

Annual performance report for: EPR Thetford Power Limited, Thetford Power Station.

Permit Number: EPR/PP3235LP

Year: 2018

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.

1. Introduction

Name and address of plant	EPR Thetford Power Station Mundford Road Thetford Norfolk IP24 1LX
Description of waste input	Poultry Litter, Horse Bedding, Forest Woodchips mainly sourced from East Anglia.
Operator contact details if members of the public have any questions	Richard Bloomfield (Operation & Maintenance manager) EPR Thetford Power Station. 01842 752255.

2. Plant description

Thetford Power Station is a renewable energy plant using biomass as a fuel to generate electricity. It is classified as a co-incinerator under the Industrial Emissions Directive (IED) since its main fuels are waste biomass including some IED article 3(31) Biomass materials and the plant's principle purpose is to generate renewable electricity.

3. Summary of Plant Operation

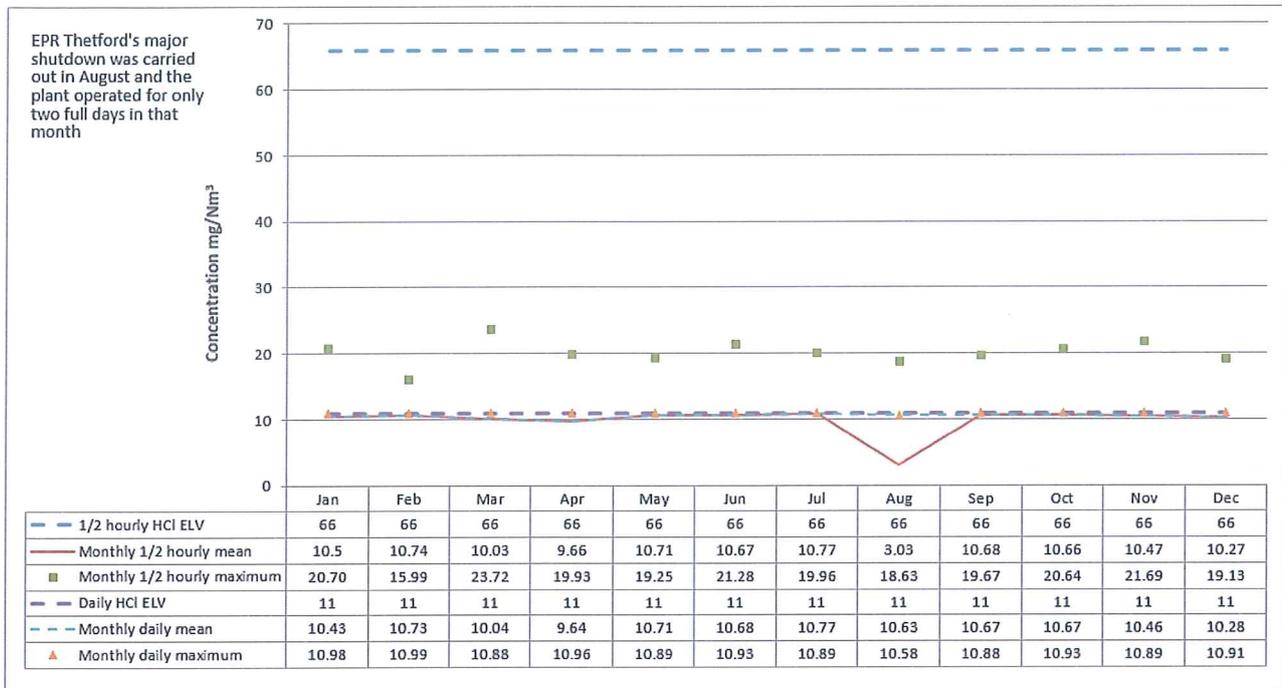
Waste wood (biomass) received	38,274.32 tonnes.
Other waste received (Poultry Litter & Horse bedding)	422,583.14 tonnes.
Total waste received	460,857.46 tonnes.
Total plant operational hours	7,396 hours.
Total hours of "abnormal operation" (see permit for definition)	None.
Total quantity of incinerator bottom ash (IBA) produced	8782.12 tonnes
Disposal or recovery route for IBA	The Disposal of all site IBA is via FibroPhos Thetford where it is used in the production of Fertiliser.
Did any batches of IBA test as hazardous? If yes, state quantity	None.
Total quantity of air pollution control (APC) residues produced	The only APC controls used on site are the use of dry sorbent injection on to bag filters, a total of 1337 tonnes of Bicarb was used.
Disposal or recovery route for APC residues	The Disposal of all site residue APC is via FibroPhos Thetford where it is used in the production of Fertiliser.
Total electricity generated for export to the National Grid	277,374 MWh.

