Annual Performance Report 2025

Permit EPR/P0446/14A/V2

Full Circle Generation Ltd

other name of facility (if applicable)

Full Circle Generation

Year:	2025		
Address:	7 Irwin Way, Airport Road West, Belfast BT3 9ED		
Tel:	[redacted]		
Email:	[redacted]		
Prepared by:	Chris Macartney	Position:	QHSE Manager
Approved by:	Robert Lynd	Position:	Plant Manager
Version:	1		
Issue Date:	10/02/2026		

Plant Description and Design

The plant is located in the Belfast Harbour Estate, adjacent sites are Spirit Aerospace and Calor Gas.

Plant Overview / Configuration:
- Three process streams incorporating 3 gasifiers/boilers, each 20.8MW net thermal
- Two steam turbines: 4.87 and 9.98 MWe
- Two identical package boiler islands feed one 10mw for private wire to Spirit
- A third identical package boiler island feeds second 5 mw turbine direct to the grid connection
- RDF crane is fully automated
- RDF NCV range: 11.5-16.5 MJ/kg
- A flue gas scrubbing system consists of SNCR (urea) and dry abatement (lime & PAC) with bag filters
- Design throughput of each line is 5.4 t/h of RDF. A total of 16.2 t/h for the plant as a whole.

Summary of Operational Processes and Procedures

The plant has a comprehensive set of Standard Operating Procedures (SOPs) covering site activities including:
- Waste reception, waste handling, waste quarantine, waste sampling
- Residue handling, storage and transport
- All process-related systems including for fuel metering, operation of gasifier, boiler, filtration, RDF and ash systems, water-steam cycle
- Functional safety test procedures
- Start up and shutdown procedures
- Maintenance procedures
- Building management procedures
- Statutory inspections, tests and checking.
- CEMS monitoring and calibration
- EH&S related procedures (accredited to ISO 45001)

The plant also has critical Emergency Operating Procedures (EOPs) covering:
- 01: Boiler Island Steam Leak
- 02: Emergency Evacuation (Fire, Syngas, Steam Leak)
- 03: Major Liquid Spill
- 04: Loss of Grid Connection
- 05: Failure of ESV (Potential to Overspeed)
- 06: Steam Turbine Fire
- 07: Steam Turbine Generator Oil Leak
- 08: Step-up Transformer Fire
- 09: Motoring on Generator
- 10: Fire Response
- 11: Syngas Escape
- 12: Steam Escape
- 13: Bag Filter Pod Fire
- 14: Emergency Diesel Generator Fuel Leak
- 15: Process Cyber Attack

SOPs are reviewed periodocally.

PLEASE ENSURE ALL RELEVANT CELLS ARE COMPLETED!

Operational Data

Plant Size:		144,000	tonnes pa	
Nominal net thermal input:	21	MWth		
Nominal electrical export capacity*:	15	MWe		
Nominal heat export capacity**:	N/A	MWth		
No. of combustion lines:	3	No. of steam turbines:	2	

Waste types received	Unit	Q1	Q2	Q3	Q4	**Year Total**	%
Household / Local Authority	tonnes					-	-
Commercial & Industrial						-	-
Hazardous						-	-
Clinical						-	-
Waste wood (biomass)						-	-
Refuse Derived Fuel (incl. SRF) - H'hold/LA		35,355	25,334	39,683	34,279	**134,651**	100.0%
Refuse Derived Fuel (incl. SRF) - C&I						-	-
Other [Please specify]						-	-
Other [Please specify]						-	-
Other [Please specify]						-	-
Total waste received		**35,355**	**25,334**	**39,683**	**34,279**	**134,651**	
Rejected Waste						-	-
Unprocessed waste transferred out			12			**12**	0.0%
Total waste combusted ***		**35,355**	**25,322**	**39,683**	**34,279**	**134,639**	

Energy Usage / Export	Unit	Q1	Q2	Q3	Q4	**Year Total**	KWh/te
Power generated at generator terminals	MWh	20,290	15,215	25,495	22,860	**83,860**	623
Power exported to grid and other external user(s)		15,778	12,088	20,322	18,357	**66,545**	494
Power imported		54	335	7	131	**526**	4
Indicative parasitic load	%	22.2%	20.6%	20.3%	19.7%	21.1%	
Thermal Energy Exported **						-	-
R1 value (if applicable)	R1	-	-	-	-		

Waste Disposal & Recovery	Unit	Q1	Q2	Q3	Q4	**Year Total**	% inputs
APC Residues - produced	tonnes	1,341	899	1,338	1,150	**4,728**	3.5%
IBA - produced		4,572	3,379	5,060	3,867	**16,878**	12.5%
Metals recycling						-	-
Other		68	191	191	248	**697**	0.5%
Other		326	366	600	419	**1,712**	1.3%
Other		-	-	-	-	-	-

Raw Material Usage	Unit	Q1	Q2	Q3	Q4	**Year Total**	Qty./te
Mains Water	ltrs	########	########	########	########	**48,552,000**	360.61
Other Water	ltrs					-	-
Ammonia	kgs					-	-
Urea	kgs	16	11	9	9	**44**	0.00
Activated Carbon	kgs	22	12	20	16	**70**	0.00
Lime / hydrated lime	kgs	501	333	501	415	**1,750**	0.01
Fuel oil	ltrs	2,364	11,233	1,612	2,348	**17,557**	0.13
Gas	m^3	56,775	37,784	32,325	48,479	**175,363**	1.30
Other						-	-

Summary	Line/Unit	Q1	Q2	Q3	Q4	**Year Total**	
	1	2,071	1,442	2,133	1,913	**7,560**	86.3%
	2	2,128	1,447	2,185	1,928	**7,688**	87.8%

Availability of waste combustion by line, hrs ****	3	2,093	1,455	2,184	1,929	**7,661**	87.4%
	4					**-**	0.0%
	5					**-**	0.0%
Hours of turbine operations, hrs	1	2,134	1,465	2,205	2,001	**7,805**	89.1%
Hours of turbine operations, hrs	2	2,051	1,448	2,198	1,918	**7,615**	86.9%
Hours of heat / steam export**	hours	N/A	N/A	N/A	N/A	**-**	86.9%
Net calorific value of waste*****	MJ/kg	13	12	21	14		
Abnormal operation events	qty.	-	-	-	-	**-**	no
Abnormal operation duration	hours	-	-	2	-	**2**	0.0%
Permit Breaches	qty.	-	1	-	-	**1**	yes

Summary of Plant Operations and Maintenance during the reporting year

There were two planned outages in the period (May and Oct 2025) for maintenance, projects, cleaning and statutory inspection.

On 08 October 2024, Full Circle Generation received Q42-8 Enforcement Notice for contravention of the following permit conditions:
2.2.1.2 'The limits for emissions into air for the parameter(s) and emission point(s) set out in Table 2.2.1.2 and 2.2.1.3 shall not be exceeded'.

In response to this Enforcement Notice, the Operator installed (May 2025) suitable D&F abatement equipment in all 3 lines to meet the emission limits set in Table 2.2.1.3 for release points A11-3.

The Operator has proved (Oct 2025) that the 3 plants meets the definition set out in the UK 'Dioxins & Furans Protocol' to demonstrate " low & Stable" and the Enforcement Action is now closed.

