Annual Performance Report 2022

Permit EPR/BP3635LA

Eye Power Station

EPR Eye Limited

Year:	2022		
Address:	Oaksmere Business Park, Eye, Suffolk, IP23 8BW		
Tel:	01379 871100		
Email:	gavin.rule@eprl.co.uk		
Prepared by:	Jason Hinde	Position:	Operations Manager
Approved by:	Gavin Rule	Position:	Station Manager
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This report is required under the Industrial Emissions Directive's Article 55(2) requirements on reporting and public information on waste incineration plants and co-incineration plants, which require the operator to produce an annual report on the functioning and monitoring of the plant and make it available to the public.

Plant Description and Design

Built in 1992, the installation is a co-incinerator located in Eye in Suffolk and predominately burns a blend of poultry litter and waste wood, although permitted to burn various other waste products. Kerosene is used as a fuel for starting up the plant and also used periodically to keep furnace temperatures above 850°c.
Eye Power Station uses a water tube boiler with a gross thermal rating of 49.2MW to burn the biomass blend, the steam is passed through a single steam turbine connected to a generator which generates 12.5MW of electricity which is provided to local homes & businesses.

Summary of Operational Processes and Procedures

The fuel is transported to site from the farms via road and weighed in and traced using each farms unique code.
Once weighed in, the fuel is tipped into the mixing shed to be blended and stored ready for transporting back over to the plant overnight, where it is transferred for storage using automated cranes to one of the four storage pits. The stored fuel is left for up to 2 days and then transferred to a moving floor feeding pit that feeds the fuel as a controlled rate up to the boiler via 4 drag chain conveyors.
There are 3 types of ash created from the process, 'Wet ash' which comprises of riddling's that fall through the furnace grate during the combustion process, 'Bottom ash' which is the remaining ash that is discharged from the boiler following complete combustion of the fuel, and 'Fly Ash' which is the finer particles of ash that travel through the boiler flue and is captured by a bag filter system which filters the flue-gas to ensure dust levels are kept within specified limits. All the ash discharged is stored in covered containers and transported off site to landfill.
Combustion is achieved by feeding the mixed fuel across 4 lines of hydraulic grate sections in the bottom of the boiler, where the fuel is mixed with Primary and Secondary combustion airs in order to generate heat and control emissions.
The steam raised by the boiler is sent to a turbine which is connected to a generator, the steam is then condensed using an air cooled condenser and fed back into the boiler to be re-heated.
The process is controlled via a single on site computer in the control room that is manned 24/7, the operators are able to view boiler and emissions data and manually intervene with the process to maintain compliance.
Routine site maintenance is carried out by a full time, in-house team of technicians, the sites engineering is also supported by specialist contractors when required and for large scale projects & outages.
The site employs a robust safety management system which is audited and compliant against ISO:45001 standards.
Environmental aspects are to ISO:14001 standards and operated within the limits set out in the permit. Both standards are frequently audited against to maintain compliance against the aforementioned standards.
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Operational Data

Plant Size		160,000	tonnes pa	49	MWth	13	MWe
No. of combustion lines	1		No. of Turbines:		1		12.5

Waste types received	Unit	Q1	Q2	Q3	Q4	**Year Total**	%
Household / Local Authority	tonnes					**-**	-
Commercial & Industrial						**-**	-
Hazardous						**-**	-
Clinical						**-**	-
Waste wood (biomass)		11,056	12,481	8,779	12,162	**44,478**	37.3%
Refuse Derived Fuel * - H'hold/LA						**-**	-
Refuse Derived Fuel * - C&I						**-**	-
Poultry Litter		19,269	19,664	13,663	20,845	**73,441**	61.6%
Screenings		401	193	399	387	**1,380**	1.2%
Other [Please specify]							
Total waste received		**30,726**	**32,338**	**22,841**	**33,394**	**119,299**	100.0%
Rejected Waste						**-**	-
Unprocessed waste transferred out						**-**	-
Total waste combusted		**30,726**	**32,338**	**22,841**	**33,394**	**119,299**	100.0%

Energy Useage / Export	Unit	Q1	Q2	Q3	Q4	**Year Total**	KWh/te
Power Generated	MWh	22,057	25,582	18,006	24,912	**90,556**	759
Power Exported		20,155	23,308	16,356	22,639	**82,458**	691
Power Used on site		2,044	2,332	1,800	2,378	**8,554**	72
Power Imported		142	59	150	105	**455**	4
Parasitic Load	%	9.2%	9.1%	9.9%	9.5%	9.4%	
Thermal Energy Produced **	MWh					**-**	-
Thermal Energy Exported **						**-**	-
R1 value (if applicable)							

Waste Disposal & Recovery	Unit	Q1	Q2	Q3	Q4	**Year Total**	% inputs
APC Residues - produced	tonnes	1,422	1,407	1,179	706	**4,714**	4.0%
IBA - produced		851	790	604	1,039	**3,284**	2.8%
Metals recycling		3		3		**6**	0.0%
Oils & oil contaminated waste		5	5	3	5	**18**	0.0%
Dirty water/sewage		62	16	72	44	**194**	0.2%
General waste		1	1	3	3	**8**	0.0%
Dry mixed recycleables		0	2	0	0	**2**	0.0%
Other		-	-	-	-	**-**	-

Raw Material Usage	Unit	Q1	Q2	Q3	Q4	**Year Total**	kg or Ltr /te
Mains Water	ltrs	4,762,000	6,600,000	6,398,000	5,716,000	**23,476,000**	196.78
Other Water	ltrs					**-**	-
Ammonia	kgs					**-**	-
Urea	kgs					**-**	-
Activated Carbon	kgs					**-**	-
Sodium Bicarbonate	kgs	93	61	48	52	**254**	0.00
Fuel oil	ltrs	71,090	28,620	85,990	54,060	**239,760**	2.01
Gas	cf	-	-	-	-	**-**	
Other		-	-	-	-	**-**	

Summary	Line/Unit	Q1	Q2	Q3	Q4	**Year Total**	
Availability of waste combustion by line, hrs	1	1,682	2,089	1,653	1,967	**7,391**	84.4%
	2					**-**	x %
	3					**-**	x %
	4					**-**	x %
	5					**-**	x %
Overall Availability, mean avg. of all lines, hrs						**1,478**	**x %**
Hours of turbine operations, hrs	1	1,682	2,089	1,653	1,967	**7,391**	x %
Hours of turbine operations, hrs	2					**-**	x %
Hours of heat / steam export						**-**	n/a
Net Calorific Value of waste	MJ/kg	11	12	13	10		-
Abnormal Events	qty.	-	-	-	-	**-**	no
Abnormal operation	hours	-	-	-	-	**-**	0.00%
Permit Breaches	qty.	4	5	15	4	**28**	yes