4. Summary of Plant Emissions

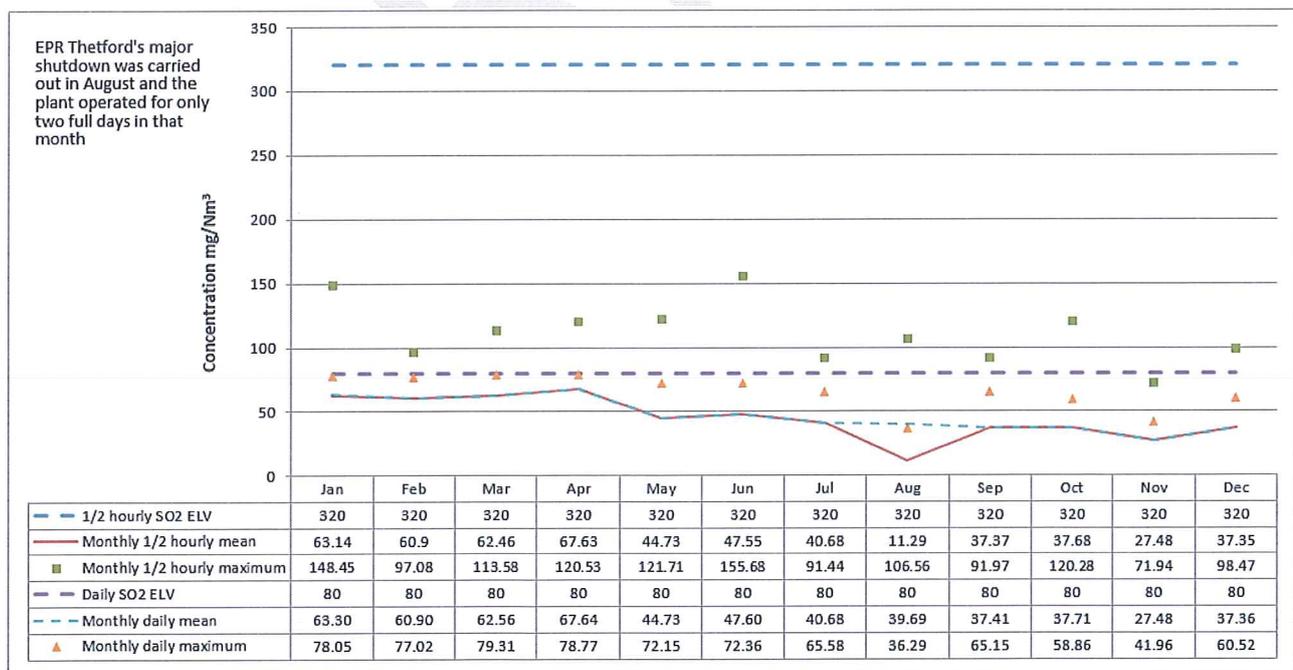
4.1 Summary of continuous emissions monitoring results for emissions to air

The following charts show the performance of the plant against its emission limit values (ELVs) for substances that are continuously monitored.

Line 1 - Hydrogen chloride.

