

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Mr Ian Bond and Mrs Caroline Bond

Stanley's Quarry
Westington Hill
Chipping Campden
Gloucestershire
GL55 6UR

Variation application number

EPR/GP3893MX/V006

Permit number

EPR/GP3893MX

Stanley's Quarry

Permit number EPR/GP3893MX

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. Only the variations specified in schedule 1 are subject to a right of appeal.

This variation authorises the following changes to the permit:

- Addition of third CHP engine (with a thermal input of 2.6 MW)
- Addition of organic rankine cycle (ORC) system to utilise heat from emissions from CHP engines 1 and 2
- Addition of gas to grid plant including biogas upgrading
- Addition of screw press to remove contaminants to enhance digestate quality
- Addition of air ventilation/extraction system in the reception building
- Replacement of existing emergency flare with two new flares
- Replacement of two existing pasteurisation units with three units
- Incorporation of improvements to the site drainage and secondary containment

Following the incorporation of the above changes, the installation will be operated as follows:

The Installation is located in an old quarry basin within the Northwick Estate which covers 3,500 acres, approximately 2.8 km south of Chipping Campden at national grid reference SP 14977 36276. The quarry basin is about 21 metres below ground level. The nearest residential receptor is Campden Hill Farmhouse which is located 190 metres from the site boundary.

The Installation will comprise the following operations:

- Anaerobic digestion plant (three digesters);
- Storage of waste in an enclosed building;
- Combustion plant consisting of three combined heat and power (CHP) engines (7.8 MWth) and two emergency flares;
- Biogas upgrading plant;
- Heat recovery from CHP engines 1 and 2 using organic rankine cycle system; and
- A digestate storage tank

The feedstock is imported biodegradable matter sourced from local businesses. The permit allows annual throughput of 70,000 tonnes and daily treatment capacity up to 190 tonnes.

Main releases to air are odour emissions from the processing of waste and odour extraction and emissions from the combustion and upgrading of biogas (CHP engines, emergency flares and upgrading plant). Oxides of nitrogen, sulphur dioxide, carbon monoxide and total volatile organic compounds will be monitored periodically. There will be no discharge of effluent to controlled waters or to land.

The site is provided with hardstanding and secondary containment constructed in line with industry best practice standards to reduce the impact of pollution to surface water and groundwater.

There are four habitat sites identified within the screening distance criteria of 2 km for local wildlife sites (LWS). They are Campden Wood LWS, Sedgcombe Wood LWS, Norcombe Wood LWS and Bourton Wood LWS. Assessment by the Environment Agency shows that emissions from the Installation are unlikely to have an adverse impact on interest features of the ecological sites.

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 EPR/GP3893MX/A001	Duly made 05/05/2010	Permit for an anaerobic digestion facility including combustion of resultant biogas.
Permit determined EPR/GP3893MX	13/10/2010	Permit issued to Mr Ian Bond and Mrs Caroline Bond.
Variation Application EPR/GP3893MX/V002	Received 11/07/2013	Variation to add digestate storage lagoon and extend site boundary.
Variation Application returned EPR/GP3893MX	24/10/2013	Application returned to the operator as not duly made.
Variation Application EPR/GP3893MX/V003	Duly Made 26/11/2013	Application to: <ul style="list-style-type: none"> • Increase annual throughput • Increase daily treatment capacity • Increase waste codes • Increase site boundary • Add storage lagoon
Additional information received	04/03/2014	Schedule 5 notice response for odour management plan, risk assessment and lagoon engineering details.
Additional information received	19/06/2014	Schedule 5 notice response for air emissions risk assessment and detailed air dispersal modelling.
Variation determined EPR/GP3893MX	14/07/2014	Varied permit issued.
Variation Application EPR/GP3893MX/V004	02/09/2014	Application to add waste codes.
Variation determined EPR/GP3893MX	03/10/2014	Varied permit issued.
Application EPR/GP3893MX/V005 (variation and consolidation)	Duly made 30/09/2014	Application to vary permit to include a newly prescribed activity under the Industrial Emissions Directive (IED) and update the permit to modern conditions.
Variation determined EPR/GP3893MX	09/10/2015	Varied and consolidated permit issued in modern condition format.
Application EPR/GP3893MX/V006 (variation and consolidation)	06/09/2018	Application to vary permit to: <ul style="list-style-type: none"> - add third CHP engine, organic rankine cycle (ORC) system, gas to grid plant including biogas upgrading, screw press and air ventilation/extraction system in the reception building; - replace existing emergency flare with two new ones and two pasteurisation units with three units; and - incorporate improvements to the site drainage and secondary containment.
Additional information received	21/01/2019	Response to Schedule 5 Notice including information on biogas upgrading plant emissions, noise risk assessment, air extraction system and