2025 Annual Reporting Performance Form 1

Permit EPR/P0446/14A/V2 Operator: Full Circle Generation
Facility: Full Circle Generation Ltd Form: Performance 1

Reporting Period from: 01 January 2025 to: 31 December 2025

2025 Annual Reporting of Waste Disposal and Recovery

Waste Description	Disposal Route(s)	Disposal Tonnes	Recovery Tonnes	% / tonne of waste incinerated
1) Hazardous Wastes				
APC Residues			4,727.9	3.5%
IBA				-
UGC	Augean	1,711.6		1.3%
Boiler Ash	OCO	697.1		0.5%
Total Hazardous Waste		2,408.8	4,727.9	5.3%
2) Non-Hazardous Wastes				
IBA	RR	16,877.6		12.5%
Ferrous Metal				-
Process Water	Trade Effluent	32,368.0		24.0%
				-
				-
Total Non-Hazardous Waste		49,245.6	0.0	36.6%
TOTAL WASTE		**51,654.4**	**4,727.9**	41.9%

Operator's comments :

2025 Annual Reporting of Water and Other Raw Material Usage

Raw Material	Usage	Unit	Specific Usage	Unit
Mains Water	48552	m^3	0.36	m^3/te
Total Water	48552	m^3	0.36	m^3/te
Urea / Ammonia	0	kg	-	kg/te
Activated Carbon	69.8	kg	0.00	kg/te
Lime / hydrated lime / Sodium Bicarb.	1749.5	kg	0.01	kg/te

Operator's comments :

2025 Annual Reporting of other performance indicators

Parameter	Results by Line						
	A1	A2	A3	A4	A5	Turbine 1	Turbine 2

Operating hours for the year, hours	7559.5	7688.3	7660.6					
Number of periods of abnormal operation, qty.	1	0	0					
Cumulative hours of abnormal operation for this year, hours	11.5	0	0					

Operator's comments :

Signed: [redacted] Date: 10/02/2026

2025 Annual Reporting of Energy Usage/Export

Permit EPR/P0446/14A/V2 Operator: Full Circle Generation

Facility: Full Circle Generation Ltd Form: Energy 1

Reporting Period from: 01 January 2025 to: 31 December 2025

Energy Source	Energy Usage	Unit	Specific Usage (KWh/tonne incinerated
Electricity Produced	83,860	MWh	623
Electricity Imported	526.328	MWh	4
Electricity Exported	66,545	MWh	494
Gas Oil		tonnes	
Steam/hot water exported	0	GWh	-

Operator's comments :

Signed: [redacted] Date: 10/02/2026

Summary of Permit Compliance

Compliance with permit limits for continuously monitored pollutants

The plant met its emission limits as shown in the table below:

Substance	Percentage time compliant during operation[Note 1]	
	Half-hourly limit	Daily limit
Particulates	100.00%	100.00%
Oxides of nitrogen	99.85%	100.00%
Sulphur dioxide	100.00%	100.00%
Carbon monoxide	100% Half hourly limit	100.00%
Total organic carbon	100.00%	100.00%
Hydrogen chloride	100.00%	100.00%
Hydrogen fluoride	100.00%	100.00%

Summary of non-compliances under the permit [Note 2]

Date	Summary of non-compliance [Note 3]	Reason	Measures taken to prevent reoccurrence	CCS score if applicable*	
				Impact	Root cause
26/05/2025	Stream 1: The stream load was reduced to limit NOx emission, gasification process parameters adjusted to reduce thermal NOx production and Urea injection parameters adjusted to enhance the performance of the SNCR system.	Running lean (excess O2) resulting in thermal NOx as a result of remediation works to under boiler ash conveying system and tramp air reduction works carried out during outage.	Boiler O2 combustion parameters and gasification air fan settings adjusted. Flue gas abatement and filtration remained online for the duration of the incident.	Exceedance on 1/2 hourly limit	Running lean (excess O2) resulting in thermal Nox

*If the Environment Agency (EA) has given a Compliance Classification Scheme (CCS) score due to a permit non-compliance it should be entered here (CCS4 = No impact; CCS3 = Minor impact; CCS2 = Significant impact; CCS1 = Major impact). If the EA has not yet assessed a non-compliance which you have notified to them, these columns should be left blank. Enter N/A if no score was given for the root cause.

Summary of any complaints received and actions to taken to resolve them.

Date	Summary of complaint [including Line/Reference]	Reason (including whether substantiated by the operator or the EA)	Measures taken to prevent reoccurrence
	None		

Summary of Plant Improvements

Summary of any efficiency improvements that have been completed within the year.
Tramp air reduction works May 2025. D&F abatement incorporating low drag filtration to improve fan capacity and optimised abatement chemical usage.

Summary of any permit improvement conditions that have been completed within the year and the resulting environmental benefits.
D&F abatement fitted May 2025. D&F emissions trials on plant start up and shut down.

Summary of any changes to the plant or operating techniques which required a variation to the permit and a summary of the resulting environmental impact.

Summary of any other improvements made to the plant or planned to be made and a summary of the resulting environmental benefits.
New on island destination for recovery of APCr.

Details of Public & Stakeholder Liaison

Summary of events held during the reporting year.	
Date	**Description**
	None

List of events planned for next year	
Date	**Description**
	None

If you wish to be involved in the public liaison programme, please contact _____

ɔon dioxide emissions and biogenic content of waste inputs

ɔon dioxide emissions (all types of plant) PLEASE ENSURE TONNAGES MATCH THOSE THAT WILL B

Annual mass of carbon dioxide released	tonnes	140,224.53
Annual mass of carbon dioxide released per tonne of waste burned	t CO_2 / t waste	1.04
Annual mass of carbon dioxide released per MWh of energy exported	t CO_2 / MWh export	2.11
Description of how annual carbon dioxide mass emission has been calculated. See Note 1	Calibrated CO2 CEMS	

ɔus oxide emissions (only plants which use ammonia or urea to abate NOx emissions)

Annual mass emissions of nitrous oxide	tonnes N_2O	0.04
Description of how annual nitrous oxide mass emission has been calculated See Note 2	Calibrated N2O CEMS	
l annual carbon dioxide + nitrous e emissions. Note 3.	tonnes CO_2e	140,235.13

ɟenic CO2 emissions (See Note 4)

Percentage of total carbon dioxide emissions arising from biogenic waste	%	13.2%
No. of measurements undertaken	Number	35
Description of how percentage biogenic carbon dioxide emissions have been measured or calculated. See Note 5	The measured (via sampling) biogenic fraction by net calorific value has been assumed to be the same as the biogenic CO2 fraction of the total CO2 emissions from the plant.	

ɹenic fraction of waste feedstock (See Note 4)

Yearly average biogenic percentage of the waste by net calorific value (NCV)	%	13.2%
Description of how biogenic percentage (by NCV) has been calculated or estimated. See Note 6	Data from monthly waste sampling (1 monthly sample from each of our 3 streams) has been used to calculate the average biogenic percentage by NCV.	
Yearly average biogenic percentage of the waste by mass	%	51.6%
If waste sampling undertaken, no. of samples used to ascertain average biogenic percentages above	Number	35
Description of how biogenic percentage (by mass) has been calculated or estimated. See Note 7	Data from monthly waste sampling (1 monthly sample from each of our 3 streams) has been used to calculate the average biogenic percentage (using Biomass Energy Content of Feedstock (dry basis).	

Comments:

Summary of Residue Handling for the reporting year
Full Circle Generation (FCG) manages process residues in a controlled and segregated manner in line with permit re legislation. Residues generated include Air Pollution Control residues (APCr), Undergrate Char (UGC), boiler ash, in (IBA). Hazardous residues are securely contained, stored in designated areas, and transferred off-site by licensed ca treatment or disposal facilities. Non-hazardous residues, such as IBA, are managed separately and sent for appropri disposal routes. All waste movements are supported by the correct waste documentation, with quantities tracked and regulatory compliance and traceability. There were no issues arising from residue handling arrangements during 202

Residue Quality Monitoring Requirements

Summary of monitoring undertaken and compliance
IBA ash (non-Haz) Quality monitoring: 2 monthly lab samples
UGC and Boiler ash (Haz) Quality monitoring: monthly lab samples.
APCr ash (Haz). Quality monitoring: monthly lab samples.

Commentary on any specific events	
Date & Event	**Description**
	None

Residue Quality Monitoring Results			
Parameter (unit)	**Limit***	**Normal Operation**	
		Bottom ash	**APC Residues**
Loss on Ignition (average %)	<5%	2.78	
Total Organic Carbon (average %)	<3%	0.68	
No. of Assessments Undertaken	---	23	11
No. of Hazardous Results	---	0	

* The permit will specify a limit of either 5% loss on ignition or 3% total organic carbon. If both are measured anyway, please enter the results here, even where the limit does not apply.

Comments :

Emissions to Water

Summary of monitoring undertaken and compliance
Monthly sampling by NIW as well as monthly sewer and quarterly surface water sampling by McQuillans.