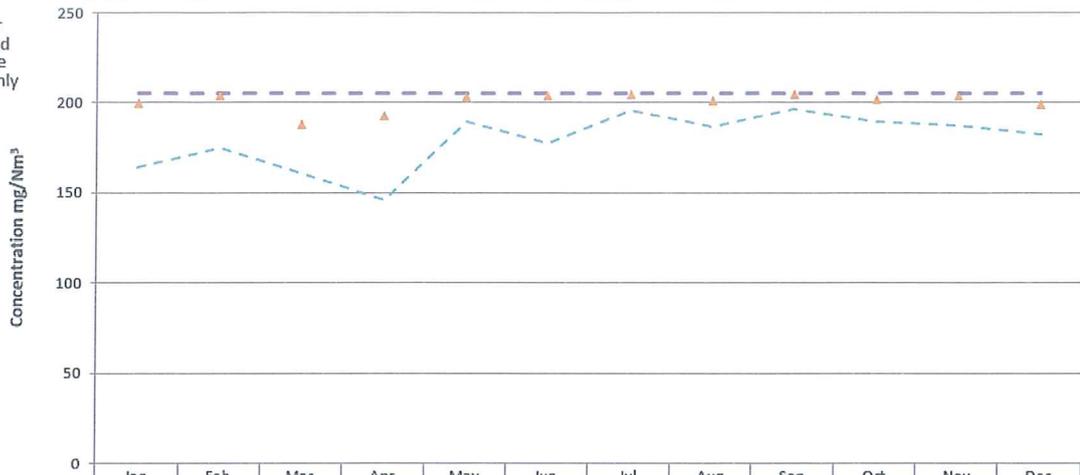


Line 1 – Sulphur dioxide



Line 1 – Oxides of nitrogen

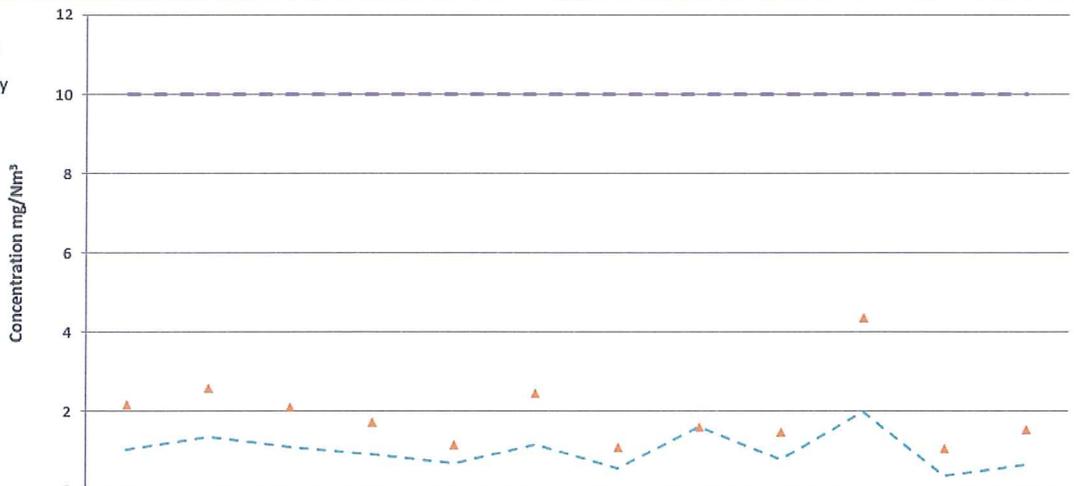
EPR Thetford's major shutdown was carried out in August and the plant operated for only two full days in that month



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
— Daily Nox ELV	205	205	205	205	205	205	205	205	205	205	205	205
- - Monthly daily mean	163.94	174.94	160.96	145.81	189.58	177.52	195.91	186.51	196.72	189.72	187.35	182.14
▲ Monthly daily maximum	199.59	203.52	187.56	192.66	202.96	203.59	204.28	200.63	204.54	201.70	203.72	198.52