Summary of Plant Operations and Maintenance during the reporting year

In 2022 Eye continued to burn a 60/40 mix of poultry litter and waste wood.
Following a tube leak taking the plant offline in February the plant remained unable to restart due to a turbine fault which left the plant offline for a further 12 days while the HP rotor was removed and an investigation followed by further maintenance was carried out.
Throughout the year the plant was forced offline 12 times due to boiler tube failure, during the September outage extensive NDT was carried out and tube replacement program was rolled out to reduce the risk of further tube failures along with a material upgrade to reduce any future tube erosion caused by online cleaning activities.
During the main outage the turbine had both the HP and LP rotors removed and all bearings inspected following the issue experienced earlier in the year. A row of blades were replaced on the LP rotor following NDT.
Continual improvement of the fuel handling system such as the fuel delivery cranes, moving floor and fuel conveyors were also carried out to improve reliability.
Following the regulation 61 permit review, Eye Power Station carried out a gap analysis against the requirements of a new PPC permit, one of these was the reduction in NOx daily ELV's and in order to ensure compliance with the new limits Eye Power Station conducted a series of SNCR trials with the hope of implementing a new NOx abatement system in 2023.

Summary of Residue Handling for the reporting year

Throughout 2022 the sites ash continued to be disposed of at landfill. Periodic ash sampling is carried out and reviewed to check for suitability for processing and re-purposing.

2022 Annual Reporting Performance Form 1

Permit EPR/BP3635LA
Facility: Eye Power Station

Operator: 0
Form: Performance 1

Reporting Period from: 01 January 2022 to: 31 December 2022

2022 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				-
IBA				-
Oil and oil contaminated waste				-
				-
Total Hazardous Waste		0.0	0.0	-
2) Non-Hazardous Wastes				
IBA	Landifll	3,283.5		2.8%
APC	Landifll	4,713.7		
Dirty water & Sewage	Recycle	194.2		0.2%
Metals	Recycle	6.0		0.0%
General Waste	Recycle	8.1		
Dry Mixed recycling	Recycle	2.5		
Other recycled material	Recycle	0.0		-
Total Non-Hazardous Waste		8,208.0	0.0	6.9%
TOTAL WASTE		**8,208.0**	**0.0**	6.9%

Operator's comments :

2022 Annual Reporting of Water and Other Raw Material Usage

Raw Material	Usage	Unit	Specific Useage	Unit
Mains Water	23476000	m^3	196.78	m^3/te
Total Water	23476000	m^3	196.78	m^3/te
Urea / Ammonia	0	kg	-	kg/te
Activated Carbon	0	kg	-	kg/te
Lime / hydrated lime / Sodium Bicarb.	253.76	kg	0.00	kg/te

Operator's comments :

2022 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	7391							
Number of periods of abnormal operation, qty.	0							
Cumulative hours of abnormal operation for this year, hours	0							

Operator's comments :

Signed: _____ Date: _____

2022 Annual Reporting of Energy Usage/Export

Permit EPR/BP3635LA Operator: 0

Facility: Eye Power Station Form: Energy 1

Reporting Period from: 01 January 2022 to: 31 December 2022

Energy Source	Energy Usage	Unit	Specific Useage (KWh/tonne incinerated
Electricity Produced	90,556	MWh	759
Electricity Imported	455.2	MWh	4
Electricity Exported	82,458	MWh	691
Gas Oil	292.39	tonnes	
Steam/hot water exported	0	GWh	-

Operator's comments :
Eye Power Station does not export steam/hot water

Signed: _____ Date: _____

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	
	Half-hourly limit	Daily limit
Particulates	None Set	100%
Oxides of nitrogen	None Set	100%
Sulphur dioxide	None Set	100%
Carbon monoxide	None Set	89%
Total organic carbon	None Set	100%
Hydrogen chloride	None Set	100%
Hydrogen fluoride	None Set	100%

Summary of any notifications or non-compliances under the permit

Date	Summary of notification or non-compliance [including Line/Reference]	Reason	Measures taken to prevent reoccurrence
Jan - Dec 2022	18x CO Breaches exeecing 50mg/nm3	Fuel feed breakdowns & Fuel variences	Faults repaired and plant returned to
Jan - Dec 2022	7x CO Breaches exceeding 50mg/nm3	New Nox Emission limits trials	
Jan - Dec 2022	1 x CO Breaches exceeding 100mg/nm3	New Nox Emission limit trials	
Jul-22	1x CO Breach exceeding 100mg/nm3	Furnace grate failure	Plant taken offline for repair
01/10/2022	Breach of Total suspended solids at 100mg/l over ELV of 60mg/l	Full site drain clean and survey carried out	Following survey, the effluent system is to be drained and cleaned

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

Date	Summary of complaint [including Line/Reference]	Reason *	Measures taken to prevent reoccurrence

*** including whether substantiated by the operator or the EA**

Summary of Plant Improvements

Summary of any efficiency improvements that have been completed within the year.
Ongoing roll out of LED site lighting, replacement and improvements to existing boiler insulation.

Summary of any permit improvement conditions that have been completed within the year and the resulting environmental benefits.
Continued improvements to the boiler sealing to reduce tramp air leading to better emissions control were carried out during the main outage, the site also upgraded the hazardous waste storage area and replaced the East and West side panels of the fuel hall as an ongoing replacement program to ensure containment of the fuel storage area.

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.
No changes or variations required.

Summary of any other improvements made to the plant or planned to be made and a summary of the resulting environmental benefits.
SNCR trails were conducted to ascertain what systems would be required to meet December 2023's permit changes, as a result it was proven that NOx emissions could be reduced below the new ELV of 180mg/nm3 by implementation of a new system and plans have been put in place to consider the procurement of a system in September 2023's outage.

Details of Public & Stakeholder Liasion

Summary of events held during the reporting year.	
Date	**Description**
	No events were held during 2022 following the COVID pandemic.

