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Offshore Petroleum Regulator
for Environment & Decommissioning

BP EXPLORATION OPERATING COMPANY LIMITED
CHERTSEY ROAD
SUNBURY ON THAMES
MIDDLESEX
TW16 7BP

Registered No.: 00305943

Date: 18th August 2021

Department for Business, Energy
& Industrial Strategy

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Dear Sir or Madam

**THE OFFSHORE COMBUSTION INSTALLATIONS (POLLUTION PREVENTION
AND CONTROL) REGULATIONS 2013 (AS AMENDED)
Glen Lyon FPSO**

I refer to our letter of 28th June 2021, Notice of Variation to PPC permit conditions.

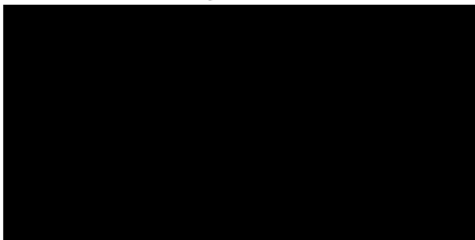
The Secretary of State has amended the conditions of your permit, reference PPC/82/6 (Version 1)

If you have made a derogation request this has also been considered.

The amended application will now form the basis of your permit, and an amended copy of the permit and the applicable terms and conditions are attached, together with any relevant comments on the revised application.

If you have any queries in relation to this notification or the attachments, please do not hesitate to contact [REDACTED] on +44 (0)1224 254 173 or email Environmental Management Team at bst@beis.gov.uk.

Yours faithfully



**THE OFFSHORE COMBUSTION INSTALLATIONS (POLLUTION PREVENTION
AND CONTROL) REGULATIONS 2013 (AS AMENDED)**

OFFSHORE COMBUSTION INSTALLATION PERMIT

Glen Lyon FPSO

PPC/82/6 (Version 1)

Having completed a review of the conditions of your permit under Regulation 13 of the Offshore Combustion Installation (Pollution Prevention and Control) Regulations 2013 (as amended), the Secretary of State gives you notice of his decision to vary the permit conditions. In exercise of the powers available under Regulation 14(5) of the Offshore Combustion Installation (Pollution Prevention and Control) Regulations 2013 (as amended) the Secretary of State hereby grants a permit to BP EXPLORATION OPERATING COMPANY LIMITED to undertake the operations as set out in the Variation Notice and in accordance with the conditions specified in the attached schedules.

Effective Date: 18th August 2021



THE OFFSHORE COMBUSTION INSTALLATION (POLLUTION PREVENTION AND CONTROL) REGULATIONS 2013 (as amended)

SCHEDULE I OF PERMIT CONDITIONS

The grant of the permit is conditional upon the permit holder complying with the following conditions.

1. Location of Installation

Installation Name or Identifier	Glen Lyon FPSO		
Quad Block Location	Quadrant	Block	Suffix
	204	20	
Coordinate Location	Datum:	ED50	
	Coordinates:	60 21 24 N 004 04 00 W	

2. Table 1 Combustion equipment authorised under the permit

Item No.	Equipment Name and Model	TAG / Facility No.	Fuel Type	Type of Equipment and Primary Purpose	Maximum Rated Output (MW)	Maximum Thermal Input (MW(th))
1	Wartsila 8L26	ZG-79501	Diesel	Diesel engine driving Key Service Generator	2.50	5.61
2	Wartsila 8L26	ZG-79502	Diesel	Diesel engine driving Key Service Generator	2.50	5.61
3	MTU 16V4000P81 – 3C	ZG-82101	Diesel	Diesel engine driving Emergency Generator	2.11	5.29
4	MTU Friedrichshafen 12V4000P83 3C	PD-60001	Diesel	Diesel engine driving Fire Water Pump	1.65	4.08
5	MTU Friedrichshafen 12V4000P83 3C	PD-60002	Diesel	Diesel engine driving Fire Water Pump	1.65	4.08
6	MTU Friedrichshafen 12V4000P83 3C	PD-60003	Diesel	Diesel engine driving Fire Water Pump	1.65	4.08



7	Hamworthy Moss AS	V-77110	Diesel	Inert gas generator	n/a	7.21
8	Hamworthy Moss AS	V-77111	Diesel	Inert gas generator	n/a	7.21
9	Atlas Copco LT20-30 DIESEL	Z-C-730113	Diesel	Emergency Start-up Air Compressor	0.0189	0.0567
10	Atlas Copco LT20-30 DIESEL	Z-C-730114	Diesel	Emergency Start-up Air Compressor	0.0189	0.0567
11	Temporary equipment	n/a	Diesel	Temporary equipment as required	n/a	n/a
12	LM2500+G4 (model RC)	ZG-81101	Gas,diesel	GT for power generation	31.9	85.8
13	LM2500+G4 (model RC)	ZG-81201	Gas,diesel	GT for power generation	31.9	85.8
14	LM2500+G4 (model RC)	ZG-81301	Gas,diesel	GT for power generation	31.9	85.8
15	LM2500+G4 (model RC)	ZG-81401	Gas,diesel	GT for power generation	31.9	85.8