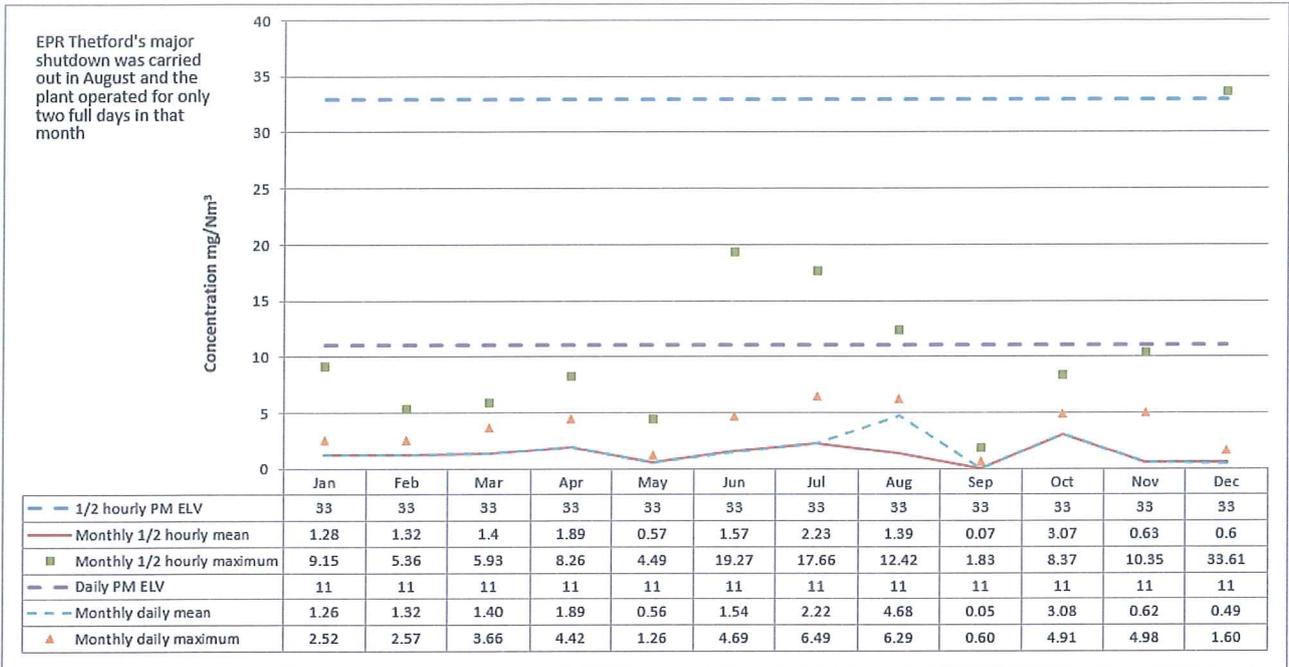
Line 1 – Total organic carbon

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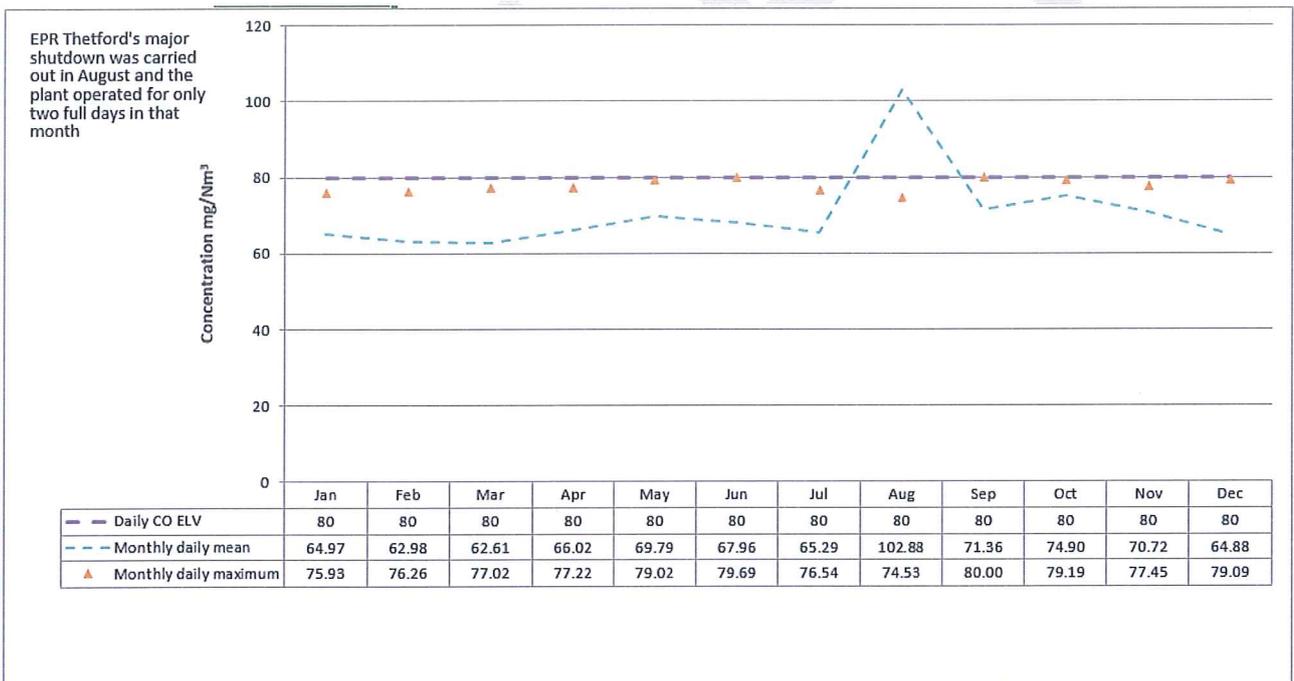


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
— Daily TOC ELV	10	10	10	10	10	10	10	10	10	10	10	10
- - Monthly daily mean	1.05	1.36	1.12	0.92	0.69	1.18	0.56	1.61	0.80	2.00	0.37	0.68
▲ Monthly daily maximum	2.15	2.59	2.10	1.72	1.14	2.46	1.09	1.59	1.47	4.35	1.07	1.53

Line 1 – Particulates



Line 1 – Carbon monoxide



4.2 Summary of periodic monitoring results for emissions to air

The table below shows the results of periodically monitored substances.

