

**RELEASES TO AIR
QUARTERLY RETURN**

**MONTHLY MEAN, MAXIMUM DAILY MEAN AND ANNUAL PERCENTILE CONCENTRATIONS
OPERATING MODE:**

Operator: **Dow Silicones UK Ltd**

Form: IED CON 2 (Gas Turbines)

Location: **Barry Cogeneration Plant**

Version/date:

V.3.1 31 Dec 2015

Permit/Variation Number: **EPR/JP3632ZH/V002**

Year: 2019 A1 / LCP 60						
Month	NOx (mg/m3)			CO (mg/m3)		
	Monthly Mean	Max Daily Mean	Part Load Max Daily Mean	Monthly Mean	Max Daily Mean	Part Load Max Daily Mean
January	-	-		-	-	-
February	-	-		-	-	-
March	-	-		-	-	-
April	68.	69.67		4.7	4.8	10.7
May	60.11	77.84		10.4	17.2	52.2
June	61.97	74.63		7.7	12.6	34.4
July	63.84	71.05		7.6	12.8	36.3
August	63.66	72.57		6.7	17.2	27.5
September	66.77	76.82		6.5	13.3	15.3
October	70.12	79.27		6.1	18.4	41.3
November	59.23	76.25		9.7	18.1	92.9
December	74.46	77.96		4.4	9.1	9.1
Monthly ELV / Daily ELV (f)	125.	125.		80.	80.	80.
Annual 95th Percentile (h)	76.75(214)			19.7(214)		
Annual Percentile ELV (g)	125.			80.		

NOTES:

(a) All data based on validated hourly average concentrations, excluding start-up and shut-down and periods of malfunction or breakdown of abatement equipment, at 15% O₂, dry, 273.15K, 101.325 kPa

(b) Annual percentiles are submitted with the final return (Quarter 4)

(c) Extend report to cover the required number of LCP on each site and repeat report for each separately regulated Operating Mode as required, e.g., Combined Cycle, Open Cycle, Supplementary firing, Auxiliary firing

(d) Averages determined at loads in the range 70% < Load ≤ 100% ISO base load and above

(e) Averages determined at loads in the range MSUL* < Load = 100% ISO base load and above (* For a 3 parameter approach, from the point of Start-Up to the point of Shut-down)

(f) Leave the Daily ELV blank if this is applied as a 95th percentile ELV within the Permit

(g) For each pollutant, report the Annual 95th percentile ELV for hourly averages in the first column and, if applicable, the Annual 95th percentile ELV for daily means in the second column

(h) For each pollutant, report the Annual 95th percentile of hourly averages in the first column and, if applicable, the Annual 95th percentile of daily means in the second column

Signed on behalf of the Operator by:



Judith Sartor, Environmental Specialist

Date of return:

30th January 2020

No confidence adjustment

**RELEASES TO AIR
QUARTERLY RETURN
MONTHLY MEAN, MAXIMUM DAILY MEAN AND ANNUAL PERCENTILE CONCENTRATIONS
OPERATING MODE:**

Operator: Dow Silicones UK Ltd
Location: Barry Cogeneration Plant
Permit/Variation Number: EPR/JP3632ZH/V002

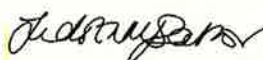
Form: IED CON 2 (Gas Turbines)
Version/date: V.3.1 31 Dec 2015

A2 / LCP60						
Year: 2019						
	NOx (mg/m3)			CO (mg/m3)		
Month	Monthly Mean	Max Daily Mean	Part Load Max Daily Mean	Monthly Mean	Max Daily Mean	Part Load Max Daily Mean
January	211.88	224.43		11.6	27.9	
February	209.22	219.43		11.3	17.6	
March	206.89	222.76		13.3	23.8	
April	207.44	215.86		10.5	12.6	
May	201.8	231.13		8.5	11.2	
June	197.68	213.81		8	9	
July	199.79	211.98		8.5	9.8	
August	-	-		-	-	
September	-	-		-	-	
October	-	-		-	-	
November	-	-		-	-	
December	-	-		-	-	
Monthly ELV / Daily ELV (f)	250.	250.		100.	110.	
Annual 95th Percentile (h)	223.33(114)			25.1(114)		
Annual Percentile ELV (g)	250.			200.		