3. Table 2 Emission Limit Values (ELVs) for combustion equipment authorised under the permit

Item No.	Nitrogen Oxides (NOx) mg/Nm3	Sulphur Oxides (SOx) mg/Nm3	Carbon Monoxide (CO) mg/Nm3	Methane (CH4) mg/Nm3	Non-methane VOCs mg/Nm3	Dust (PM) mg/Nm3
1	n/a	n/a	n/a	n/a	n/a	n/a
2	n/a	n/a	n/a	n/a	n/a	n/a
3	n/a	n/a	n/a	n/a	n/a	n/a
4	n/a	n/a	n/a	n/a	n/a	n/a
5	n/a	n/a	n/a	n/a	n/a	n/a
6	n/a	n/a	n/a	n/a	n/a	n/a
7	n/a	n/a	n/a	n/a	n/a	n/a
8	n/a	n/a	n/a	n/a	n/a	n/a
9	n/a	n/a	n/a	n/a	n/a	n/a
10	n/a	n/a	n/a	n/a	n/a	n/a
11	n/a	n/a	n/a	n/a	n/a	n/a
12	585	n/a	n/a	n/a	n/a	n/a
13	585	n/a	n/a	n/a	n/a	n/a
14	585	n/a	n/a	n/a	n/a	n/a
15	585	n/a	n/a	n/a	n/a	n/a



4. Table 3 Total annual emissions of polluting substances from combustion equipment authorised under the permit

Year No.	Nitrogen Oxides (NOx) tonnes	Sulphur Oxides (SOx) tonnes	Carbon Monoxide (CO) tonnes	Methane (CH4) tonnes	Non-methane VOCs tonnes	Dust (PM) tonnes
2016	601	28.8	13.8	0.845	0.845	n/a
2017	918	22.5	336	65.4	8.14	n/a
2018	2502	51.8	776	148	10	n/a
2019	2502	51.8	776	148	7.16	n/a
2020	2502	51.8	776	148	7.16	n/a
2021	2502	51.8	776	148	7.16	n/a
2022	2502	51.8	776	148	7.16	n/a
2023	2502	51.8	776	148	7.16	n/a

THE OFFSHORE COMBUSTION INSTALLATION (POLLUTION PREVENTION AND CONTROL) REGULATIONS 2013 (AS AMENDED)

SCHEDULE II OF PERMIT CONDITIONS

The grant of this permit is conditional upon the permit holder complying with the following conditions.

1 Permit Validity

The permit is valid from 23 May 2016.

2 Prevention of Pollution

a) The permit holder must ensure that appropriate measures are taken to minimise discharges, emissions and waste, in particular through the appropriate use of technology including the application of the best available techniques, in so far as it is practicable to do so; and must ensure that necessary measures are taken to prevent incidents affecting the environment or, where they occur, to limit their consequences in relation to the environment.

b) The permit holder must ensure that any liquid or solid wastes arising from the operation of the combustion equipment authorised under the permit must, so far as practicable, be recovered for onshore recycling or disposal, or disposed of offshore in accordance with the conditions of any relevant authorisations, consents or permits that may be required under other legislation.

c) In the event that the permit holder becomes aware of any incident (including breach of any permit conditions and or emission limits) or accident which may significantly affect the environment, the permit holder must immediately inform the Department and any other public body with responsibilities concerning such incidents or accidents and must ensure that measures are taken to limit the environmental consequences and prevent further possible incidents or accidents.

d) When operations cease, the permit holder must ensure that all necessary measures are taken to avoid any risk of pollution arising as a consequence of any decommissioning operation or the removal of the offshore combustion equipment.

3 Maintenance of Records

The permit holder must maintain records of fuel use, fuel composition, running hours and running loads for the combustion equipment authorised under the permit, to facilitate calculation of the total emissions of the polluting substances from the combustion equipment. Copies of these records must be made available to the Department upon request, and retained for a period of ten calendar years following submission of the relevant permit returns (see below).