Substance	Emission limit value	Results	
		1 st January to 30 th June 2018	1 st July to 31 st December 2018
Mercury and its compounds	0.3 mg/m ³ Over minimum 30 minute, maximum 8 hour period.	<0.0005 mg/Nm ³	0.0004 mg/Nm ³
Cadmium & thallium and their compounds (total)	0.3 mg/m ³ Over minimum 30 minute, maximum 8 hour period.	<0.001 mg/Nm ³	<0.0006 mg/Nm ³
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.3 mg/m ³ Over minimum 30 minute, maximum 8 hour period.	0.1 mg/Nm ³	0.16 mg/Nm ³
Dioxins and furans (I-TEQ)	0.07 ng/m ³ Over minimum 6 hour, maximum 8 hour period.	0.03 ng/Nm ³	0.03 ng/Nm ³
Hydrogen Fluoride	No Limit applies	0.2 mg/Nm ³	0.1 mg/Nm ³

4.3 Summary of monitoring results for emissions to water

Option 2: The following tables summarises the results of monitoring of emissions to water for each Quarter:

Total suspended solids

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
Spot sample ELV (mg/l)	60 mg/l	60 mg/l	60 mg/l	60 mg/l
Spot sample value (mg/l)	23.5 mg/l	15 mg/l	14 mg/l	12.6 mg/l

Biological oxygen demand

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
Spot sample ELV (mg/l)	30 mg/l	30 mg/l	30 mg/l	30 mg/l
Spot sample value (mg/l)	1 mg/l	2 mg/l	1 mg/l	1 mg/l

Ammonia (expressed as N)

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
Spot sample ELV (mg/l)	5 mg/l	5 mg/l	5 mg/l	5 mg/l
Spot sample value (mg/l)	0.3 mg/l	0.5 mg/l	0.36 mg/l	0.4 mg/l

Chloride

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
Spot sample ELV (mg/l)	2000 mg/l	2000 mg/l	2000 mg/l	2000 mg/l
Spot sample value (mg/l)	1743 mg/l	1320 mg/l	1492 mg/l	1523 mg/l

Sulphate

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
Spot sample ELV (mg/l)	1000 mg/l	1000 mg/l	1000 mg/l	1000 mg/l
Spot sample value (mg/l)	54.6 mg/l	43.7 mg/l	54.6 mg/l	48.2 mg/l

Mercury

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
Spot sample ELV (mg/l)	0.005 mg/l	0.005 mg/l	0.005 mg/l	0.005 mg/l
Spot sample value (mg/l)	0.0001 mg/l	0.00005 mg/l	0.0001 mg/l	0.00002 mg/l

Cadmium

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
Spot sample ELV (mg/l)	0.010 mg/l	0.010 mg/l	0.010 mg/l	0.010 mg/l
Spot sample value (mg/l)	0.0006 mg/l	0.0006 mg/l	0.0006 mg/l	0.0006 mg/l

5 Summary of Permit Compliance

5.1 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	99.99 %	100 %
Oxides of nitrogen	100 %	100 %
Sulphur dioxide	100 %	100 %
Carbon monoxide	100 %	100 %
Total organic carbon	100 %	100 %
Hydrogen chloride	100 %	100 %

5.2 Summary of any notifications or non-compliances under the permit

Date	Summary of notification or non-compliance	Reason	Measures taken to prevent reoccurrence
10 th December 2018	During a plant run-up on the 10 th December 2018 the Particulates 30 minute ELV of 33 mg/Nm ³ was breached by 0.6mg/Nm ³ . That breach was discussed with the site's local EA officer, Samuel Fuller, who advised that the breach should be shown on the Quarterly Report but that a formal breach report was not required.	Plant run up after boiler clean.	Discussed between the station management team and local EA officer Samuel Fuller.

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

Date of complaint	Summary of complaint	Reason for complaint including whether substantiated by the operator or the EA	If substantiated, measures to prevent reoccurrence
	None.		

6. Summary of plant improvements

Summary of any permit improvement conditions that have been completed within the year and the resulting environmental benefits.
None.
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.
None.

Summary of any other improvements made to the plant or planned to be made and a summary of the resulting environmental benefits.

None.

7. Details of any public liaison planned for 2019

Date and time	Description	Location
Date's & Time's to be confirmed	The site hosts two local liaison meetings each year, the first meeting in 2019 is likely to be held in March or April.	EPR Thetford Power Station.