Status log of the permit		
Description	Date	Comments
		odour abatement and screw press. Submission of a site plan.
Variation determined EPR/GP3893MX (Billing ref. DP3139QQ)	19/06/2019	Varied and consolidated permit issued in modern condition format.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

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

Permit number

EPR/GP3893MX

Issued to

Mr Ian Bond and Mrs Caroline Bond (“the operator”)

of

Northwick Estate
The Estate Office
Upton Wold
Moreton-In-Marsh
Gloucestershire
GL56 9TR

to operate a regulated facility at

Stanley's Quarry
Westington Hill
Chipping Campden
Gloucestershire
GL55 6UR

to the extent set out in the schedules.

The notice shall take effect from **19/06/2019**.

Name	Date
David Griffiths	19/06/2019

Authorised on behalf of the Environment Agency

Schedule 1

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

- Table S1.1 as referenced in condition 2.1.1 is amended to add a third CHP engine, three pasteurisation tanks, two flares, gas to grid plant and air ventilation/extraction system in the reception building. Restriction to exhaust gas heat recovery is removed.
- Table S1.2 as referenced in conditions 2.3.1 and 2.3.2 is amended to include the approved bund design and construction details and new operating techniques in relation to the proposed changes.
- Table S1.3 as referenced in condition 2.4.1 and 2.4.2 has been added to reflect two new improvement conditions.
- Table S1.4 as referenced in condition 2.5.1 has been added to reflect a new pre-operational condition.
- Table S3.1 as referenced in condition 3.5.1 has been amended to include new emission points.
- Table S4.1 as referenced in condition 4.2.3 has been amended to include references to new emission points.
- The site plan as referenced in condition 2.2.1 has been amended.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/GP3893MX

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/GP3893MX/V006 authorising,

Mr Ian Bond and Mrs Caroline Bond (“the operator”),

of

**Northwick Estate
The Estate Office
Upton Wold
Moreton-In-Marsh
Gloucestershire
GL56 9TR**

to operate an installation at

**Stanley's Quarry
Westington Hill
Chipping Campden
Gloucestershire
GL55 6UR**

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

Name	Date
David Griffiths	19/06/2019

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.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

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”).
- 2.1.2 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.5 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.
- 2.3.6 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.

2.5 Pre-operational conditions

- 2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

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 table S3.1.
- 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.

3.4 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 table S3.1;
- (b) process monitoring specified in table S3.2.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 table S3.1 unless otherwise agreed in writing by the Environment Agency.

3.6 Pests

3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

3.6.2 The operator shall:

- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
- (b) implement the pests management plan, from the date of approval, 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.