Commentary on any specific events	
Date & Event	**Description**
	None

Emissions to Water / Sewer

Parameter	Monitoring Frequency	Limit	Target	Max.	Average
Sewer					
Ammonia as N	Monthly	100 mg/l	0.11	1.22	0.34
COD (Total)	Monthly	500 mg/l	25	66	33.83
pH	Monthly	5 to 10	7.55	8.47	7.91
Suspended Solids	Monthly	500 mg/l	3	114	22.17
Temperature	Monthly	<43oC	17.5	23.4	20.43
Surface					
BOD (ATU)	Quarterly	10 mg/l	1.13	9.44	5.64
pH	Quarterly	6 to 9	6.99	8.09	7.57
Suspended Solids	Quarterly	50 mg/l	4	16	11.00
Temperature	Quarterly	25oC	12.3	20.1	16.78
Visible Oil and Grease	Quarterly	None visible	<1	<1	<1

Emissions to Air (periodically monitored)

Summary of monitoring undertaken, standards used and compliance

Results of emissions to air that are periodically monitored - oxygen reference 11%							
Substance	Ref. Period	Emission Limit Value	Average				
			A1	A2	A3	A4	A5
Hydrogen fluoride	1 hr	1 mg/m^3	0.07	0.13	0.135		
Cd and Tl and their compounds	0.5-8hrs	0.02 mg/m^3	0.00235	0.00275	0.00135		
Hg and its compounds	0.5-8hrs	0.02 mg/m^3	0.0008	0.00065	0.0011		
Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V and their compounds	0.5-8hrs	0.3 mg/m^3	0.03	0.052	0.021		
Dioxins & Furans (I-TEQ)	6-8hrs	0.06 ng/m^3	0.0029	0.0037	0.00225		
PCBs (WHO-TEQ Humans / Mammals)	6-8hrs	None set ng/m^3	0.00125	0.0009	0.00115		
PCBs (WHO-TEQ Fish)	6-8hrs	None set ng/m^3	0.00005	0.00015	0.00105		
PCBs (WHO-TEQ Birds)	6-8hrs	None set ng/m^3	0.00385	0.0124	0.00215		
Dioxins & Furans (WHO-TEQ Humans / Mammals)	6-8hrs	None set ng/m^3	0.0029	0.0009	0.0014		
Dioxins & Furans (WHO-TEQ Fish)	6-8hrs	None set ng/m^3	0.00325	0.00015	0.0012		
Dioxins & Furans (WHO-TEQ Birds)	6-8hrs	None set ng/m^3	0.0047	0.0124	0.00325		
Anthanthrene	6-8hrs	None set µg/m^3	0.0019	0.0018	0.0019		
Benzo(a)anthracene	6-8hrs	None set µg/m^3	0.0056	0.00195	0.0013		
Benzo(a)pyrene	6-8hrs	None set µg/m^3	0.0019	0.00095	0.00095		
Benzo(b)fluoranthene	6-8hrs	None set µg/m^3	0.0054	0.00175	0.0011		
Benzo(b)naptho(2,1-d) thiophene	6-8hrs	None set µg/m^3	0.0036	0.00095	0.0019		
Benzo(c)phenanthrene	6-8hrs	None set µg/m^3	0.002	0.0018	0.0019		
Benzo(ghi)perylene	6-8hrs	None set µg/m^3	0.001	0.00595	0.00095		
Benzo(k)fluoranthene	6-8hrs	None set µg/m^3	0.0032	0.0018	0.0019		
Cholanthrene	6-8hrs	None set µg/m^3	0.0019	0.0018	0.0019		
Chrysene	6-8hrs	None set µg/m^3	0.0134	0.0031	0.0032		
Cyclopenta(cd)pyrene	6-8hrs	None set µg/m^3	0.0019	0.00095	0.00595		
Dibenzo(ai)pyrene	6-8hrs	None set µg/m^3	0.0019	0.0018	0.0019		
Dibenzo(ah)anthracene	6-8hrs	None set µg/m^3	0.0019	0.0018	0.0019		

Fluoranthene	6-8hrs	None set µg/m^3	0.0415	0.062	0.01395		
Indeno(123-cd) pyrene	6-8hrs	None set µg/m^3	0.0019	0.0018	0.0019		
Naphthalene	6-8hrs	None set µg/m^3	0.115	0.115	0.455		
Comments :							

Emissions to Air (continuously monitored)

Summary of monitoring undertaken, standards used and compliance

Results of emissions to air that are continuously monitored (maximum and average values for each line) - oxygen reference 11%

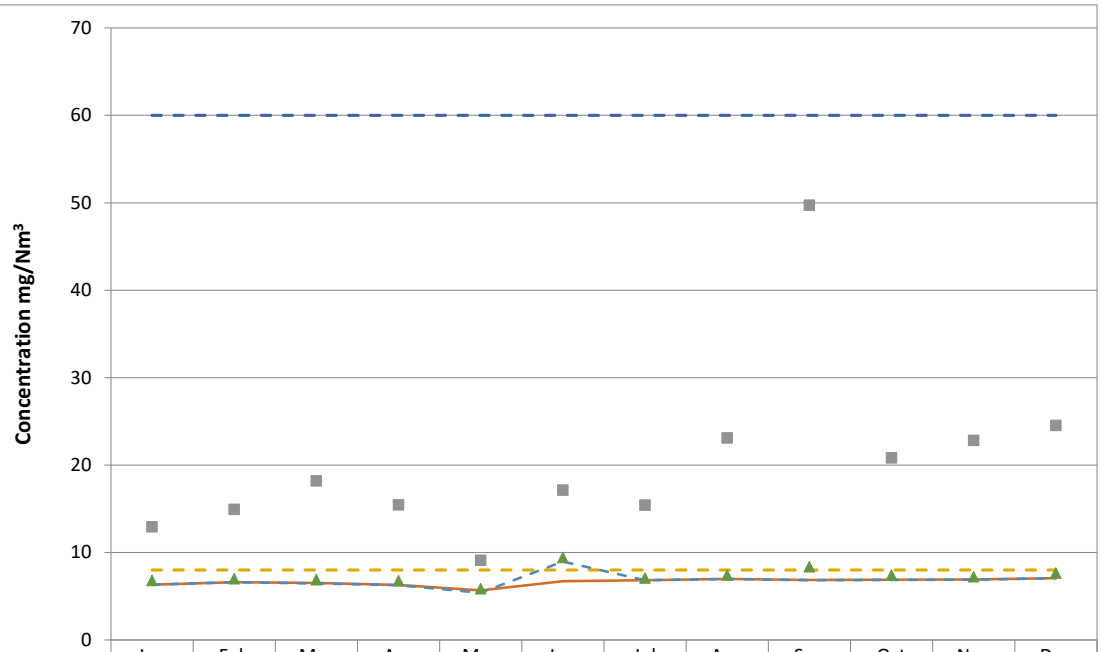
Substance	**Reference Period**	**Emission Limit Value**	**A1**		**A2**		**A3**		**A4**		**A5**	
			Max.	**Avg.**	**Max.**	**Avg.**	**Max.**	**Avg.**	**Max.**	**Avg.**	**Max.**	**Avg.**
Oxides of nitrogen	Daily mean	170 mg/m3	204.50	81.29	132.60	110.57	151.20	103.39				
	100 ½ hourly mean	400 mg/m3	296.20	80.78	222.70	110.77	236.40	103.47				
Particulates	Daily mean	5 mg/m3	0.40	0.05	0.10	-0.03	0.20	-0.08				
	100 ½ hourly mean	30 mg/m3	1.90	0.13	0.60	0.00	2.30	0.02				
Total Organic Carbon	Daily mean	10 mg/m3	1.30	0.17	0.80	0.15	1.50	0.28				
	100 ½ hourly mean	20 mg/m3	13.50	0.23	12.80	0.21	16.80	0.37				
Hydrogen chloride	Daily mean	8 mg/m3	10.60	6.58	7.70	6.65	7.70	6.55				
	100 ½ hourly mean	60 mg/m3	98.00	6.58	33.80	6.71	25.70	6.65				
Sulphur dioxide	Daily mean	40 mg/m3	11.70	5.16	10.50	2.57	8.90	1.44				
	100 ½ hourly mean	200 mg/m3	133.20	5.19	21.10	2.58	91.70	1.48				
Carbon monoxide	Daily mean	50 mg/m3	6.00	6.45	6.10	3.12	6.20	2.42				
	95%ile 10-min avg *	150 mg/m3 *	150.00	4.27	20.30	3.18	17.50	2.52				
Ammonia	Daily mean	15 mg/m3	1.00	0.43	0.20	-0.03	0.30	0.03				