List of events planned for next year	
Date	**Description**
TBC 2023	Local Liason meeting

If you wish to be involved in the public liasion programme, please contact
Gavin Rule

Carbon dioxide emissions and biogenic content of waste inputs

Carbon dioxide emissions (all types of plant)		
Annual mass of carbon dioxide released	x tonnes	151,537
Annual mass of carbon dioxide released per tonne of waste burned	x tonnes	1.27
Annual mass of carbon dioxide released per MWh of energy exported	x tonnes	1.84
Description of how annual carbon dioxide mass emission has been calculated	*CO2 has been measured by the MCERTS certified and calibrated CEM system. The measurement in vol% is converted to ppm then to mg/m3 before being converted to a mass conccentration using the normalised stack velosity in m3/s.*	

Nitrous oxide emissions (only plants which use ammonia or urea to abate NOx		
Annual mass emissions of nitrous oxide	x tonnes	n/a
Description of how annual nitrous oxide mass emission has been calculated	*n/a*	
Total annual carbon dioxide and nitrous oxide emissions as carbon dioxide equivalent (whereby 1 t nitrous oxide is equivalent to 298 t carbon dioxide)	x tonnes CO2e	

Biogenic fraction of the waste and biogenic CO2 emissions (only plants burning residual municipal waste, refuse derived fuel or solid recovered fuel)		
Yearly average biogenic percentage of the waste by net calorific value (NCV)	x %	n/a
Description of how biogenic NCV percentage has been calculated or estimated		
Percentage of total carbon dioxide emissions arising from biogenic waste	x %	

Description of how percentage biogenic carbon dioxide emissions have been calculated	

Comments:

Residue Quality Monitoring Requirements

Summary of monitoring undertaken and compliance
Ash sampling of bottom and fly ash carried out 05/22, 10/22
LOI and TOC sampling carried out on bottom ash 06/22, 07/22 to meet permit requirements in 2023. Subsequent TOC testing carried out in August and December as part of a new quarterly program. All samples compliant

Commentary on any specific events	
Date & Event	**Description**

Residue Quality Monitoring Results			
Parameter (unit)	**Limit**	**Normal Operation**	
		Bottom ash	**APC Residues**
Loss on Ignition (average %)	<5%		
Total Organic Carbon (average %)	<3%	0.17	
No. of Assessments Undertaken	---	4	2
No. of Hazardous Results	---	0	

Comments :

Emissions to Water

Summary of monitoring undertaken and compliance
Periodic water monitoring is undertaking quarterly, with samples extracted from Point W1 by an MCERTS propertional samples for subisent off-site analysis by a laboratory accredited by UKAS to ISO17025.
W1 Continuous monitoring of effluent discharge uses a combined pH and temperature instrument. The site's equipment and management system for discharge flow volume monitoring is MCERTS certified
The site's advanced control system automatically inhibits off-site effluent discharge if limits for any W1 pH, temperature or daily flow volume are reached. On 'wet' days the site is permitted to exceed the 'dry' day flow limit and uses a management system to control the process. Point W2 covers sanitary releases and the permit only requires daily visual check for oils and greases.

Commentary on any specific events

Date & Event	Description
01/10/2022	Breach of Total Suspended Solids at 100mg/l over ELV of 60mg/l
30/11/2022	CSA MCERTS Minimum requirements for self-monitoring of flow audit - Pass

Emissions to Water / Sewer

Parameter	Monitoring Frequency	Limit	Target	Max.	Average
W1 total Suspended Solids	Quarterly	60 mg/l	<60 mg/l	160 mg/l	103.7 mg/l
W1 Biological Oxygen Demand	Quarterly	None Set	N/A	71 mg/l	35.7 mg/l
W1 Ammonia expressed as N	Quarterly	None Set	N/A	9	6.2
W1 Cadmium	Quarterly	0.010 mg/l	0.010 mg/l	0.00019 mg/l	0.00011
W1 Mercury	Quarterly	0.005 mg/l	0.005 mg/l	0.00043 mg/l	0.00024
W1 pH	Continuous	6 to 9	6.1 to 8.9	8.93	8.61
W1 Temperature	Continuous	25°c	<25°c	47.53	36.99
W1 Flow (under dry weather conditions)	Continuous	26.5 m^3	26.5 m^3	26.5	19.67
W1 Flow (wet day)	Continuous	None Set	N/A	209.7	154.89
W1 Oils & greases	Daily	Visual	None	None	None
W2 Oils & greases	Daily	visual	None	None	None

Emissions to Air (periodically monitored)

Summary of monitoring undertaken, standards used and compliance
Two Periodic monitoring campaigns were carried out in 2022, the first in April and the second in October. The work ws undertaken by an MCERTS and UKAS certified laboritory, both campaigns covered all species specific in the permit.

Results of emissions to air that are periodically monitored

Substance	**Ref. Period**	**Emission Limit Value**	**Average**				
			A1	**A2**	**A3**	**A4**	**A5**
Hydrogen fluoride	1 hr	2 mg/m^3	0.3				
Cd and Th and their compounds	6-8hrs	0.05 mg/m^3	0.0007				
Hg and its compounds	6-8hrs	0.05 mg/m^3	0.0012				
Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V and their compounds	6-8hrs	0.5 mg/m^3	0.0065				
Dioxins & Furans (I-TEQ)	6-8hrs	0.1 ng/m^3	0.0055				
PCBs (WHO-TEQ Humans / Mammals)	6-8hrs	None set ng/m^3	0.00053				
PCBs (WHO-TEQ Fish)	6-8hrs	None set ng/m^3	0.00002				
PCBs (WHO-TEQ Birds)	6-8hrs	None set ng/m^3	0.0022				
Dioxins & Furans (WHO-TEQ Humans / Mammals)	6-8hrs	None set ng/m^3	0.0055				
Dioxins & Furans (WHO-TEQ Fish)	6-8hrs	None set ng/m^3	0.0055				
Dioxins & Furans (WHO-TEQ Birds)	6-8hrs	None set ng/m^3	0.0165				
Anthanthrene	6-8hrs	None set µg/m^3	0.001				
Benzo(a)anthracene	6-8hrs	None set µg/m^3	<0.001				
Benzo(a)pyrene	6-8hrs	None set µg/m^3	0.0015				
Benzo(b)fluoranthene	6-8hrs	None set µg/m^3	0.001				
Benzo(b)naptho(2,1-d) thiophene	6-8hrs	None set µg/m^3	0.0025				
Benzo(c)phenanthrene	6-8hrs	None set µg/m^3	<0.001				
Benzo(ghi)perylene	6-8hrs	None set µg/m^3	0.0055				
Benzo(k)fluoranthene	6-8hrs	None set µg/m^3	<0.001				
Cholanthrene	6-8hrs	None set µg/m^3	<0.001				
Chrysene	6-8hrs	None set µg/m^3	0.0015				
Cyclopenta(cd)pyrene	6-8hrs	None set µg/m^3	<0.001				
Dibenzo(ai)pyrene	6-8hrs	None set µg/m^3	<0.001				
Dibenzo(ah)anthracene	6-8hrs	None set µg/m^3	<0.001				
Fluoranthene	6-8hrs	None set µg/m^3	0.03				
Indeno(123-cd) pyrene	6-8hrs	None set µg/m^3	0.0025				
Naphthalene	6-8hrs	None set µg/m^3	0.4				
Comments :							