4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately —
 - (i) inform the Environment Agency,

- (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
- (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately —
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

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

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “immediately”, in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
AR1	S5.4 A(1) (b) (i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	R3: Recycling/reclamation of organic substances which are not used as solvents	<p>From receipt of waste through to digestion and recovery of by-products (digestate).</p> <p>Anaerobic digestion of waste in three tanks followed by burning of biogas produced from the process.</p> <p>The total maximum throughput shall not exceed 190 tonnes per day.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p>
Directly Associated Activity			
AR2	Storage of waste pending recovery or disposal	R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced)	<p>From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery and/or disposal.</p> <p>Storage of waste in an enclosed building on an impermeable surface with sealed drainage system.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2</p>
AR3	Physical treatment for the purpose of recycling	R3: Recycling/reclamation of organic substances which are not used as solvents	<p>From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery.</p> <p>Pre-treatment of waste in enclosed building and on impermeable surface with sealed drainage system including screening, sorting, shredding, mixing,</p>

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
			<p>compaction, crushing, baling and maceration.</p> <p>Post-treatment of digestate in an enclosed building and on an impermeable surface with sealed drainage system, including screening to remove contraries, centrifuge or pressing and addition of thickening agents (polymers) or drying for use as a fertiliser or soil conditioner (drying for the purpose of use as a fuel is not permitted).</p> <p>Heat treatment (pasteurisation) of waste in three tanks for the purpose of recovery.</p> <p>Gas cleaning by biological or chemical scrubbing.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p>
AR4	Steam and electrical power supply	R1:Use principally as a fuel to generate energy	<p>From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the release of combustion gases.</p> <p>Combustion of biogas in three combined heat and power (CHP) engines with an aggregated thermal input of 7.8 MW.</p> <p>Recovery of heat from CHP engine using organic rankine cycle system.</p>
AR5	Emergency flare operation	D10: Incineration on land	<p>From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases.</p>

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
			Use of two auxiliary flares required only during periods of breakdown or maintenance of the CHP engines and biogas upgrading plant.
AR6	Gas upgrading	Upgrading of biogas to biomethane (including the removal of moisture and other substances such as carbon dioxide, hydrogen sulphide and Volatile organic compounds) for injection into the National Grid.	From the receipt of biogas produced at the on-site anaerobic digestion process to injection into the National Grid. This includes return of off-specification biogas for combustion to the on-site CHP engines and/or emergency flares.
AR7	Raw material storage	Storage of raw materials including lubrication oil, antifreeze, ferric chloride, diesel, trace elements, propane, odorant and disinfectant.	From the receipt of raw materials to despatch for use within the facility
AR8	Gas storage	Storage of biogas produced from on-site anaerobic digestion of permitted waste in roof (head space) of digesters and storage tanks.	From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.
AR9	Digestate storage	Storage of liquid digestate in the post digestion tank or the covered lagoon.	From the receipt of digestate produced from the on-site anaerobic digestion process to despatch for use off-site.
AR10	Air extraction	Collection of air from the reception building.	From the collection of air from site processes to release of air to atmosphere via 10 m stack.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	Application and supporting documentation submitted, including fugitive emission management plan ref NGB 010, dated May 2010 or otherwise agreed in writing with the Agency.	05/05/10
Application	The response to section 5a table 2 of Part B of the application form – technical standards	05/05/10
Variation Application	Appendix 7 lagoon management plan	11/11/13
Variation Application	<p>Schedule 5 responses</p> <ul style="list-style-type: none"> Operator response to Schedule 5 (09.01.14) Email: “RE: Permit Variation EPR/GP3893MX Schedule 5: Request for information” – reply to question 3a of Schedule 5 request for information <p>Air Quality Screening Assessment by Enzygo for Stanley Quarry AD Facility Reference: CRM 071 011 PR 001 A including Appendix B Technical Description for Northwick Estate.</p>	<p>09/01/14</p> <p>15/01/14</p> <p>19/06/14</p>
Submission of bund design and construction details to the Environment Agency	<ul style="list-style-type: none"> Clegg Associates Report - Northwick AD Plant. Bund to AD Plant for Northwick Biogas Ltd. Document Version 02. 06/07/2018. Project Ref: 2017-074. Document Reference: SE-02-P02, and associated Drawings No 101, 102 & 103 Integrale Geotechnical Report – Report 1958, July 2018 Existing Site Plan –No. 57141_SPSURVEY - As built drawing Rev.1 March 2019 	<p>11/07/18</p> <p>25/04/19</p>
Variation application EPR/GP3893MX/V006 Response to Schedule 5 Notice dated 13/12/18	<ul style="list-style-type: none"> Section 5 Operating Techniques and Monitoring Plan of Environmental Permit Variation Application Report CRM 071 002 dated January 2019 Odour Management Plan, Document ref. CRM 071 002 PE R 008 C dated January 2019 	21/01/19