* = delete as appropriate, depending on whether your plant has half-hourly or 10-min CO ELVs

Comments :

Monitoring of Hydrogen Chloride emissions **Whole Installation** *See Notes in Cell Q3*

2025	1/2 Hourly Reference Periods			Daily Reference Periods		
mg/Nm^3	100% 1/2 hourly HCl ELV	Monthly mean of half-hourly averages	Highest half-hourly average	Daily HCl ELV	Monthly mean of daily averages	Highest daily average
Jan	60	6.33	12.93	8	6.33	6.80
Feb	60	6.60	14.93	8	6.60	7.00
Mar	60	6.53	18.20	8	6.47	6.90
Apr	60	6.30	15.47	8	6.27	6.77
May	60	5.67	9.13	8	5.40	5.87
Jun	60	6.73	17.13	8	8.97	9.43
Jul	60	6.83	15.43	8	6.83	7.10
Aug	60	6.97	23.10	8	6.97	7.43
Sep	60	6.87	49.73	8	6.83	8.37
Oct	60	6.90	20.83	8	6.87	7.43
Nov	60	6.93	22.83	8	6.90	7.23
Dec	60	7.07	24.53	8	7.07	7.67

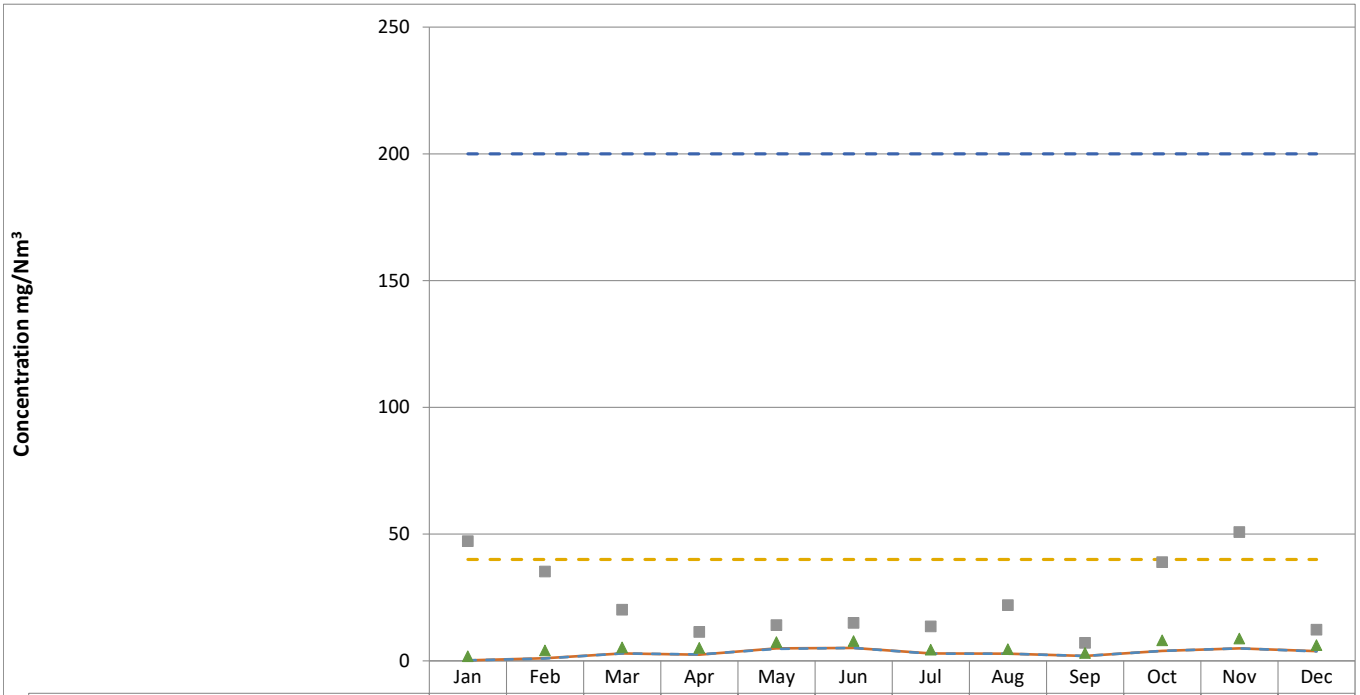


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
100% 1/2 hourly HCl ELV	60	60	60	60	60	60	60	60	60	60	60	60
Monthly mean of half-hourly averages	6.33	6.60	6.53	6.30	5.67	6.73	6.83	6.97	6.87	6.90	6.93	7.07
Highest half- hourly average	12.93	14.93	18.20	15.47	9.13	17.13	15.43	23.10	49.73	20.83	22.83	24.53
Daily HCl ELV	8	8	8	8	8	8	8	8	8	8	8	8
Monthly mean of daily averages	6.33	6.60	6.47	6.27	5.40	8.97	6.83	6.97	6.83	6.87	6.90	7.07
Highest daily average	6.80	7.00	6.90	6.77	5.87	9.43	7.10	7.43	8.37	7.43	7.23	7.67

Comments :

Monitoring of Sulphur dioxide emissions **Whole Installation** *See Notes in Cell Q3*

2025	1/2 Hourly Reference Periods			Daily Reference Periods		
mg/Nm^3	100% 1/2 hourly SO2 ELV	Monthly mean of half-hourly averages	Highest half-hourly average	Daily SO2 ELV	Monthly mean of daily averages	Highest daily average
Jan	200	0.2	47.23	40	0.20	1.83
Feb	200	1.00	35.27	40	0.97	4.17
Mar	200	2.93	20.20	40	2.93	5.37
Apr	200	2.43	11.47	40	2.50	5.17
May	200	4.90	14.10	40	4.77	7.40
Jun	200	5.10	15.00	40	5.10	7.83
Jul	200	2.90	13.57	40	2.83	4.47
Aug	200	2.80	21.97	40	2.80	4.60
Sep	200	1.97	7.13	40	1.97	3.13
Oct	200	3.97	39.00	40	3.90	8.17
Nov	200	4.97	50.83	40	4.93	8.83
Dec	200	3.80	12.33	40	3.77	6.23