Emissions to Air (continously monitored)

Summary of monitoring undertaken, standards used and compliance

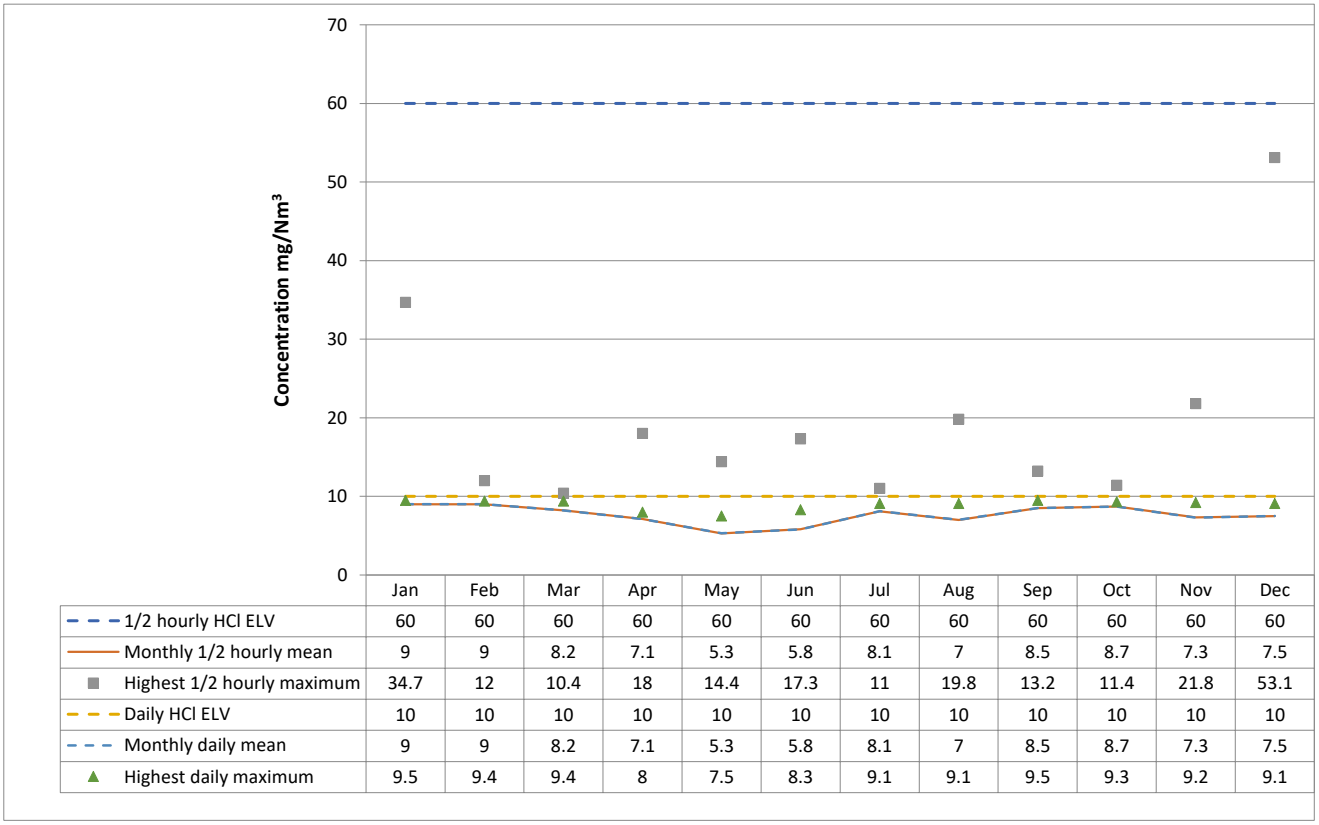
Results of emissions to air that are continuously monitored (maximum and average values for each line)

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	200 mg/m^3	313.0	193.2								
	½ hourly mean	400 mg/m^3	518.6	193.2								
Particulates	Daily mean	10 mg/m^3	4.0	1.0								
	½ hourly mean	30 mg/m^3	25.1	1.0								
Total Organic Carbon	Daily mean	10 mg/m^3	8.4	0.6								
	½ hourly mean	20 mg/m^3	93.0	0.6								
Hydrogen chloride	Daily mean	10 mg/m^3	9.5	7.6								
	½ hourly mean	60 mg/m^3	53.1	7.6								
Sulphur dioxide	Daily mean	50 mg/m^3	42.5	20.8								
	½ hourly mean	200 mg/m^3	108.5	20.8								
Carbon monoxide	Daily mean	50 mg/m^3	137.3	50.7								
	½ hourly mean *	100 mg/m^3 *	1056.9	50.7								
	95%ile 10-min avg *	150 mg/m^3 *	n/a	n/a								
Ammonia	Daily mean	No limit set	n/a	n/a								

Comments :

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

mg/Nm^3	1/2 Hourly Reference Periods			Daily Reference Periods		
2022	**1/2 hourly HCl ELV**	**Monthly 1/2 hourly mean**	**Highest 1/2 hourly maximum**	**Daily HCl ELV**	**Monthly daily mean**	**Highest daily maximum**
Jan	60	9	34.7	10	9	9.5
Feb	60	9	12	10	9	9.4
Mar	60	8.2	10.4	10	8.2	9.4
Apr	60	7.1	18	10	7.1	8
May	60	5.3	14.4	10	5.3	7.5
Jun	60	5.8	17.3	10	5.8	8.3
Jul	60	8.1	11	10	8.1	9.1
Aug	60	7	19.8	10	7	9.1
Sep	60	8.5	13.2	10	8.5	9.5
Oct	60	8.7	11.4	10	8.7	9.3
Nov	60	7.3	21.8	10	7.3	9.2
Dec	60	7.5	53.1	10	7.5	9.1