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	The operator shall carry out a monitoring study to verify the assumptions made in the application in relation to the releases of pollutants to air. The study shall include the monitoring of point source releases to air from the biogas upgrading plant emission point A6 during normal operation, having regard to the Environment Agency technical guidance M2 and to MCERTS standards. As a minimum, two separate monitoring campaigns	19/06/2020 or otherwise agreed in writing by the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>in a year shall be completed (one monitoring survey six months following commissioning of the biogas upgrading plant).</p> <p>The pollutants to be monitored shall include:</p> <ul style="list-style-type: none"> • total volatile organic compounds; and • hydrogen sulphide 	
IC2	<p>Following the completion of IC1, the operator shall undertake an impact assessment of all point source releases to air, using the information obtained through the emissions monitoring. The environmental impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review.</p> <p>The environmental impact assessment shall, as a minimum, include:</p> <ul style="list-style-type: none"> • reports showing details of the monitoring undertaken and the results obtained; • results of the assessment of long and short term impacts from the emissions in accordance with Environment Agency Guidance – Air emissions risk assessment for your environmental permit • a completed H1 assessment software tool <p>If the H1 assessment shows potential long or short term impacts from the emissions, the operator shall propose an action plan to reduce the impacts of the substances identified.</p>	3 months from the completion of IC1 or otherwise agreed in writing by the Environment Agency

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
1	Installation of external solid waste storage unit serving the screw press	Prior to installing solid waste storage unit in the yard area, the operator shall submit a report detailing the measures that will be taken to prevent and control odour during the transfer of waste material to the storage unit. The report shall also include information to confirm the exact location and how the storage unit is designed and operated to control potential emissions.

Schedule 2 – Waste types, raw materials and fuels

Raw materials and fuel description	Specification
Fuel oil	Sulphur content not exceeding 0.1% by mass

Maximum quantity	Annual throughput shall not exceed 70,000 tonnes per year
Waste code	Description
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	sludges from washing and cleaning
02 01 02	animal-tissue waste
02 01 03	plant-tissue waste
02 01 06	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 01	sludges from washing and cleaning
02 02 02	animal-tissue waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 02 99	sludges from gelatine products, animal gut contents
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 03 99	sludges from the production of edible fats and oils to include seasoning residues, molasses residues, residues from the production of potato, corn or rice starch.
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment

Table S2.2 Permitted waste types and quantities for anaerobic digestion facility	
Maximum quantity	Annual throughput shall not exceed 70,000 tonnes per year
Waste code	Description
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
16	Wastes not otherwise specified in the list
16 10	aqueous liquid wastes destined for off-site treatment
16 10 02	liquor/leachate from a composting process that accepts waste input types listed in this table only
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 05	wastes from aerobic treatment of solid wastes
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
19 06	wastes from anaerobic treatment of waste
19 06 03	liquor from anaerobic treatment of municipal waste
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 05	liquor from anaerobic treatment of animal and vegetable waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	wastes from waste water treatment plants not otherwise specified
19 08 09	grease and oil mixture containing only edible oils and fats
19 08 12	sludges from industrial biological treatment
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 08	biodegradable kitchen and canteen waste
20 01 25	edible oil and fat
20 03	Other municipal wastes
20 03 01	mixed municipal waste – separately collection biowastes

