

Mrs Karen Dunn
Senior Officer - Industry & Waste Regulation
South West Wales Industry Regulation Team
Natural Resources Wales (NRW)
Maes Newydd
Llandarcy
Neath Port Talbot
SA10 6JQ

Our Ref: SHLNG-TS-ENV-C-596

Your Ref: EPR/XP3538LD

Date: 21 January 2021

Dear Mrs Dunn,

Operator: South Hook LNG Terminal Company LTD.
EPR Environmental Permit Number EPR/ XP3538LD
Condition 4.2.2 – Report(s) on the Performance of the Activities Over the Previous Year 2020
Condition 4.2.3 – Report(s) of the Permit Monitoring and Assessments

Please find enclosed the report(s) on the performance of the permitted activities over the previous year 2020; and report(s) of the permit monitoring and assessments undertaken for 2020 and the period Q3 & Q4 2020 from 1 July 2020 to 31 December 2020.

Please do not hesitate to contact me should you have any queries, or I can be of further assistance.

Yours sincerely



Dr Shane Evans
Senior Environmental Engineer.

Attachments:

- Form Number: Air / 14th October 2015
- Form Number: Water1a / 14th October 2015
- Form Number: Water1b / 14th October 2015
- Form Number: WaterUsage1 / 14th October 2015
- Form Number: Energy1 / 14th October 2015
- Form Number: Performance1 / 14th October 2015
- Table S4.2: Annual Production 2020

cc. Mr Zoltan Hazos, Technical Services Manager.

SH 20/01/21
ZFH 21/01/21

Permit Number: EPR/XP3538LD Operator: South Hook LNG Terminal Company LTD.

Facility: South Hook LNG Terminal Form Number: Air / 14th October 2015

Reporting of emissions to air for the period from 01/11/2020 to 31/12/2020

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
A8	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	107 mg/Nm ³	Continuous	64.7	BS EN 14181	1.4.2020 98.76% data capture	10.4%
A8	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	107 mg/Nm ³	1 hour sample	52.3	BS EN 14792	11.3.2020 @12:00	5.8
A8	Carbon monoxide	-	1 hour sample	457.0	BS EN 15058	21.10.2020 @12:00	40.2
A11	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	107 mg/Nm ³	Continuous	74.7	BS EN 14181	12.12.2020 99.90% data capture	10.4%
A11	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	107 mg/Nm ³	1 hour sample	51.4	BS EN 14792	15.7.2020 @12:10	13.1
A11	Carbon monoxide	-	1 hour sample	348	BS EN 15058	17.9.2020 @13:00	49.4

[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 Natural Resources Wales 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: *B. Evans* Date: 20 January 2021
(Authorised to sign as representative of Operator)

na = not applicable

cel 29/01/21
2FH 21/01/21

Permit Number: EPR/XP3538LD Operator: South Hook LNG Terminal Company LTD.

Facility: South Hook LNG Terminal Form Number: Water1a / 14th October 2015

Reporting of emissions to water (other than to sewer) and land for the period from 01/07/2020 to 31/12/2020 for Table S3.2a

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
W1a	pH	6-9	Daily minimum - maximum	7.0 7.8	BS ISO 10523	13 Dec 2020 27 Aug 2020	4.11%
W1a	Turbidity	-	Daily maximum	20 NTU	BS EN ISO 7027	13-Dec-20	44.51%
W1a	Oil and grease	None visible	Daily spot	None visible	Visual check	na	na
W1a	TOC	-	Weekly spot	4.5 mg/l	BS EN 1484	05-Oct-20	12.94%
W1a	List 2 metals (copper, zinc and iron only)	-	Monthly maximum		APHA 3120B		
	Copper	-		5 µg/l		08-Oct-20	3.01%
	Zinc	-		24 µg/l		13 Aug 2020 & 3 Sept 2020 & 3 Dec 2020	9.12%
	Iron	-		91 µg/l		03-Dec-20	10.13%
W2	Flow	3500 m ³ per day	Continuous	828.07	Flow meter	25 Aug 2020 100% data capture	1.90%
W2	Flow	164 m ³ per hr	Continuous	82.13	Flow meter	19 Oct 2020 100% data capture	1.90%
W2	pH	6-9	Daily minimum - maximum	6.84 8.14	BS ISO 10523	26 Aug 2020 20 Oct 2020 100% data capture	0.13 pH units
W2	Nitrates as N	50 mg/l	Daily maximum	11	APHA 4500-NO3-B-2011	31-Dec-20	2.53%
W2	Nitrates as N	100 kg N/day	Daily maximum	6.31	APHA 4500-NO3-B-2011	27-Aug-20	3.16%
W2	Nitrates as N	50 kg N/day annual mean	Annual average	4.12	APHA 4500-NO3-B-2011	na	3.16%
W2	Oil and grease	None visible	Daily spot	None Visible	Visual check	na	na
W2	Total Residual Oxidant (As Total Free Chlorine) Limit = 0.1	0.1 mg/l	Monthly spot	<0.02 mg/l	Hach DPD Chlorine test kit for Total Free Chlorine	9 Jul, 13 Aug, 3 Sept, 8 Oct, 19 Nov, 3 Dec 2020	20.10%
W2	Biological Oxygen Demand (BOD)	-	Monthly spot	27 mg/l	HMSO BOD5 II 1988	08-Oct-20	48.08%
W2	Temperature	30 °C	Daily maximum	17.18	Standard thermocouple	21/07/2020 100% data capture	0.20%

[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 Natural Resources Wales 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 B. Evans Date.....20 January 2021.....
(Authorised to sign as representative of Operator)

na = not applicable

20/01/21
21/01/21

Permit Number: EPR/XP3538LD Operator: South Hook LNG Terminal Company LTD.