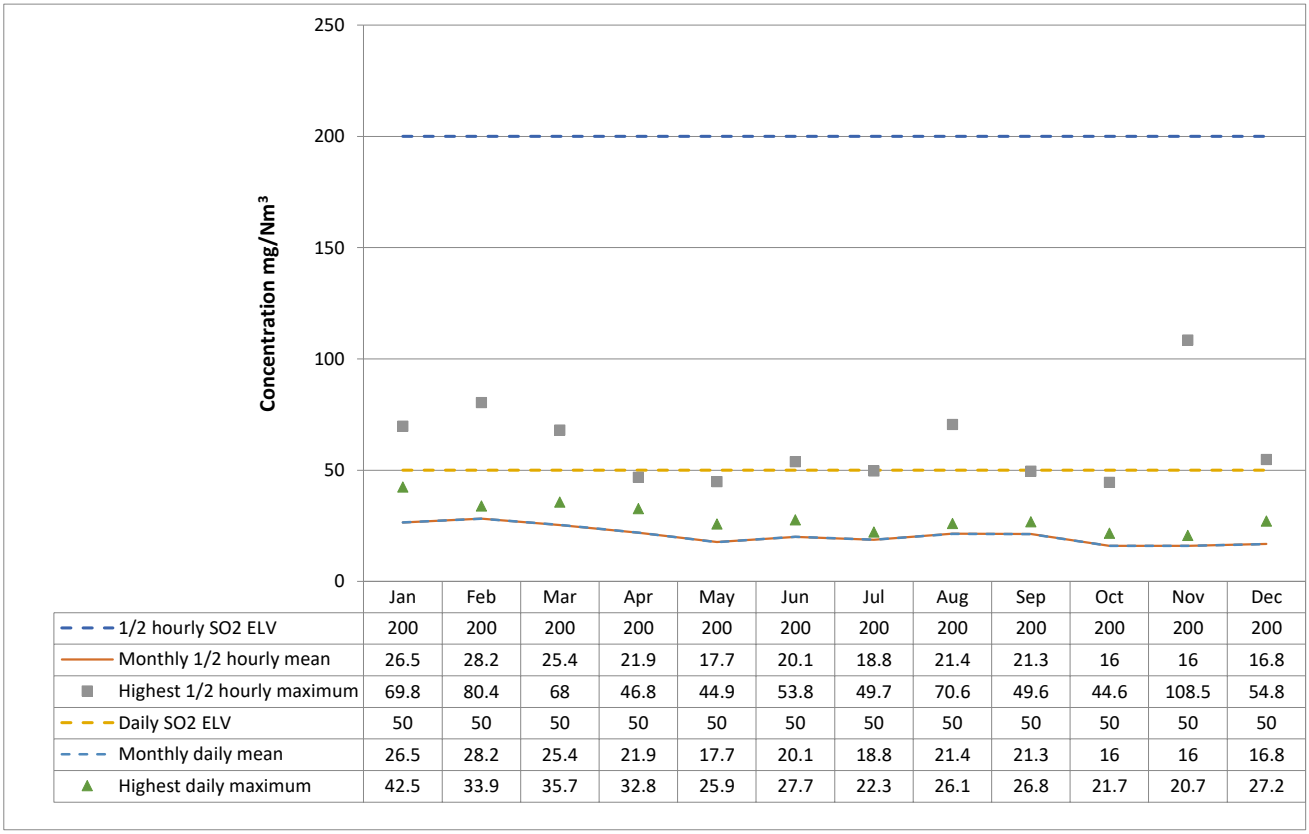


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1/2 hourly HCl ELV	60	60	60	60	60	60	60	60	60	60	60	60
Monthly 1/2 hourly mean	9	9	8.2	7.1	5.3	5.8	8.1	7	8.5	8.7	7.3	7.5
Highest 1/2 hourly maximum	34.7	12	10.4	18	14.4	17.3	11	19.8	13.2	11.4	21.8	53.1
Daily HCl ELV	10	10	10	10	10	10	10	10	10	10	10	10
Monthly daily mean	9	9	8.2	7.1	5.3	5.8	8.1	7	8.5	8.7	7.3	7.5
Highest daily maximum	9.5	9.4	9.4	8	7.5	8.3	9.1	9.1	9.5	9.3	9.2	9.1

Comments :

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

mg/Nm^3	1/2 Hourly Reference Periods			Daily Reference Periods		
2022	**1/2 hourly SO2 ELV**	**Monthly 1/2 hourly mean**	**Highest 1/2 hourly maximum**	**Daily SO2 ELV**	**Monthly daily mean**	**Highest daily maximum**
Jan	200	26.5	69.8	50	26.5	42.5
Feb	200	28.2	80.4	50	28.2	33.9
Mar	200	25.4	68	50	25.4	35.7
Apr	200	21.9	46.8	50	21.9	32.8
May	200	17.7	44.9	50	17.7	25.9
Jun	200	20.1	53.8	50	20.1	27.7
Jul	200	18.8	49.7	50	18.8	22.3
Aug	200	21.4	70.6	50	21.4	26.1
Sep	200	21.3	49.6	50	21.3	26.8
Oct	200	16	44.6	50	16	21.7
Nov	200	16	108.5	50	16	20.7
Dec	200	16.8	54.8	50	16.8	27.2