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
Point A1 [Point A1 on site plan in schedule 7] [note 4]	Exhaust Stack from Engine 1 & 2 via ORC* [note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m ³			BS EN 14791
		Carbon monoxide	1400 mg/m ³			BS EN 15058
		Total VOCs	1000 mg/m ³			BS EN 12619:2013
Point A2 [Point A2 on site plan in schedule 7]	Exhaust Stack from Engine 3 [note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	107 mg/m ³			BS EN 14791
		Carbon monoxide	1400 mg/m ³			BS EN 15058
		Total VOCs	1000 mg/m ³			BS EN 12619:2013
Point A3a [Point A3a on site plan in schedule 7]	Emergency flare 1 [note 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³	Hourly average	[note 3]	BS EN 14792
		Carbon monoxide	50 mg/m ³			BS EN 15058
		Total VOCs	10 mg/m ³			BS EN 12619:2013
Point A3b [Point A3b on site plan in schedule 7]	Emergency flare 2 [note 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³	Hourly average	[note 3]	BS EN 14792
		Carbon monoxide	50 mg/m ³			BS EN 15058
		Total VOCs	10 mg/m ³			BS EN 12619:2013

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
Point A4 [Point A4 on site plan in schedule 7]	Reception Building Air Extraction System via Stack	Odour	No limit set	None specified	Daily odour sniff test	--
Point A6 [Point A6 on site plan in schedule 7]	Biogas upgrading plant stack	No parameter set	No limit set	None specified	--	--
Pressure relief valves	Digesters and Storage tanks	Biogas	No limit set	None specified	Record of operating hours	

Note 1 – These limits are based on normal operating conditions and load – temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 5 per cent (dry gas). The measurement uncertainty specified in LFTGN08 v2 2010 shall apply.

Note 2 – These limits are based on normal operating conditions and load – temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 3 per cent (dry gas). The measurement uncertainty specified in LFTGN05 v2 2010 shall apply.

Note 3 – Monitoring to be undertaken 12 months after commissioning of the emergency flare. Following commissioning, monitoring to be undertaken in the event the emergency flares have been operational for more than 10 per cent of a year (876 hours). Record of operating hours to be submitted annually to the Environment Agency.

Note 4 – CHP engine 1 and 2 share a common stack Point A1 consisting of one flue.

*ORC – Organic Rankine Cycle System

Table S3.2 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Biogas from Digesters	Flow	Continuous	In accordance with EU weights and measures Regulations	--
Biogas from Digesters	Methane	Continuous	--	Gas monitors to be calibrated in accordance with manufacturer's recommendations
	Hydrogen sulphide	Daily	None specified	--

Table S3.2 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Waste reception building; Digesters and storage tanks	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.
Digesters; storage tanks and secondary containment	Integrity checks	Weekly	Visual assessment	--

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.	Point A1, A2, A3a, A3b	Every 12 months	1 January, 1 April, 1 July, 1 October

Table S4.2 Annual production/treatment	
Parameter	Units
Electricity generated	MWh
Biomethane generated	tonnes or m ³
Liquid digestate	tonnes or m ³
Solid digestate	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes or m ³
Energy usage	Annually	MWh
Raw material usage	Annually	tonnes or m ³
Biomethane exported to grid	Annually	tonnes or m ³
Emergency flare operation	Annually	hours
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%

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	19/06/2019
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	19/06/2019
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	19/06/2019
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	19/06/2019
Waste returns	E-waste Return Form or other form as agreed in writing by the Environment Agency	--

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.

“ADQP” means Anaerobic Digestion Quality Protocol

“anaerobic digestion” means a process of controlled decomposition of biodegradable materials under managed conditions where free oxygen is absent, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobes and facultative anaerobe bacteria species, which convert the inputs to a methane-rich biogas and whole digestate.

“animal waste” means any waste consisting of animal matter that has not been processed into food for human consumption.

“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.

“building” means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

“digestate” means material resulting from an anaerobic digestion process.

“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.

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

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“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.