4 Inspections

Should the Department consider it necessary or expedient for an inspector appointed by the Secretary of State to investigate whether the conditions of the permit are being complied with, the permit holder must afford the inspector with such facilities and assistance as the inspector considers necessary to exercise the powers conferred by the regulations, and must provide the inspector with documented evidence of the arrangements in place to demonstrate how compliance with the conditions of the permit is being achieved. The permit holder must additionally ensure that copies (electronic or paper) of the permit and any other relevant documents are available for inspection by the inspector at:

- a) the premises of the permit holder;
- b) the premises of any agent acting on behalf of the permit holder;
- c) the facilities undertaking the operations covered by the permit.

5 Check Monitoring

Should the Department consider it necessary or expedient to undertake an independent monitoring programme to assess the impact of the operations covered by the permit, the permit holder must afford the Department with such facilities and assistance as the Department considers necessary to undertake the work.

6 Monitoring - General

- a) Where directed by the Department the permit holder must undertake an emissions stack monitoring survey to determine the levels of polluting substances in the emissions from the combustion equipment authorised under the permit; to determine the suitability of the emission projections that form the basis of the total permitted annual emissions and the suitability of the emission factors used to calculate the total annual emissions of polluting substances.
- b) The monitoring programme must be agreed with the Department prior to undertaking each monitoring survey.
- c) Copies of monitoring survey reports must be submitted to the Department within three months of completion of the survey, and the frequency and scope of future monitoring surveys will be determined by the Department following an assessment of the results of each monitoring survey.

7 Monitoring for Large Combustion Plant

- a) Monitoring of Open Cycle Gas Turbines (large combustion plant) with a total rated thermal input of 50MW or more must be carried out in accordance with the provisions of the Large Combustion Plant Best Available Techniques Conclusions, (Commission Implementing Decision (EU) 2017/1442, as notified under c(2017)5225).

- b) Monitoring of large combustion plant to which Chapter III of the Industrial Emissions Directive (2010/75/EU) applies, must be carried out in accordance with Annex V of the Industrial Emissions Directive (2010/75/EU).
- c) The permit holder must submit an annual monitoring plan for the Large Combustion Plant to the Department.
- d) The permit holder, unless otherwise agreed with the Department, must undertake annual emissions stack monitoring of Nitrogen Oxides and Carbon Monoxide in accordance with the annual monitoring plan submitted pursuant to condition c immediately preceding this paragraph.
- e) The permit holder, must notify the Department within 14 days of becoming aware that the emission limit value(s) as set out in Schedule 1 Table 2, in relation to any Open Cycle Gas Turbine (large combustion plant) with a total rated thermal input of 50MW or more, exceeds the Best Available Technique Associated Emission Levels (BAT-AEL) for Nitrogen Oxides whilst operating at greater than 70% of baseload power (LCP BAT-AELs are based on greater than 70% of base load power available on the day).
- f) Where the Department have granted a time limited derogation from the BAT-AEL emission limit values for Nitrogen Oxides, the derogated emission limit value in Schedule I, Table 2 and the date of expiry of the derogated emission limit value are set out in the derogation annex to this permit.
- g) The permit holder must, by 17 August 2023, review and submit a report of the measures taken to reduce/mitigate Nitrogen Oxide emissions and further opportunities to identify and increase energy efficiency.
- h) The permit holder must maintain records of monitoring of Large Combustion Plant including records of taking and analysis of emissions samples, instrument measurements (periodic and continual), calibrations examinations, tests and surveys and any assessment or evaluation made on the basis of such data. Copies of these records must be made available to the Department upon request and retained for a period of ten calendar years.
- i) Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring of Large Combustion Plant must have either Monitoring Certification Scheme (MCERTS) certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed with the Department.

8 Energy Audit

- a) Where directed by the Department, the permit holder must undertake or commission an energy audit or assessment to quantify the total energy use on the combustion installation and the energy consumption by specific equipment or processes, to identify opportunities for energy efficiencies and/or the reduction of

emissions of pollutant substances.

b) Where directed by the Department, the energy audit or assessment must include a cost benefit analysis for the replacement of existing combustion equipment with more efficient combustion equipment and/or the replacement of equipment or the use of abatement technology to reduce the emissions of pollutant substances.

c) Where directed by the Department, the permit holder must provide a report detailing any progress in relation to the proposed replacement of existing combustion equipment and/or the use of abatement technology.

d) Copies of energy audit or assessment reports, cost benefit analysis reports and progress reports must be submitted to the Department within agreed deadlines, and the frequency and scope of any future energy audits or assessments, cost benefit analyses or progress reports will be determined by the Department following a review of the relevant submitted reports.

9 Permit Returns

The permit holder must, within three calendar months of the end of each calendar year, submit a return of the emissions from the combustion equipment authorised under the permit. The return should be submitted using the appropriate Environmental Emissions Monitoring System (EEMS) reporting form.