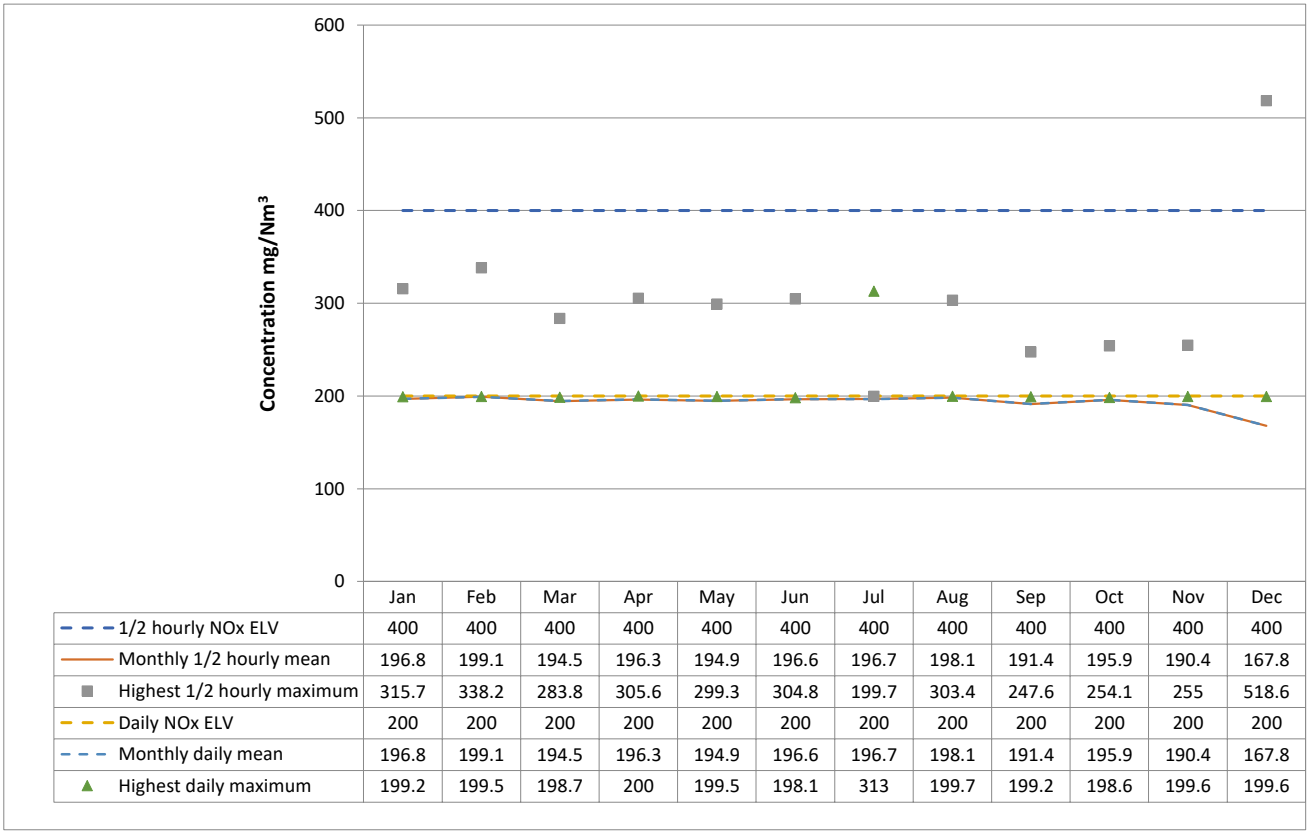


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1/2 hourly SO2 ELV	200	200	200	200	200	200	200	200	200	200	200	200
Monthly 1/2 hourly mean	26.5	28.2	25.4	21.9	17.7	20.1	18.8	21.4	21.3	16	16	16.8
Highest 1/2 hourly maximum	69.8	80.4	68	46.8	44.9	53.8	49.7	70.6	49.6	44.6	108.5	54.8
Daily SO2 ELV	50	50	50	50	50	50	50	50	50	50	50	50
Monthly daily mean	26.5	28.2	25.4	21.9	17.7	20.1	18.8	21.4	21.3	16	16	16.8
Highest daily maximum	42.5	33.9	35.7	32.8	25.9	27.7	22.3	26.1	26.8	21.7	20.7	27.2

Comments :

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

mg/Nm^3	1/2 Hourly Reference Periods			Daily Reference Periods		
2022	**1/2 hourly NOx ELV**	**Monthly 1/2 hourly mean**	**Highest 1/2 hourly maximum**	**Daily NOx ELV**	**Monthly daily mean**	**Highest daily maximum**
Jan	400	196.8	315.7	200	196.8	199.2
Feb	400	199.1	338.2	200	199.1	199.5
Mar	400	194.5	283.8	200	194.5	198.7
Apr	400	196.3	305.6	200	196.3	200
May	400	194.9	299.3	200	194.9	199.5
Jun	400	196.6	304.8	200	196.6	198.1
Jul	400	196.7	199.7	200	196.7	313
Aug	400	198.1	303.4	200	198.1	199.7
Sep	400	191.4	247.6	200	191.4	199.2
Oct	400	195.9	254.1	200	195.9	198.6
Nov	400	190.4	255	200	190.4	199.6
Dec	400	167.8	518.6	200	167.8	199.6

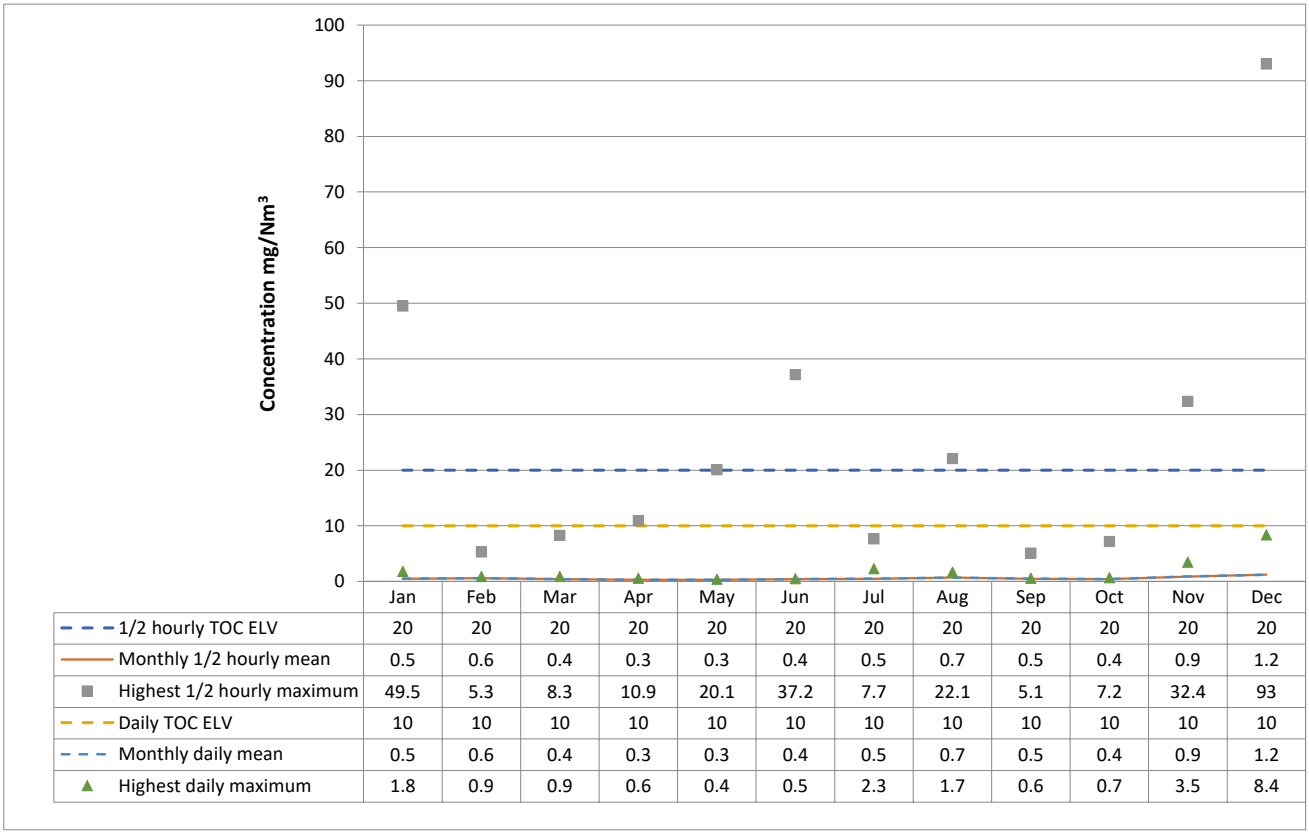


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1/2 hourly NOx ELV	400	400	400	400	400	400	400	400	400	400	400	400
Monthly 1/2 hourly mean	196.8	199.1	194.5	196.3	194.9	196.6	196.7	198.1	191.4	195.9	190.4	167.8
Highest 1/2 hourly maximum	315.7	338.2	283.8	305.6	299.3	304.8	199.7	303.4	247.6	254.1	255	518.6
Daily NOx ELV	200	200	200	200	200	200	200	200	200	200	200	200
Monthly daily mean	196.8	199.1	194.5	196.3	194.9	196.6	196.7	198.1	191.4	195.9	190.4	167.8
Highest daily maximum	199.2	199.5	198.7	200	199.5	198.1	313	199.7	199.2	198.6	199.6	199.6