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface.

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

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

“pests” means Birds, Vermin and Insects.

“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.

“sealed drainage system” in relation to an impermeable surface, means a drainage system with impermeable components which does not leak and which will ensure that:

- no liquids will run off the surface otherwise than via the system
- all liquids entering the system are collected in a sealed sump, except where liquids may be lawfully discharged to foul sewer.

“treated wood” means any wood that has been chemically treated (e.g. to enhance or alter the performance of the original wood). Treatments may include penetrating oils, tar oil preservatives, water-borne preservatives, organic-based preservatives, boron and organo-metallic based preservatives, boron and halogenated flame retardants and surface treatments (including paint and venner).

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste.

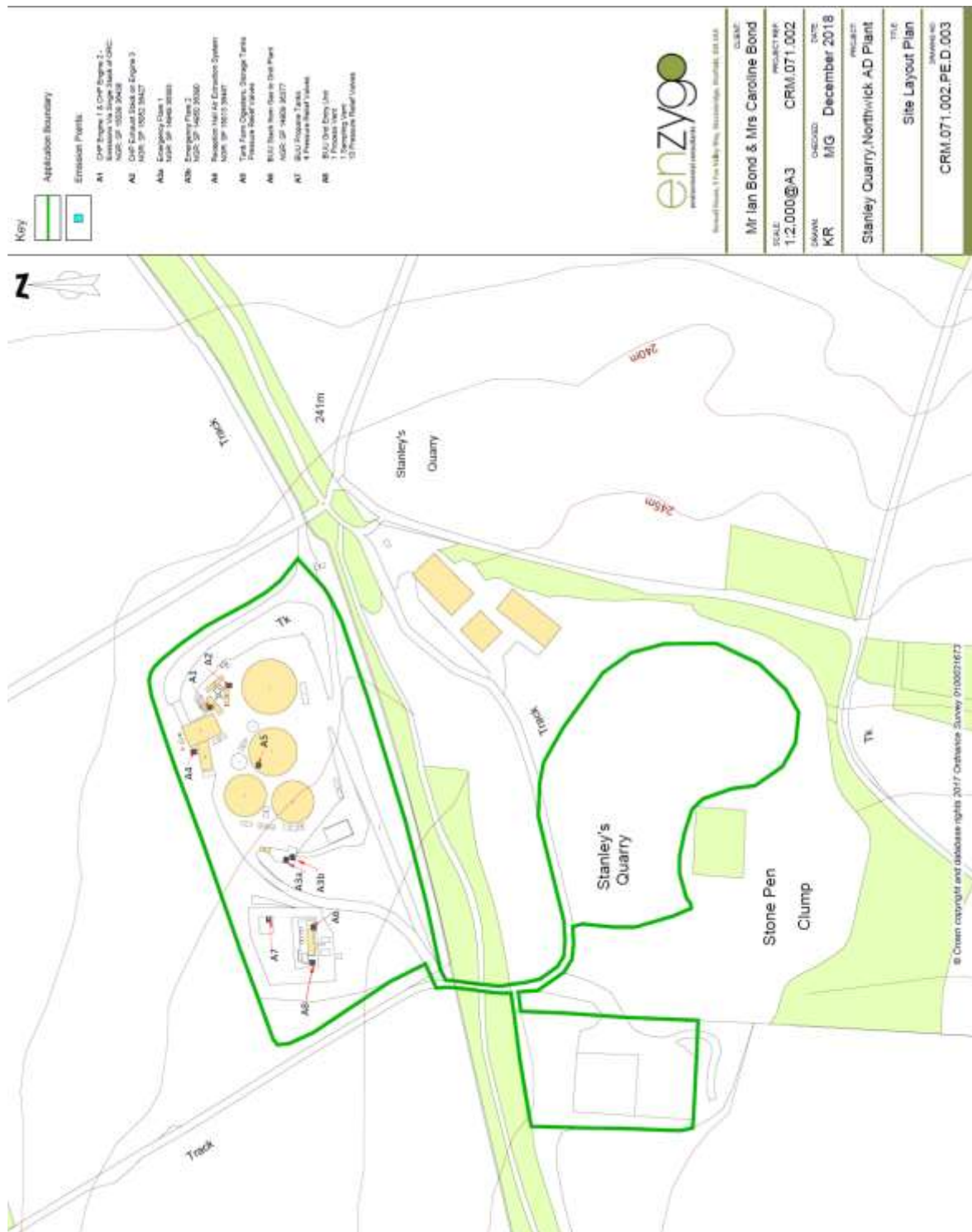
“year” means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid fuels, 5% for gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