NOTES:

- (a) All data based on validated hourly average concentrations, excluding start-up and shut-down and periods of malfunction or breakdown of abatement equipment, at 15% O₂, dry, 273.15K, 101.325 kPa
- (b) Annual percentiles are submitted with the final return (Quarter 4)
- (c) Extend report to cover the required number of LCP on each site and repeat report for each separately regulated Operating Mode as required, e.g., Combined Cycle, Open Cycle, Supplementary firing, Auxiliary firing
- (d) Averages determined at loads in the range 70% < Load ≤ 100% ISO base load and above
- (e) Averages determined at loads in the range MSUL* < Load = 100% ISO base load and above (* For a 3 parameter approach, from the point of Start-Up to the point of Shut-down)
- (f) Leave the Daily ELV blank if this is applied as a 95th percentile ELV within the Permit
- (g) For each pollutant, report the Annual 95th percentile ELV for hourly averages in the first column and, if applicable, the Annual 95th percentile ELV for daily means in the second column
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RELEASES TO AIR
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MONTHLY MEAN, MAXIMUM DAILY MEAN AND ANNUAL PERCENTILE CONCENTRATIONS
OPERATING MODE:
Operator: Dow Silicones UK Ltd

Form: IED CON 2 (Gas Turbines)

Location: Barry Cogeneration Plant

Version/date:

V.3.1 31 Dec 2015

Permit/Variation Number: EPR/JP3632ZH/V002

Year: 2019	A3 / LCP60					
	NOx (mg/m3)			CO (mg/m3)		
Month	Monthly Mean	Max Daily Mean	Part Load Max Daily Mean	Monthly Mean	Max Daily Mean	Part Load Max Daily Mean
January	75.73	80.86		0.6	4.1	4.1
February	74.79	78.71		0.3	4.1	9.4
March	74.67	80.75		0.3	3.7	3.7
April	75.31	78.58		0	0	1.3
May	49.15	69.96		5.6	20.1	23.1
June	54.32	73.61		2.6	11.3	35.5
July	69.1	77.34		0	0.3	6.9
August	38.62	51.46		4.8	19.7	24.5
September	64.04	76.46		0.5	4	12.7
October	71.16	78.39		0	0.1	2.3
November	76.69	85.24		1.3	7.7	23.8
December	82.33	89.36		0.1	0.7	1.5
Monthly ELV / Daily ELV (f)	125.	125.		80.	80.	80.
Annual 95th Percentile (h)	85.79(322)			8.7(322)		
Annual Percentile ELV (g)	125.			80.		

NOTES:

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Date of return:

30th January 2020

No confidence adjustment

CONTINUOUS MEASUREMENT SYSTEMS INVALIDATION LOG

QUARTERLY RETURN

Q4 2019

Year: 2019

Operator:

Dow Silicones UK Ltd

Form: IED CEM1

Monitor positioned on release point/LCP Number:

A1 / LCP 60

Version/Date: V 3.1 31 Dec 2016

Permit/Variation Number:

EPR/JP3632ZHV002

Barry Cogeneration Plant

Date	Period of invalidation (hours)	Invalidated days in year	Comments
No invalid data recorded			

NOTES:

(a) Compliance in Chapter III of the IED is on the basis of validated hourly averages, measured by continuous monitors (except where discontinuous exemption applies). And confidence intervals are incorporated to convert the measured hourly value into a validated measurement for the purpose of compliance assessment. However, any day in which more than 3 hourly average values are invalid (due to malfunction or maintenance of the continuous measurement system) shall be invalidated for the purpose of compliance assessment. If more than 10 days are invalid over a year the operator shall, within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and implement the approved proposals.

Signed on behalf of the Operator by:

Judith Sartor

Judith Sartor, Environmental Specialist

Date of return: 30th January 2020

CONTINUOUS MEASUREMENT SYSTEMS INVALIDATION LOG

QUARTERLY RETURN

Q4 2019

Year: 2019

Operator:

Dow Silicones UK Ltd

Form: IED CEM1

Monitor positioned on release point/LCP Number:

A2 / LCP 60

Version/Date: V 3.1 31 Dec 2016

Permit/Variation Number:

EPR/JP3632ZH/V002

Barry Cogeneration Plant

Date	Period of invalidation (hours)	Invalidated days in year	Comments
No invalid data recorded			

NOTES:

(a) Compliance in Chapter III of the IED is on the basis of validated hourly averages, measured by continuous monitors (except where discontinuous exemption applies). And confidence intervals are incorporated to convert the measured hourly value into a validated measurement for the purpose of compliance assessment. However, any day in which more than 3 hourly average values are invalid (due to malfunction or maintenance of the continuous measurement system) shall be invalidated for the purpose of compliance assessment. If more than 10 days are invalid over a year the operator shall, within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and implement the approved proposals.

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CONTINUOUS MEASUREMENT SYSTEMS INVALIDATION LOG

QUARTERLY RETURN

Q4 2019

Year: 2019

Operator:

Dow Silicones UK Ltd

Form: IED CEM1

Monitor positioned on release point/LCP Number:

A3 / LCP 60

Version/Date: V 3.1 31 Dec 2016

Permit/Variation Number:

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Barry Cogeneration Plant

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