Comments :

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

mg/Nm^3	1/2 Hourly Reference Periods			Daily Reference Periods		
2022	**1/2 hourly TOC ELV**	**Monthly 1/2 hourly mean**	**Highest 1/2 hourly maximum**	**Daily TOC ELV**	**Monthly daily mean**	**Highest daily maximum**
Jan	20	0.5	49.5	10	0.5	1.8
Feb	20	0.6	5.3	10	0.6	0.9
Mar	20	0.4	8.3	10	0.4	0.9
Apr	20	0.3	10.9	10	0.3	0.6
May	20	0.3	20.1	10	0.3	0.4
Jun	20	0.4	37.2	10	0.4	0.5
Jul	20	0.5	7.7	10	0.5	2.3
Aug	20	0.7	22.1	10	0.7	1.7
Sep	20	0.5	5.1	10	0.5	0.6
Oct	20	0.4	7.2	10	0.4	0.7
Nov	20	0.9	32.4	10	0.9	3.5
Dec	20	1.2	93	10	1.2	8.4

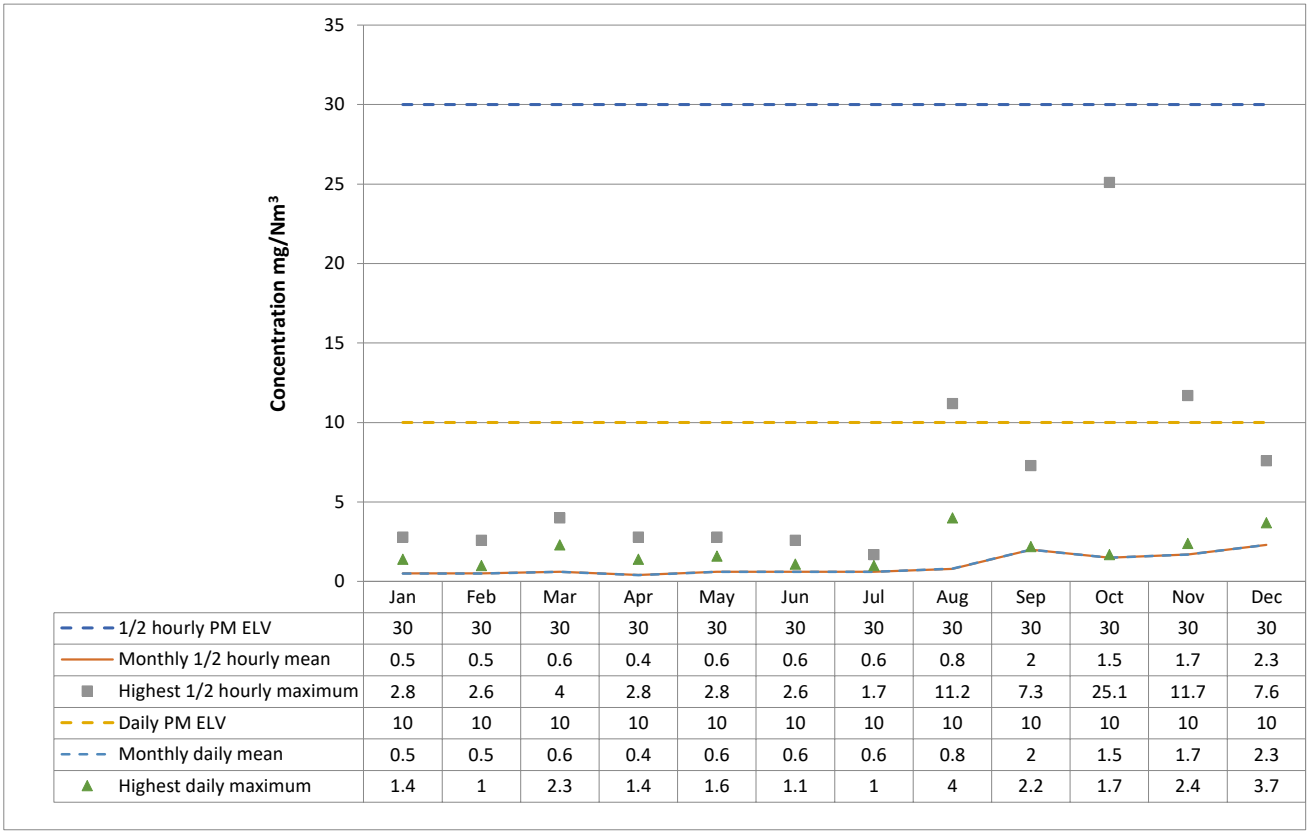


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1/2 hourly TOC ELV	20	20	20	20	20	20	20	20	20	20	20	20
Monthly 1/2 hourly mean	0.5	0.6	0.4	0.3	0.3	0.4	0.5	0.7	0.5	0.4	0.9	1.2
Highest 1/2 hourly maximum	49.5	5.3	8.3	10.9	20.1	37.2	7.7	22.1	5.1	7.2	32.4	93
Daily TOC ELV	10	10	10	10	10	10	10	10	10	10	10	10
Monthly daily mean	0.5	0.6	0.4	0.3	0.3	0.4	0.5	0.7	0.5	0.4	0.9	1.2
Highest daily maximum	1.8	0.9	0.9	0.6	0.4	0.5	2.3	1.7	0.6	0.7	3.5	8.4

Comments :