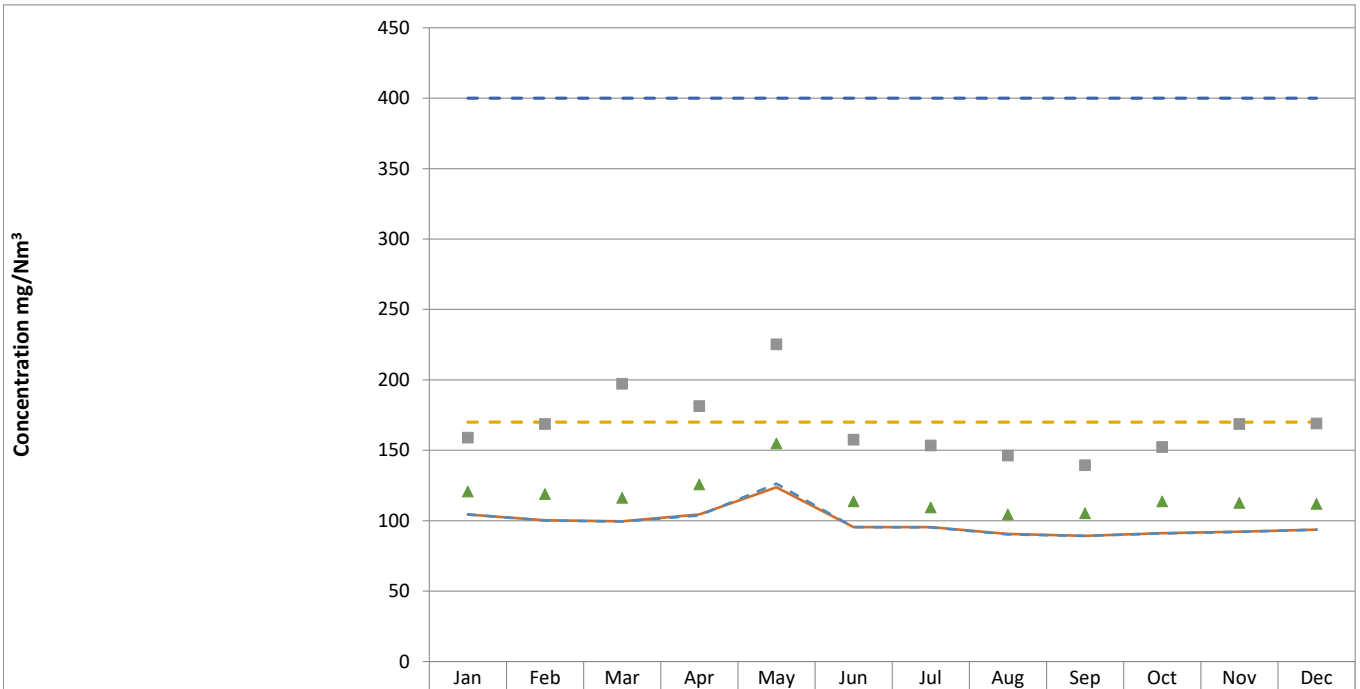


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
100% 1/2 hourly SO2 ELV	200	200	200	200	200	200	200	200	200	200	200	200
Monthly mean of half-hourly averages	0.2	1.00	2.93	2.43	4.90	5.10	2.90	2.80	1.97	3.97	4.97	3.80
Highest half- hourly average	47.23	35.27	20.20	11.47	14.10	15.00	13.57	21.97	7.13	39.00	50.83	12.33
Daily SO2 ELV	40	40	40	40	40	40	40	40	40	40	40	40
Monthly mean of daily averages	0.20	0.97	2.93	2.50	4.77	5.10	2.83	2.80	1.97	3.90	4.93	3.77
Highest daily average	1.83	4.17	5.37	5.17	7.40	7.83	4.47	4.60	3.13	8.17	8.83	6.23

Comments :

Monitoring of Oxides of Nitrogen emissions **Whole Installation** *See Notes in Cell Q3*

2025	1/2 Hourly Reference Periods			Daily Reference Periods		
mg/Nm^3	100% 1/2 hourly NOx ELV	Monthly mean of half-hourly averages	Highest half-hourly average	Daily NOx ELV	Monthly mean of daily averages	Highest daily average
Jan	400	104.43	159.03	170	104.47	120.80
Feb	400	100.33	168.63	170	100.17	119.00
Mar	400	99.50	197.33	170	99.37	116.20
Apr	400	104.37	181.53	170	103.70	125.80
May	400	123.73	225.37	170	126.33	154.87
Jun	400	95.43	157.67	170	95.40	113.70
Jul	400	95.40	153.43	170	95.30	109.40
Aug	400	90.53	146.33	170	90.33	104.47
Sep	400	89.27	139.47	170	89.20	105.40
Oct	400	91.13	152.33	170	90.93	113.77
Nov	400	92.20	168.70	170	92.07	112.70
Dec	400	93.70	169.03	170	93.73	111.90

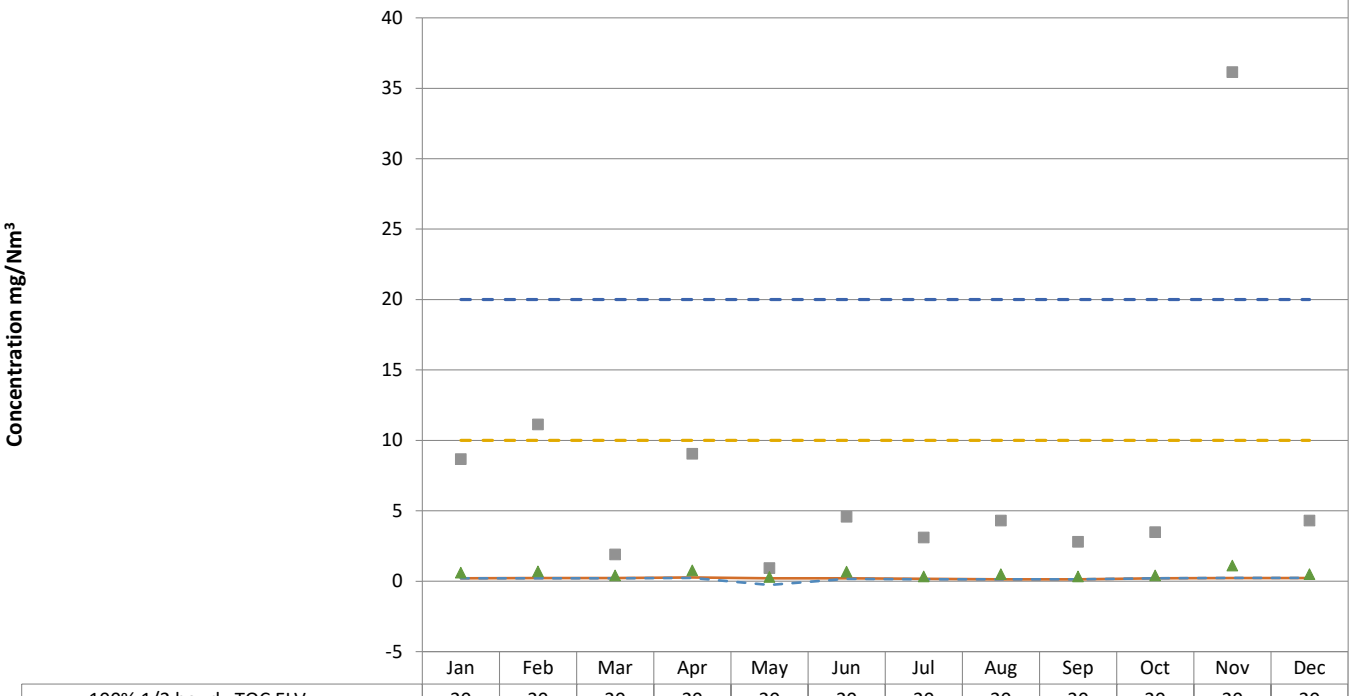


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
100% 1/2 hourly NOx ELV	400	400	400	400	400	400	400	400	400	400	400	400
Monthly mean of half-hourly averages	104.43	100.33	99.50	104.37	123.73	95.43	95.40	90.53	89.27	91.13	92.20	93.70
Highest half- hourly average	159.03	168.63	197.33	181.53	225.37	157.67	153.43	146.33	139.47	152.33	168.70	169.03
Daily NOx ELV	170	170	170	170	170	170	170	170	170	170	170	170
Monthly mean of daily averages	104.47	100.17	99.37	103.70	126.33	95.40	95.30	90.33	89.20	90.93	92.07	93.73
Highest daily average	120.80	119.00	116.20	125.80	154.87	113.70	109.40	104.47	105.40	113.77	112.70	111.90

Comments :

Monitoring of Total organic carbon emissions **Whole Installation** *See Notes in Cell Q3*

2025	1/2 Hourly Reference Periods			Daily Reference Periods		
mg/Nm^3	100% 1/2 hourly TOC ELV	Monthly mean of half-hourly averages	Highest half-hourly average	Daily TOC ELV	Monthly mean of daily averages	Highest daily average
Jan	20	0.20	8.67	10	0.20	0.60
Feb	20	0.23	11.13	10	0.20	0.70
Mar	20	0.23	1.90	10	0.20	0.40
Apr	20	0.27	9.03	10	0.23	0.77
May	20	0.20	0.93	10	-0.27	0.30
Jun	20	0.20	4.57	10	0.17	0.67
Jul	20	0.17	3.10	10	0.13	0.33
Aug	20	0.13	4.30	10	0.13	0.50
Sep	20	0.13	2.80	10	0.13	0.33
Oct	20	0.20	3.47	10	0.20	0.40
Nov	20	0.23	36.13	10	0.23	1.10
Dec	20	0.23	4.30	10	0.23	0.50