10 Permit Review

The permit may be subject to formal review, and the Department will contact the permit holder prior to a proposed review to confirm the arrangements. The permit holder must provide the Department with any information that the Department considers necessary to undertake a proposed review.

11 Permit Variation

In the event of the permit holder becoming aware that any of the information on which the issue of the permit was based may change, or has changed, they must notify the Department immediately and may be required to submit an application for a permit variation. In the event that the permit holder wishes any of the particulars detailed in the permit to be altered, the permit holder must notify the Department immediately and request a variation to the permit.



THE OFFSHORE COMBUSTION INSTALLATIONS (POLLUTION PREVENTION AND CONTROL) REGULATIONS 2013 (AS AMENDED)

DEROGATION ANNEX

Derogation from Nitrogen Oxides Emission Limit Value under Article 15(4) of Industrial Emissions Directive (2010/75/EU)

1. Emission Limit Value Derogation

The Department has set an Emission Limit Value for Nitrogen Oxides that derogates from the recommended Best Available Technique Associated Emission Levels range in the Large Combustion Plant Best Available Techniques Conclusions (Commission Implementing Decision (EU) 2017/1442, as notified under c(2017) 5225).

Combustion equipment and derogated Emission Limit Value

TAG / Facility No.	Equipment Name and Model	Best Available Technique (BAT) - Associated Emission Limit (AEL) * mg/Nm3	Derogated Emission Limit Value mg/Nm3	Date of Expiry of Derogated Emission Limit Value (ELV)
ZG-81101	LM2500+G4 (model RC)	350	585	17th August 2025
ZG-81201	LM2500+G4 (model RC)	350	585	17th August 2025
ZG-81301	LM2500+G4 (model RC)	350	585	17th August 2025
ZG-81401	LM2500+G4 (model RC)	350	585	17th August 2025

** LCP BAT conclusions Table 32, BAT-associated emission levels (BAT-AELs) for NOx emissions to air from the combustion of gaseous fuels in open-cycle gas turbines on offshore platforms.*

2. Basis for the Derogation

Pursuant to regulation 10 of the above Regulations, the Secretary of State may set emission limit values as a condition of a permit which are less strict than the values required by the 2010 Directive ("the Article 15(3) values"). In order to exercise this power, the Secretary of State must comply with the requirements of Regulation 10(2) of the above regulations, and, if subsequently applicable, regulation 10(3).

The Department, acting on behalf of the Secretary of State, has undertaken an

assessment to assess whether to impose Article 15(3) would lead to disproportionately higher costs compared to the environmental benefits because of:

- (i) The geographical location of the relevant platform; or
- (ii) The technical characteristics of the offshore combustion installation

The Department must also be satisfied that by setting equivalent limit values no significant pollution will be caused and a high level of protection for the environment as a whole will be achieved.

3. Decision

The derogation request meets the geographical location criteria of Regulation 10(2)(a)(i) as demonstrated by the cost benefit analysis and supporting information. The permit holder has demonstrated that the costs of achieving the BAT-AEL by 18 August 2021 are disproportionate to the environmental benefits.

The Department has set the Emission Limit Value(s) on the grounds that it is satisfied:

- that by setting higher Emission Limit Values, no significant pollution will be caused and a high level of protection of the environment as a whole will be achieved, due to the geographical location of the installation and the supporting information provided to populate the IED CBA tool as part of the derogation request;
- it represents Best Available Techniques for the installation; and
- that the expiry of the derogated emission limit value, as set out in the table included in this annex, is appropriate.

COMMENTS ON OFFSHORE COMBUSTION INSTALLATION PERMIT APPLICATION

The attention of the permit holder is drawn to the following provisions and comments relating to your application under the Offshore Combustion Installation (Pollution Prevention and Control) Regulations 2013 (as amended):

1) The permit holder must satisfy themselves that there are no barriers, legal or otherwise, to the carrying out of the operations covered by the permit. The issue of the permit does not absolve the permit holder from obtaining such authorisations, consents etc that may be required under any other legislation.

2) The Secretary of State may exercise powers under regulations 13 to 16 of the Offshore Combustion Installation (Pollution Prevention and Control) Regulations 2013 (as amended):

a) to review and/or vary the grant of the permit together with any of the conditions described in the schedules attached to the permit; and

b) to suspend or revoke the grant of the permit.

3) The Department would draw your attention to the following comments:

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BP are reminded that previous years' total annual emissions data can be removed at the next variation as these are no longer required.

4) All communications relating to the permit should be addressed to:

Out-of-hours emergency permit variations:

Telephone Met Office out-of-hours service (0330 135 0010) and ask to be connected to the Department's On-call Response Officer (Offshore Environmental Inspectorate).

Routine communications

bst@beis.gov.uk

or

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