methane hydrocarbons	-	-	-	-
Pressure relief valves	Glycol system	Methane and non-methane hydrocarbons	-	-	-	-

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location [c]	Source	Parameter	Limit (including unit) [a]	Reference period	Monitoring frequency [b]	Monitoring standard or method
Low pressure vents and emergency pressure relief valves	New desalination plant	No parameters set	-	-	-	-
<p>Note [a] these limits do not apply during start up or shut down.</p> <p>Note [b] only plant that is on line when monitoring is scheduled shall be monitored. All plant shall be monitored at least once a year.</p>						

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 on drawing BN-00-842 – sea outfall	Drainage and effluent treatment system	Total daily volume of discharge	-	24 hour total	Continuous	MCERTS self-monitoring of effluent flow scheme
		Chemical Oxygen Demand	125 mg/l Annual average	24-hour flow proportional sample	Weekly	BS ISO 15705:2002 or as agreed in writing with the Environment Agency
		Biochemical Oxygen Demand	200 mg/l	24-hour flow proportional sample	Weekly	BS EN 1899-1 or as agreed in writing with the Environment Agency
		Suspended solids	25 mg/l Annual average	24-hour flow proportional sample	Weekly	BS EN 872:2005 or as agreed in writing with the Environment Agency
		Oil or grease	No visible emission	24-hour flow proportional sample	Weekly	Permanent sampling access not required
		Hydrocarbon oil index	2.5 mg/l Annual average	24-hour flow proportional sample	6 monthly	BS EN 9377 – 2 ^{Note 1}
		Total nitrogen expressed as N	25 mg/l Annual average	24-hour flow proportional sample	6 monthly	BS EN 12260 ^{Note 2}
		Phenol index	-	24-hour flow proportional sample	6 monthly	BS EN ISO 14402

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 on drawing BN-00-842 – sea outfall	Drainage and effluent treatment system	Benzene, toluene, ethyl benzene, xylene (BTEX)	Benzene 0.05 mg/l Annual average	24-hour flow proportional sample	6 monthly	ISO 11423-1
		Lead expressed as Pb	0.03 mg/l Annual average	24-hour flow proportional sample	6 monthly	BS EN ISO 11885
		Cadmium expressed as Cd	0.008 mg/l Annual average	24-hour flow proportional sample	6 monthly	BS EN ISO 11885
		Nickel expressed as Ni	0.1 mg/l Annual average	24-hour flow proportional sample	6 monthly	BS EN ISO 11885
		Mercury expressed as Hg	0.001 mg/l Annual average	24-hour flow proportional sample	6 monthly	BS EN 12486
		Mono ethylene Glycol (MEG)	-	24-hour flow proportional sample	6 monthly	Shell BLAM005a (mod)
		Methanol	-	24-hour flow proportional sample	6 monthly	Shell BLAM005a
		Ammonia	-	24-hour flow proportional sample	6 monthly	ASTM D1426B
		Chloride	-	24-hour flow proportional sample	6 monthly	ISO 10304-1
		Fluoride	-	24-hour flow proportional sample	6 monthly	ISO 10304-1
		Phosphate	-	24-hour flow proportional sample	6 monthly	ISO 10304-1
		Sulphate	-	24-hour flow proportional sample	6 monthly	ISO 10304-1

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 on drawing BN-00-842 – sea outfall	Drainage and effluent treatment system	Arsenic	-	24-hour flow proportional sample	6 monthly	BS EN ISO 11885
		Chromium	-	24-hour flow proportional sample	6 monthly	BS EN ISO 11885
		Copper	-	24-hour flow proportional sample	6 monthly	BS EN ISO 11885
		Zinc	-	24-hour flow proportional sample	6 monthly	BS EN ISO 11885
		Meta and para xylene	-	24-hour flow proportional sample	6 monthly	ISO 11423-1
		Ortho xylene	-	24-hour flow proportional sample	6 monthly	ISO 11423-1

Table S3.3 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Fugitive emissions of VOCs from operational plant at the installation.	VOCs	-	LDAR programme (to Tier 2 or higher with regard to the Institute of Petroleum [Energy Institute] protocol) for testing potential sources of fugitive emissions of VOCs.	The operator shall complete repairs and/or carry out other actions to prevent, or where that is not possible, minimise continued emissions from those sources.
Fuel Gas Monitoring	Mercury	6 monthly	BS ISO 6978 Part 2	Sampling to be undertaken at locations within the gas system that are representative of the gas composition burnt in combustion units.

Schedule 4 - Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A7, A8, A10, A11, A12, A13, A16, A17, A34	Every 3 months	1 January 1 April, 1 July, 1 October
Emissions to air Parameters as required by condition 3.5.1.	A23, A24	Annual	1 January
Emissions to water Parameters as required by condition 3.5.1 excluding comprehensive analysis suite.	W1	Every 12 months	1 January
Comprehensive analysis suite Parameters as required by improvement condition IC1 in Table S1.3	W1	Every 6 months	1 January, 1 July

Table S4.2 Annual production/treatment	
Parameter	Units
Gas exported	MSCM

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	m ³
Gas usage	Annually	m ³
Electricity usage	Annually	MWh

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Environment Agency	04/04/14
Water	Form water 1 or other form as agreed in writing by the Environment Agency	28/10/18
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	01/05/07
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	01/05/07
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	01/05/07

Schedule 5 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

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

(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.

“*Acid Gas*” means a gas that contains sulphurous compounds

“Air Quality Risk Assessment” has the meaning given in Annex D of IED Compliance Protocol for Utility Boilers and Gas Turbines.

“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:

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.

“*BAT*” means Best available techniques, as defined in Article 3 of the Industrial Emissions Directive.

“*BAT AEL*” means the achievable emission level associated with application of the best available techniques.

“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.

“dynamic emission limit value” (DELV) means an emission limit that varies in accordance with Article 40 of the Industrial Emissions Directive.

“emissions to land” includes emissions to groundwater.

“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.

“*Flaring event*” means a large scale temporary operation of a flare system, caused by a process disruption.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

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

“*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.

“low polluting fuels” means biomass or coal with an average as-received sulphur content of less than 0.4% by mass as described in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

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

“Mid-merit” means combustion plant operating between 1,500 and 4,000 hrs/yr.

“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.

“MSCM” means million standard cubic metres

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

“ncv” means net calorific value.

“Normal Operation” means the range of process conditions that can occur when a process unit is performing its intended duty.

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

“Other than normal operating conditions” means process conditions that would not occur during the normal operation of a process unit.

“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.

“RFG” means Refinery Fuel Gas: off-gases from distillation or conversion units used as a fuel.

“SI” means site inspector.

“Standby fuel” means alternative liquid fuels that are used in emergency situations when the gas fuel which is normally used, is not available.

“The BREF” means the BAT Reference Document for the Refining of Mineral Oil and Gas published by the European commission 2014/738/EU.

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; and/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.

“VOC” means Volatile organic compounds as defined in Article 3(45) of Directive 2010/75/EU - ‘volatile organic compound’ means any organic compound as well as the fraction of creosote, having at 293,15 K a vapour pressure of 0,01 kPa or more, or having a corresponding volatility under the particular conditions of use

“year” means calendar year ending 31 December.

Schedule 7 - Site plan

This plan has been removed for reasons of National Security.

END OF PERMIT