RELEASES TO AIR

QUARTERLY RETURN

MONTHLY MEAN, MAXIMUM DAILY MEAN, ANNUAL MEAN AND ANNUAL PERCENTILE CONCENTRATIONS (a),(b),(c)

OPERATING MODE:

Operator: NAES **Form:** **IED/LCPBREF CON2 (Gas Turbines)**

Location: Severn Power Station Vers./date: V3.0 Mar 2021

Permit/Variation Number: EPR/HP3737UE/V007

Year: 2024	LCP: A1					
	NOx (mg/m3)			CO (mg/m3)		
Month	**Monthly Mean (d)**	**Max Daily Mean (d)**	**Part Load Max Daily Mean (e)**	**Monthly Mean (d)**	**Max Daily Mean (d)**	**Part Load Max Daily Mean (e)**
January	N/A	25.3	26.59	N/A	0.5	17.5
February	N/A	25.29	26.88	N/A	2.1	19.3
March	27	30.58	30.55	2.1	2.2	14.4
April	N/A	31.3	32.64	N/A	2.6	13.3
May	27.07	29.8	29.94	2.2	2.3	10.1
June	N/A	29.16	31.61	N/A	2.3	8.5
July	24.34	28.18	27.78	2.2	2.4	8.9
August	N/A	23.37	24.51	N/A	2.4	7.2
September	22.14	22.99	23.42	2.2	2.4	8.9
October	-	0	-	-	0	-
November	-	0	-	-	0	-
December	-	0	-	-	0	-
Monthly ELV & Daily ELVs: (Jan-Dec)(f)			n/a			n/a
	Annual Mean (d)	**Annual ELV**		**Annual Mean (d)**	**Annual ELV**	
Annual Mean & ELV (g)	25.23			2.1		
	Annual Percentile (d)	**Annual ELV**		**Annual Percentile (d)**	**Annual ELV**	
Annual 95th Percentile & ELV (h)	32.43(29)			2.8(29)		

NOTES:

(a) All concentration data, at 15% O2, dry, 273K, 101.3 kPa, are based on validated hourly mean concentrations, excluding start-up and shut-down, periods of Malfunction or Breakdown of abatement equipment or Black Start operation.

(b) Daily, Monthly and Annual means, and Annual percentile concentrations, are calculated from the validated hourly means defined in (a). CCGT qualifying periods for Hourly, Daily, Monthly and Annual averages are 40m, 6h, 72h or 3d, and 500h, respectively. OCGT qualifying periods are the same apart from the Hourly qualifying period which is reduced to 20m of normal operation. Annual averages, for plants with an Annual ELV, and Annual percentile concentrations, 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 E-DLN < Load ≤ 100% ISO base load and above
(where E-DLN is the Effective-DLN load point).

(e) Averages determined 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) When there is an in-year change of ELV, record both ELVs in consecutive rows. For example, compliance with the LCP BREF begins in August 2021 therefore replace 'Period 1' with 'Jan - Jul' and 'Period 2' with 'Aug - Dec'. Otherwise, replace 'Period 1' with 'Jan - Dec' and delete or blank out the row containing 'Period 2'.

(g) For plants with an Annual ELV, for each pollutant, report the Annual mean in the first column and the Annual ELV in the second column. Annual ELVs are not applicable, and are not entered on the form, when the plant operates less than 1500 hours within the reporting year or for plant with a 1500 h/yr five-year rolling average derogation. Otherwise, reporting of the Annual mean begins in 2021 but compliance assessment with the Annual ELV begins in 2022 (incorporating plant operation from 1 January 2022); the Annual ELV is therefore not entered on the form for 2021 reporting.

(h) For each pollutant, report the Annual 95th percentile of hourly means in the first column and the Annual 95th percentile ELV in the second column. However, if there is an in-year reduction of the percentile ELV then it is not mandatory to enter the ELV as compliance assessment will commence in the following year.

Signed on behalf of the Operator by: [redacted]

Date of return: 01/10/2024

RELEASES TO AIR

QUARTERLY RETURN

MONTHLY MEAN, MAXIMUM DAILY MEAN, ANNUAL MEAN AND ANNUAL PERCENTILE CONCENTRATIONS (a),(b),(c)

OPERATING MODE:

Operator: NAES **Form:** **IED/LCPBREF CON2 (Gas Turbines)**

Location: Severn Power Station Vers./date: V3.0 Mar 2021

Permit/Variation Number: EPR/HP3737UE/V007

Year: 2024	LCP: A2					
	NOx (mg/m3)			CO (mg/m3)		
Month	Monthly Mean (d)	Max Daily Mean (d)	Part Load Max Daily Mean (e)	Monthly Mean (d)	Max Daily Mean (d)	Part Load Max Daily Mean (e)
January	N/A	21.32	25.77	N/A	0.7	37.9
February	N/A	23.01	26.6	N/A	1.4	50.5
March	N/A	24.96	27.27	N/A	1.4	23.5
April	N/A	27.16	32.54	N/A	1.7	26.5
May	N/A	26.71	28.62	N/A	1.4	26.8
June	N/A	28.68	31.81	N/A	1.2	22.2
July	N/A	28.41	28.62	N/A	1.8	19.3
August	N/A	30.1	31.57	N/A	1.5	22.5
September	24.2	25.89	26.67	1.4	1.8	21.3
October	-	0	-	-	0	-
November	-	0	-	-	0	-
December	-	0	-	-	0	-
Monthly ELV & Daily ELVs: (Jan-Dec)(f)			**n/a**			**n/a**
	Annual Mean (d)	**Annual ELV**		**Annual Mean (d)**	**Annual ELV**	
Annual Mean & ELV (g)	N/A			N/A		
	Annual Percentile (d)	**Annual ELV**		**Annual Percentile (d)**	**Annual ELV**	
Annual 95th Percentile & ELV (h)	30.84(20)			2.3(20)		

NOTES:

(a) All concentration data, at 15% O2, dry, 273K, 101.3 kPa, are based on validated hourly mean concentrations, excluding start-up and shut-down, periods of Malfunction or Breakdown of abatement equipment or Black Start operation.

(b) Daily, Monthly and Annual means, and Annual percentile concentrations, are calculated from the validated hourly means defined in (a). CCGT qualifying periods for Hourly, Daily, Monthly and Annual averages are 40m, 6h, 72h or 3d, and 500h, respectively. OCGT qualifying periods are the same apart from the Hourly qualifying period which is reduced to 20m of normal operation. Annual averages, for plants with an Annual ELV, and Annual percentile concentrations, 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 E-DLN < Load ≤ 100% ISO base load and above
(where E-DLN is the Effective-DLN load point).

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(f) When there is an in-year change of ELV, record both ELVs in consecutive rows. For example, compliance with the LCP BREF begins in August 2021 therefore replace 'Period 1' with 'Jan - Jul' and 'Period 2' with 'Aug - Dec'. Otherwise, replace 'Period 1' with 'Jan - Dec' and delete or blank out the row containing 'Period 2'.

(g) For plants with an Annual ELV, for each pollutant, report the Annual mean in the first column and the Annual ELV in the second column. Annual ELVs are not applicable, and are not entered on the form, when the plant operates less than 1500 hours within the reporting year or for plant with a 1500 h/yr five-year rolling average derogation. Otherwise, reporting of the Annual mean begins in 2021 but compliance assessment with the Annual ELV begins in 2022 (incorporating plant operation from 1 January 2022); the Annual ELV is therefore not entered on the form for 2021 reporting.

(h) For each pollutant, report the Annual 95th percentile of hourly means in the first column and the Annual 95th percentile ELV in the second column. However, if there is an in-year reduction of the percentile ELV then it is not mandatory to enter the ELV as compliance assessment will commence in the following year.

Signed on behalf of the Operator by: [redacted] .....

Date of return: 01/10/2024

RELEASES TO AIR

ANNUAL RETURN

CONTINUOUS MEASUREMENT SYSTEMS INVALIDATION LOG

QUARTERLY RETURN

Year: 2024

Operator: NAES

Form: IED/LCPBREF CEM1

Location: Severn Power Station

Version/Date: V3.0 Mar 2021

Monitor positioned on release point/LCP Number: GT10 / A1

Permit/Variation Number: EPR/HP3737UE/V007

Year: 2024 Date	Period of invalidation (hours)	Cumulative Invalidated Days in Year	Comments
No invalid data recorded			

NOTES:

(a) This form is returned in the event that the number of days of invalid CEMS performance exceeds 10 days within the calendar year for any individual pollutant.

(b Any day in which more than 3 hourly average values are invalid (due to malfunction or maintenance of the CEMS) is counted as a day of CEMS invalidity. 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 invalidity and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the CEMS, including a timetable for the implementation of those measures, and then implement the approved proposals.

Signed on behalf of the Operator by: [redacted]

Date of return: 01/10/2024

RELEASES TO AIR

ANNUAL RETURN

CONTINUOUS MEASUREMENT SYSTEMS INVALIDATION LOG

QUARTERLY RETURN

Year: 2024

Operator: NAES

Form: IED/LCPBREF CEM1

Location: Severn Power Station

Version/Date: V3.0 Mar 2021

Monitor positioned on release point/LCP Number: GT20 / A2

Permit/Variation Number: EPR/HP3737UE/V007

Year: 2024 Date	Period of invalidation (hours)	Cumulative Invalidated Days in Year	Comments
31/07/2024	1 hrs	0	

NOTES:

(a) This form is returned in the event that the number of days of invalid CEMS performance exceeds 10 days within the calendar year for any individual pollutant.

(b Any day in which more than 3 hourly average values are invalid (due to malfunction or maintenance of the CEMS) is counted as a day of CEMS invalidity. 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 invalidity and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the CEMS, including a timetable for the implementation of those measures, and then implement the approved proposals.

Signed on behalf of the Operator by: [redacted]

Date of return: 01/10/2024