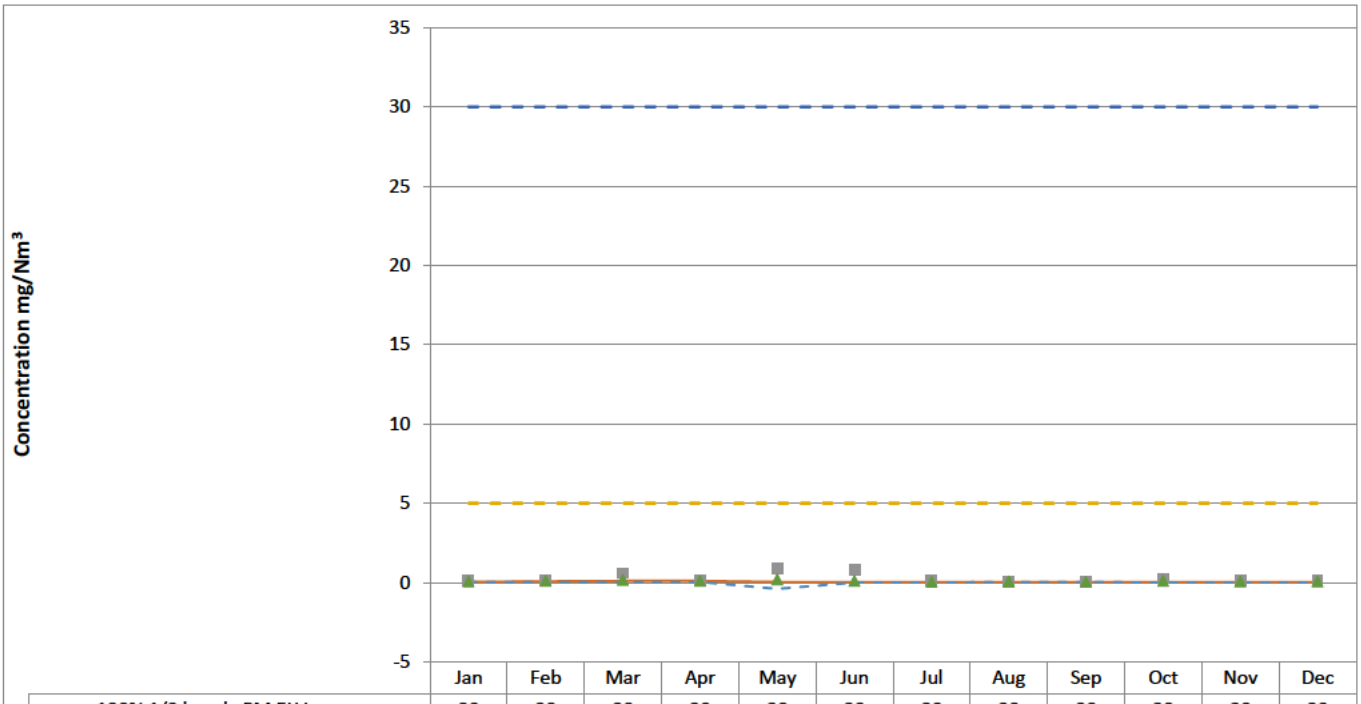


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
100% 1/2 hourly TOC ELV	20	20	20	20	20	20	20	20	20	20	20	20
Monthly mean of half-hourly averages	0.20	0.23	0.23	0.27	0.20	0.20	0.17	0.13	0.13	0.20	0.23	0.23
Highest half- hourly average	8.67	11.13	1.90	9.03	0.93	4.57	3.10	4.30	2.80	3.47	36.13	4.30
Daily TOC ELV	10	10	10	10	10	10	10	10	10	10	10	10
Monthly mean of daily averages	0.20	0.20	0.20	0.23	-0.27	0.17	0.13	0.13	0.13	0.20	0.23	0.23
Highest daily average	0.60	0.70	0.40	0.77	0.30	0.67	0.33	0.50	0.33	0.40	1.10	0.50

Comments :

Monitoring of Particulate matter emissions **Whole Installation** *See Notes in Cell Q3*

2025	1/2 Hourly Reference Periods			Daily Reference Periods		
mg/Nm^3	100% 1/2 hourly PM ELV	Monthly mean of half-hourly averages	Highest half-hourly average	Daily PM ELV	Monthly mean of daily averages	Highest daily average
Jan	30	0.03	0.10	5	0.03	0.07
Feb	30	0.07	0.17	5	0.03	0.10
Mar	30	0.10	0.60	5	0.03	0.17
Apr	30	0.10	0.17	5	0.03	0.10
May	30	0.03	0.87	5	-0.40	0.20
Jun	30	0.03	0.83	5	0.00	0.10
Jul	30	0.03	0.10	5	0.00	0.03
Aug	30	0.03	0.07	5	0.03	0.07
Sep	30	0.03	0.07	5	0.03	0.03
Oct	30	0.03	0.27	5	0.00	0.10
Nov	30	0.03	0.13	5	0.00	0.07
Dec	30	0.03	0.10	5	0.00	0.07



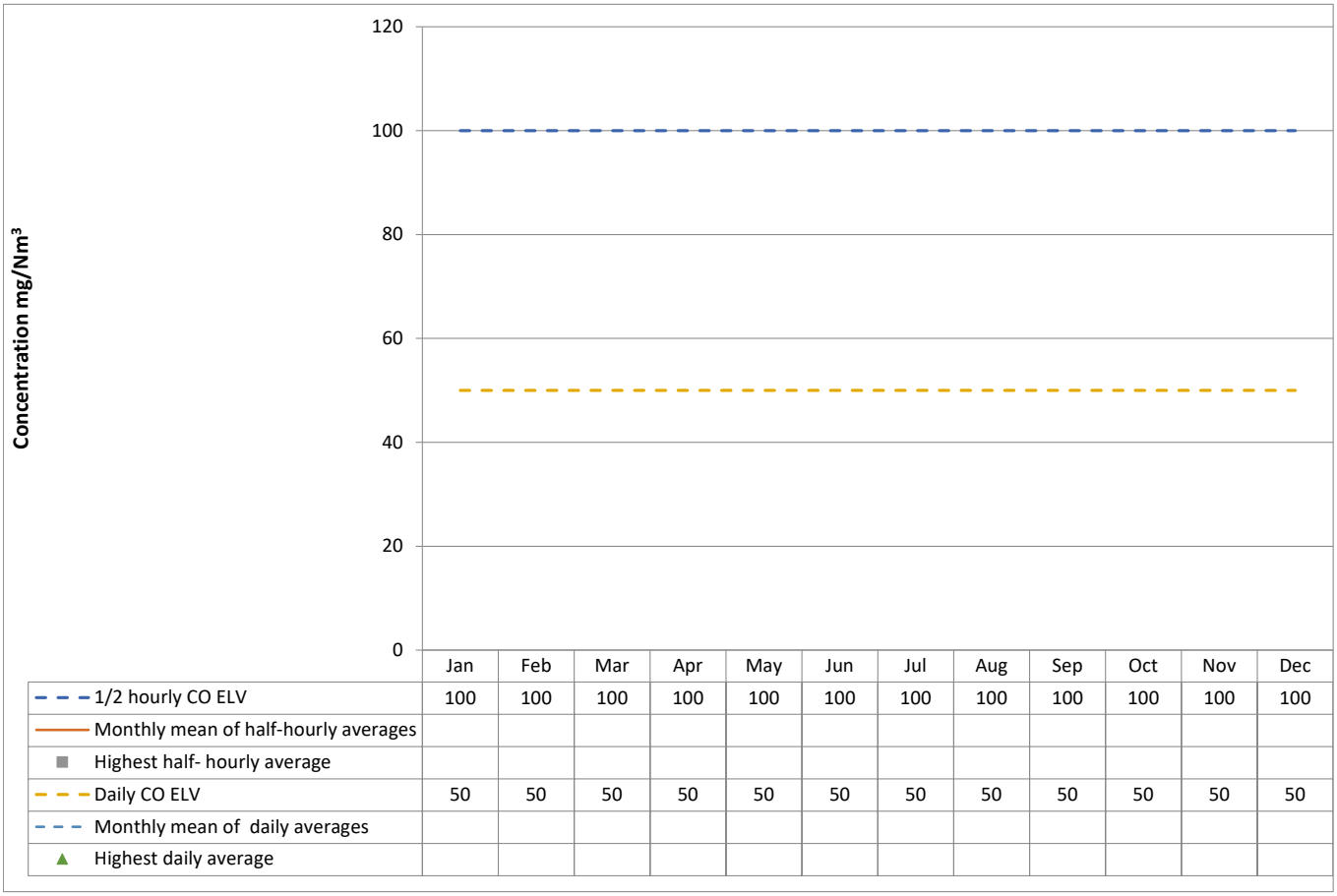
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
100% 1/2 hourly PM ELV	30	30	30	30	30	30	30	30	30	30	30	30
Monthly mean of half-hourly averages	0.03	0.07	0.10	0.10	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Highest half- hourly average	0.10	0.17	0.60	0.17	0.87	0.83	0.10	0.07	0.07	0.27	0.13	0.10
Daily PM ELV	5	5	5	5	5	5	5	5	5	5	5	5
Monthly mean of daily averages	0.03	0.03	0.03	0.03	-0.40	0.00	0.00	0.03	0.03	0.00	0.00	0.00
Highest daily average	0.07	0.10	0.17	0.10	0.20	0.10	0.03	0.07	0.03	0.10	0.07	0.07