Schedule 7 – Site plan



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END OF PERMIT

Permit Number: EPR/GP389MX

Operator:

**Mr Ian Bond and Mrs
Caroline Bond**

Facility: Stanley's Quarry

Form Number:

Air1 / 19/06/2019

Reporting of emissions to air for the period from DD/MM/YYYY to DD/MM/YYYY

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
Point A1 on site plan (Engine 1 and 2)	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	1 hour period		BS EN 14792		
	Sulphur dioxide	350 mg/m ³	1 hour period		BS EN 14791		
	Carbon monoxide	1400 mg/m ³	1 hour period		BS EN 15058		
	Total VOCs	1000 mg/m ³	1 hour period		BS EN 12619:2013		
Point A2 on site plan (Engine 3)	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	1 hour period		BS EN 14792		
	Sulphur dioxide	107 mg/m ³	1 hour period		BS EN 14791		
	Carbon monoxide	1400 mg/m ³	1 hour period		BS EN 15058		
	Total VOCs	1000 mg/m ³	1 hour period		BS EN 12619:2013		
Point A3a on Site Plan	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³	1 hour period		BS EN 14792		
	Carbon monoxide	50 mg/m ³	1 hour period		BS EN 15058		

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
	Total VOCs	10 mg/m ³	1 hour period		BS EN 12619:2013		
Point A3b on Site Plan	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³	1 hour period		BS EN 14792		
	Carbon monoxide	50 mg/m ³	1 hour period		BS EN 15058		
	Total VOCs	10mg/m ³	1 hour period		BS EN 12619:2013		

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed

Date.....

(Authorised to sign as representative of Operator)

Permit Number: EPR/GP3893MX

**Operator: Mr Ian Bond and Mrs
 Caroline Bond**

Facility: Stanley's Quarry

Form Number:

WaterUsage1 / 19/06/2019

Reporting of Water Usage for the year

Water Source	Usage (m³/year)	Specific Usage (m³/unit output)
Mains water		
Site borehole		
River abstraction		
TOTAL WATER USAGE		

Operator's comments:

Signed

Date.....

(authorised to sign as representative of Operator)

Permit Number: EPR/GP3893MX

Operator:

**Mr Ian Bond and Mrs
Caroline Bond**

Facility: Stanley's Quarry

Form Number:

Energy1 / 19/06/2019

Reporting of Energy Usage for the year

Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	MWh		
Biogas	tonnes or m ³		
Natural Gas	MWh		
Recovered Fuel Oil	tonnes		
Gas Oil	tonnes		
TOTAL	-		

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments:

Signed

Date.....

(Authorised to sign as representative of Operator)

Permit Number: EPR/GP3893MX

**Operator: Mr Ian Bond and Mrs
 Caroline Bond**

Facility: Stanley's Quarry

Form Number:

Performance1 / 19/06/2019

Reporting of other performance indicators for the period DD/MM/YYYY to DD/MM/YYYY

Parameter	Units
Total raw material used	tonnes
CHP engine usage	hours
CHP engine efficiency	%
Biomethane exported to grid	tonnes or m ³
Emergency flare operation	hours
Electricity exported	MWh

Operator's comments:

Signed

Date.....

(Authorised to sign as representative of Operator)