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

mg/Nm^3	1/2 Hourly Reference Periods			Daily Reference Periods		
2022	**1/2 hourly PM ELV**	**Monthly 1/2 hourly mean**	**Highest 1/2 hourly maximum**	**Daily PM ELV**	**Monthly daily mean**	**Highest daily maximum**
Jan	30	0.5	2.8	10	0.5	1.4
Feb	30	0.5	2.6	10	0.5	1
Mar	30	0.6	4	10	0.6	2.3
Apr	30	0.4	2.8	10	0.4	1.4
May	30	0.6	2.8	10	0.6	1.6
Jun	30	0.6	2.6	10	0.6	1.1
Jul	30	0.6	1.7	10	0.6	1
Aug	30	0.8	11.2	10	0.8	4
Sep	30	2	7.3	10	2	2.2
Oct	30	1.5	25.1	10	1.5	1.7
Nov	30	1.7	11.7	10	1.7	2.4
Dec	30	2.3	7.6	10	2.3	3.7

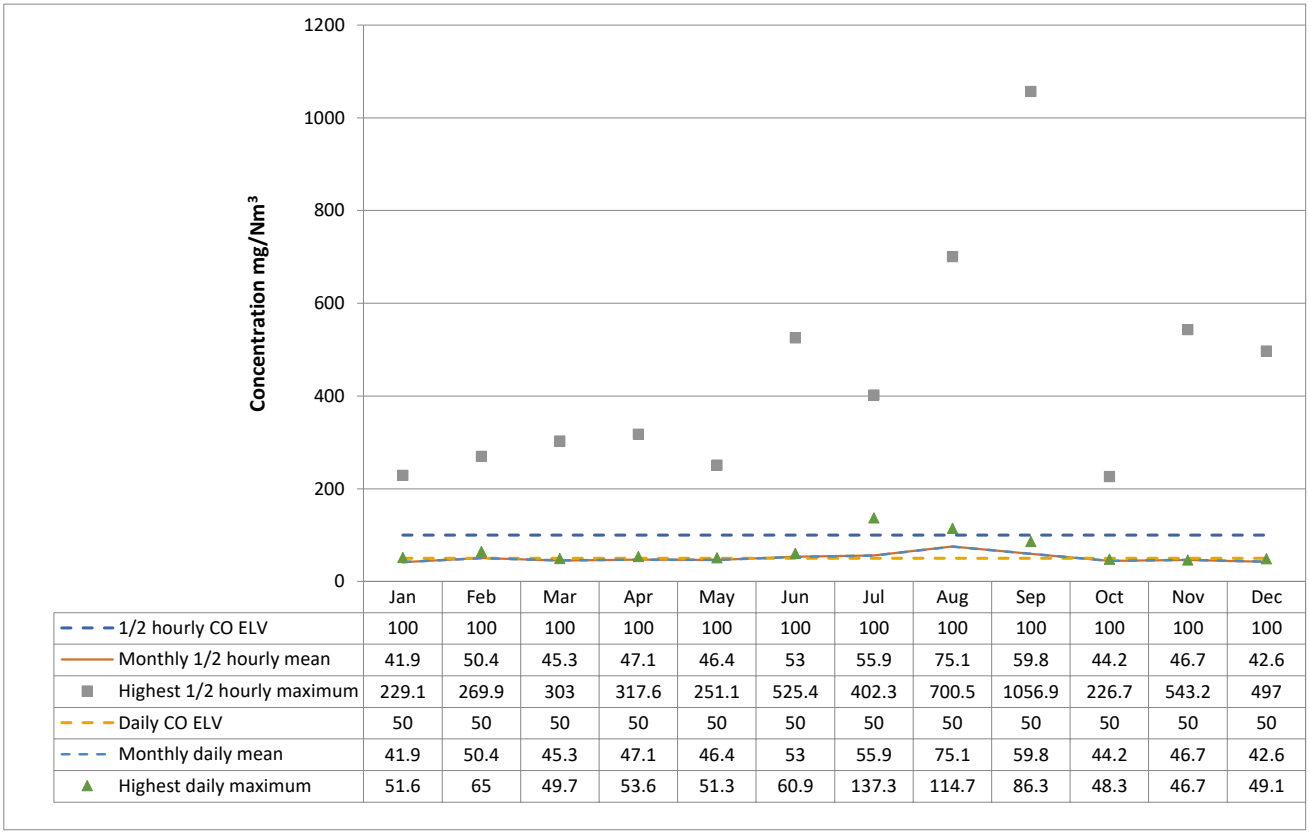


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1/2 hourly PM ELV	30	30	30	30	30	30	30	30	30	30	30	30
Monthly 1/2 hourly mean	0.5	0.5	0.6	0.4	0.6	0.6	0.6	0.8	2	1.5	1.7	2.3
Highest 1/2 hourly maximum	2.8	2.6	4	2.8	2.8	2.6	1.7	11.2	7.3	25.1	11.7	7.6
Daily PM ELV	10	10	10	10	10	10	10	10	10	10	10	10
Monthly daily mean	0.5	0.5	0.6	0.4	0.6	0.6	0.6	0.8	2	1.5	1.7	2.3
Highest daily maximum	1.4	1	2.3	1.4	1.6	1.1	1	4	2.2	1.7	2.4	3.7

Comments :

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

mg/Nm^3	1/2 Hourly Reference Periods			Daily Reference Periods		
2022	**1/2 hourly CO ELV**	**Monthly 1/2 hourly mean**	**Highest 1/2 hourly maximum**	**Daily CO ELV**	**Monthly daily mean**	**Highest daily maximum**
Jan	100	41.9	229.1	50	41.9	51.6
Feb	100	50.4	269.9	50	50.4	65
Mar	100	45.3	303	50	45.3	49.7
Apr	100	47.1	317.6	50	47.1	53.6
May	100	46.4	251.1	50	46.4	51.3
Jun	100	53	525.4	50	53	60.9
Jul	100	55.9	402.3	50	55.9	137.3
Aug	100	75.1	700.5	50	75.1	114.7
Sep	100	59.8	1056.9	50	59.8	86.3
Oct	100	44.2	226.7	50	44.2	48.3
Nov	100	46.7	543.2	50	46.7	46.7
Dec	100	42.6	497	50	42.6	49.1



	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 1/2 hourly mean	41.9	50.4	45.3	47.1	46.4	53	55.9	75.1	59.8	44.2	46.7	42.6
Highest 1/2 hourly maximum	229.1	269.9	303	317.6	251.1	525.4	402.3	700.5	1056.9	226.7	543.2	497
Daily CO ELV	50	50	50	50	50	50	50	50	50	50	50	50
Monthly daily mean	41.9	50.4	45.3	47.1	46.4	53	55.9	75.1	59.8	44.2	46.7	42.6
Highest daily maximum	51.6	65	49.7	53.6	51.3	60.9	137.3	114.7	86.3	48.3	46.7	49.1

Comments :