Comments :

Monitoring of Carbon Monoxide (half hourly) **Whole Installation** *See Notes in Cell Q3*

Please complete this tab for your plant if you have 1/2 hourly CO ELVs; otherwise, leave it blank and complete the CO 95% 10 min tab

2025	1/2 Hourly Reference Periods			Daily Reference Periods		
mg/Nm^3	1/2 hourly CO ELV	Monthly mean of half-hourly averages	Highest half-hourly average	Daily CO ELV	Monthly mean of daily averages	Highest daily average
Jan	100			50		
Feb	100			50		
Mar	100			50		
Apr	100			50		
May	100			50		
Jun	100			50		
Jul	100			50		
Aug	100			50		
Sep	100			50		
Oct	100			50		
Nov	100			50		
Dec	100			50		



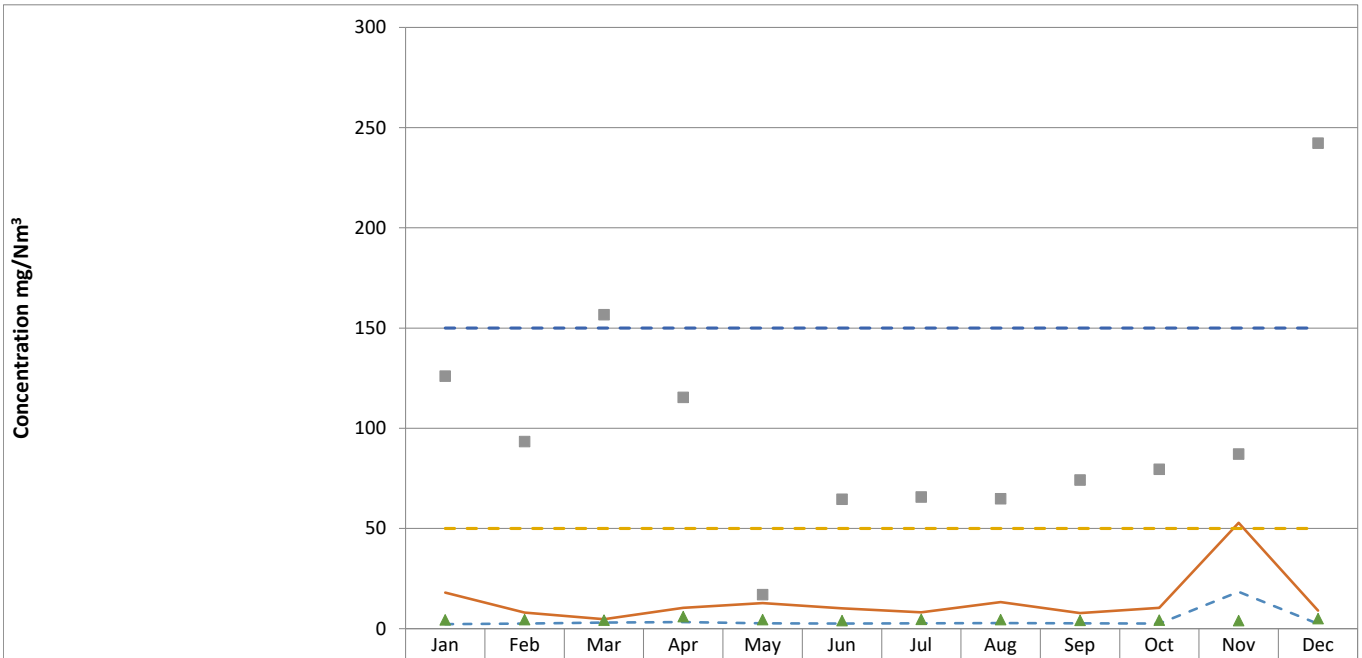
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1/2 hourly CO ELV	100	100	100	100	100	100	100	100	100	100	100	100
Monthly mean of half-hourly averages												
Highest half- hourly average												
Daily CO ELV	50	50	50	50	50	50	50	50	50	50	50	50
Monthly mean of daily averages												
Highest daily average												

Comments :

Monitoring of Carbon Monoxide (10-minute avg) **Whole Installation** *See Notes in Cell S3*

Please complete this tab for your plant if you have 10-minute average CO ELVs; otherwise, leave it blank and complete the CO 0.5 hourly tab

2025	10-minute Reference Periods				Daily Reference Periods		
mg/Nm^3	95%ile 10-min avg CO ELV	Highest daily 95%ile 10-min average	Monthly mean of 10-min averages	Highest 10-min average	Daily CO ELV	Monthly mean of daily averages	Highest daily average
Jan	150	18.00	2.33	126.07	50	2.27	4.43
Feb	150	8.10	2.57	93.37	50	2.50	4.60
Mar	150	4.73	3.07	156.70	50	3.07	4.33
Apr	150	10.40	3.33	115.50	50	3.30	6.00
May	150	12.83	3.27	17.03	50	2.73	4.50
Jun	150	10.17	2.60	64.63	50	2.53	4.10
Jul	150	8.20	2.67	65.67	50	2.67	4.63
Aug	150	13.23	2.80	64.90	50	2.80	4.57
Sep	150	7.73	2.67	74.17	50	2.63	4.17
Oct	150	10.47	2.67	79.53	50	2.60	4.27
Nov	150	52.83	9.47	87.10	50	18.40	4.03
Dec	150	9.03	2.43	242.33	50	2.43	5.00