Facility: South Hook LNG Terminal Form Number: Water1b / 14th October 2015

Reporting of emissions to water (other than to sewer) and land for the period from 01/07/2020 to 31/12/2020 for Table S3.2b

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
W1b	pH	6-9	Daily maximum	na	BS ISO 10523	na	4.11%
W1b	Turbidity	-	Daily maximum	na	BS EN ISO 7027	na	44.51%
W1b	Oil and grease	None visible	Daily spot	na	Visual check	na	na
W1b	TOC	-	Weekly spot	na	BS EN 1484	na	12.94%
W1b	List 2 metals (copper, zinc and iron only)	-	Monthly maximum	na	APHA 3120B	na	
W2	Flow	3100 m ³ per day	Continuous	na	Flow meter	na % data capture	1.90%
W2	Flow	144 m ³ per hr	Continuous	na	Flow meter	na % data capture	1.90%
W2	pH	6-9	Daily maximum	na	BS ISO 10523	na % data capture	0.13 pH units
W2	Nitrates as N	50 mg/l	Daily maximum	na	APHA 4500-NO3-B-2011	na	2.53%
W2	Nitrates as N	45 kg N/day	Annual average	na	APHA 4500-NO3-B-2011	na	3.16%
W2	Oil and grease	None visible	Daily spot	na	Visual check	na	na
W2	Total Residual Oxidant (As Total Free Chlorine) Limit = 0.1	0.1 mg/l	Monthly spot	na	Hach DPD Chlorine test kit for Total Free Chlorine	na	20.10%
W2	Biological Oxygen Demand (BOD)	-	Monthly spot	na	HMSO BOD5 II 1988	na	48.08%
W2	Temperature	30 °C	Daily maximum	na	Standard thermocouple	na % data capture	0.20%

[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 Natural Resources Wales 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 B. Ewan Date.....20 January 2021.....
(Authorised to sign as representative of Operator)

na = not applicable

EA 20/01/21
ZFH 21/01/21

Permit Number: EPR/XP3538LD Operator: South Hook LNG Terminal Company LTD.


Facility: South Hook LNG Terminal Form Number: WaterUsage1 / 14th October 2015

Reporting of Water Usage for the year 2020

Water Source	Usage (m ³ /year)	Specific Usage (m ³ /unit output)
Mains water	136,878	0.0187
Site borehole	0	0
River abstraction	0	0
TOTAL WATER USAGE	136,878	

Operator's comments :

m3/unit output = m3/ tonnes of gas production

Signed  Date: 20 January 2021
(authorised to sign as representative of Operator)

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2FH 21/01/21

Permit Number: EPR/XP3538LD Operator: South Hook LNG Terminal Company LTD.

Facility: South Hook LNG Terminal **Form Number: Energy1 / 14th October 2015**

Reporting of Energy Usage for the year 2020

Energy Source	Energy Usage		
	Quantity	Primary Energy (MWh)	Specific Usage (MWh/unit output)
Electricity *	MWh	407,974	0.055881
Natural Gas	MWh	1,281,586	0.175542
TOTAL	-	1,689,560	

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments :
Electricity * MWh/unit output = MWh/ tonnes of gas production
Natural Gas MWh/unit output = MWh/ tonnes of gas production

Signed *Blewan* Date.....20 January 2021.....
(Authorised to sign as representative of Operator)

20/01/21
ZFM 21/01/21

Permit Number: EPR/XP3538LD Operator: South Hook LNG Terminal Company LTD.

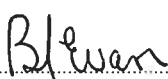
Facility: South Hook LNG Terminal **Form Number: Performance1 / 14th October 2015**

**Reporting of other performance indicators for the period 01/1/2020 to 31/12/2020
in accordance with Table S3.3 Process monitoring requirements**

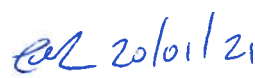
Parameter	Units	
Natural gas consumption	MWh	1,281,586
Operating hours – LNG only	Hours	8,778.0
Operating hours – integrated mode	Hours	na
Electricity from the CHP Plant	MWh	na
Heat received via CHP	MWh	na
Natural gas supplied to South Hook CHP	MWh	na

Operator's comments :

na = not applicable

Signed 
(Authorised to sign as representative of Operator)

Date 20 January 2021

 20/01/21
ZFH 21/01/21

Permit Number: EPR/XP3538LD Operator: South Hook LNG Terminal Company LTD.


Facility: South Hook LNG Terminal **Table S4.2: Annual Production 2020**

Table S4.2: Annual Production 2020	
Natural Gas produced	7,300,732 tonnes

Operator's comments :

Signed 
(Authorised to sign as representative of Operator)

Date 20 January 2021

 20/01/21
ZFH 21/01/21