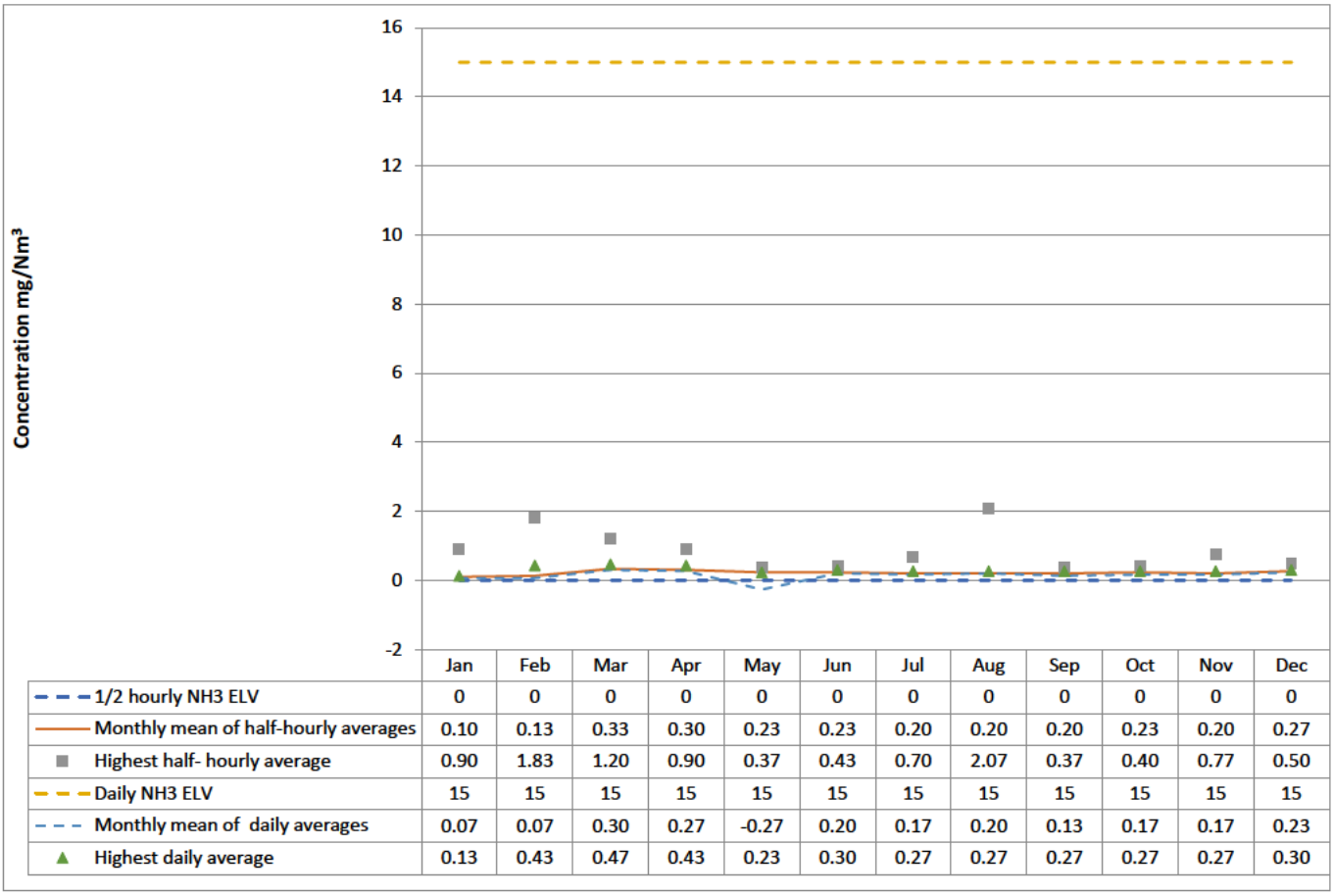
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
95%ile 10-min avg CO ELV	150	150	150	150	150	150	150	150	150	150	150	150
Highest daily 95%ile 10-min average	18.00	8.10	4.73	10.40	12.83	10.17	8.20	13.23	7.73	10.47	52.83	9.03
Highest 10-min average	126.07	93.37	156.70	115.50	17.03	64.63	65.67	64.90	74.17	79.53	87.10	242.33
Daily CO ELV	50	50	50	50	50	50	50	50	50	50	50	50
Monthly mean of daily averages	2.27	2.50	3.07	3.30	2.73	2.53	2.67	2.80	2.63	2.60	18.40	2.43
Highest daily average	4.43	4.60	4.33	6.00	4.50	4.10	4.63	4.57	4.17	4.27	4.03	5.00

Comments :

Environment Agency explanatory note: The 10-minute average ELV is based on the “95th percentile”. In this case this means that 95% of the 10 minute averages in the relevant 24-hour period (i.e. 137) must be below 150 mg/Nm3, and 5% (i.e. 7) are allowed to be any value above 150 mg/Nm3. Whilst we expect operators to minimise CO emissions at all times, it is perfectly acceptable for the value of the maximum 10-minute average to be above 150 mg/Nm3, provided the 95th percentile ELV has been met for that period.

Monitoring of Ammnonia emissions **Whole Installation** *See Notes in Cell Q3*

2025	1/2 Hourly Reference Periods			Daily Reference Periods		
mg/Nm^3	1/2 hourly NH3 ELV	Monthly mean of half-hourly averages	Highest half-hourly average	Daily NH3 ELV	Monthly mean of daily averages	Highest daily average
Jan	None	0.10	0.90	15	0.07	0.13
Feb	None	0.13	1.83	15	0.07	0.43
Mar	None	0.33	1.20	15	0.30	0.47
Apr	None	0.30	0.90	15	0.27	0.43
May	None	0.23	0.37	15	-0.27	0.23
Jun	None	0.23	0.43	15	0.20	0.30
Jul	None	0.20	0.70	15	0.17	0.27
Aug	None	0.20	2.07	15	0.20	0.27
Sep	None	0.20	0.37	15	0.13	0.27
Oct	None	0.23	0.40	15	0.17	0.27
Nov	None	0.20	0.77	15	0.17	0.27
Dec	None	0.27	0.50	15	0.23	0.30



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1/2 hourly NH3 ELV	0	0	0	0	0	0	0	0	0	0	0	0
Monthly mean of half-hourly averages	0.10	0.13	0.33	0.30	0.23	0.23	0.20	0.20	0.20	0.23	0.20	0.27
Highest half- hourly average	0.90	1.83	1.20	0.90	0.37	0.43	0.70	2.07	0.37	0.40	0.77	0.50
Daily NH3 ELV	15	15	15	15	15	15	15	15	15	15	15	15
Monthly mean of daily averages	0.07	0.07	0.30	0.27	-0.27	0.20	0.17	0.20	0.13	0.17	0.17	0.23
Highest daily average	0.13	0.43	0.47	0.43	0.23	0.30	0.27	0.27	0.27	0.27	0.27	0.30

Comments :

An indicated ELV value of zero in the table above means that no ammonia limit is/was set in the permit.

Log of changes to template (Environment Agency use only)

Date	Description of change	New version number and date
16/01/2024	Air (periodic) tab: corrected default O2 reference from 6 to 11%	Version 23.5a (for incinerators) - 16/01/2024
23/09/2024	Air (periodic) tab: corrected symbol for Thallium to Tl	
23/09/2024	Air (periodic) tab: removed last year's references to different emission limit values applying from 03/12/23 and updated all relevant ELVs	
23/09/2024	Tabs for continuously monitored pollutants (HCl, SO2 etc.): changed terminology in table headings to improve clarity	
23/09/2024	Tabs for continuously monitored pollutants (HCl, SO2 etc.): removed last year's references to different emission limit values applying from 03/12/23 and updated all relevant ELVs	
23/09/2024	Perf 1 tab: updated formula for water usage to report m3 rather than litres and corrected error with formula copying operator name	
23/09/2024	Operational Summary tab: table added on start-ups and shut-downs	
23/09/2024	Operational Summary tab: table added on dioxins and mercury protocols	
23/09/2024	Operational Summary tab: table added on AST, QAL 2 and calibration functions	
23/09/2024	CO2 N2O tab: various changes made to notes to reflect the fact that most plants should now have calibrated CEMS and flow meters + some have C14 samplers and more up to date industry data	Version 24a (for incinerators) - 23/09/24
08/11/2024	CO2 N2O tab: Changed the N2O CO2 equivalence factor from 298 to 265 in line with recently updated government greenhouse gas figures: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024	
08/11/2024	CO2 N2O tab: Added an additional requirement for municipal EfW plants to state the yearly average biogenic percentage of the waste by mass, and reference to a document which sets out a methodology for calculating NCV of waste from the results of C14 sampling.	
08/11/2024	Permit Compliance tab: Two additional columns added + explanatory notes to the table entitled "Summary of non-compliances under the permit" to allow CCS scores to be stated where relevant.	
08/11/2024	Residue Quality tab: Note added explaining application of TOC and LOI limits and asking operators to report both metrics where measured.	Version 24.1a (for incinerators) - 08/11/24
27/11/2024	**Operational Summary tab:** table added on start-ups and shut-downs	Version 24.2a (for incinerators) - 27/11/24
27/11/2025	**Cover Page:** Print as PDF and Print Report and pdf buttons deleted and blank columns removed; contents page deleted	Version 25.1a (for incinerators) - 27/11/25
27/11/2025	**Residue Quality tab** renamed to "Residues", and Summary of residue handling table moved from Operational Summary tab to Residues tab.	
27/11/2025	Various changes made to the **Operational Data tab** including • Reformatting of the rows under the Operational data heading (Rows 3-8) to make it clearer what information is required. • Amendment of the rows under the Energy Usage / Export heading (Rows 26-32) to calculate an “indicative parasitic load” (now excluding energy imported) • Amendment of the unit for gas usage from cubic feet to cubic metres (Row 50) • Some amendments to the first 2 notes and other minor edits • Deleted "Overall Availability, mean avg. of all lines, hrs" row	
27/11/2025	**Operational Summary tab:** Note added requiring all emergency shut-downs be listed, irrespective of whether or not they were reportable.	
27/11/2025	**CO2 N2O tab:** Note added to ask operators to ensure that relevant data reported here matches that which will be submitted under the Pollution Inventory	