

# Annual performance report for: APHA, Weybridge Incineration Plant

**Permit Number:** EPR/ AP3039SD

**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	Animal Plant Health Agency (APHA) Incineration Facility, Woodham Lane, New Haw, Addlestone, Surrey KT15 3NB
Description of waste input	Hazardous clinical, Domestic/commercial & animal waste. Only waste generated on site or at other DEFRA locations is incinerated on site.
Operator contact details if members of the public have any questions	Defra Estates; APHA Addlestone, KT15 3NB

## 2. Plant description

The main purpose of the Facility is to incinerate hazardous waste generated on site including animal carcasses.

### Waste Reception & Storage

Waste is collected around the site in bins. These are transported to the incinerator where a bin lift loads the waste in to the incinerator by rotating the bins 180 degrees, this ensures all the contents fall out of the bin in to the waste feed hopper. The waste is injected into the furnace by a ram. Once inside the combustion chamber, rams move the waste through the grate at approximately 900°C thus promoting continuous mixing of the waste with the combustion air introduced from beneath the grate into the heart of the fire. In the secondary chamber the gas temperature is maintained above 850c for 2 seconds. Ash from the grate is discharged into a bespoke skip.

### Energy Recovery

Hot gases from the combustion of waste pass through a waste heat steam boiler. The temperature of the gases are reduced from over 850°C to around 160°C. The gases heat up the water in the boiler and produce steam at 4.5barG. This steam is fed to the site Energy Centre which distributes thermal energy around the site.

### Gas Cleaning

Downstream of the boiler bicarbonate soda is injected to neutralise acid gases. Activated carbon is injected to adsorb any remaining dioxins, furans and heavy metals. Prior to release into the atmosphere the gases pass through a fabric filter where the air pollution control (APC) residues are removed from the gas stream; these are disposed of at a hazardous waste landfill. Once the gases have been cleaned they are discharged into the atmosphere via a stack.

### 3. Summary of Plant Operation

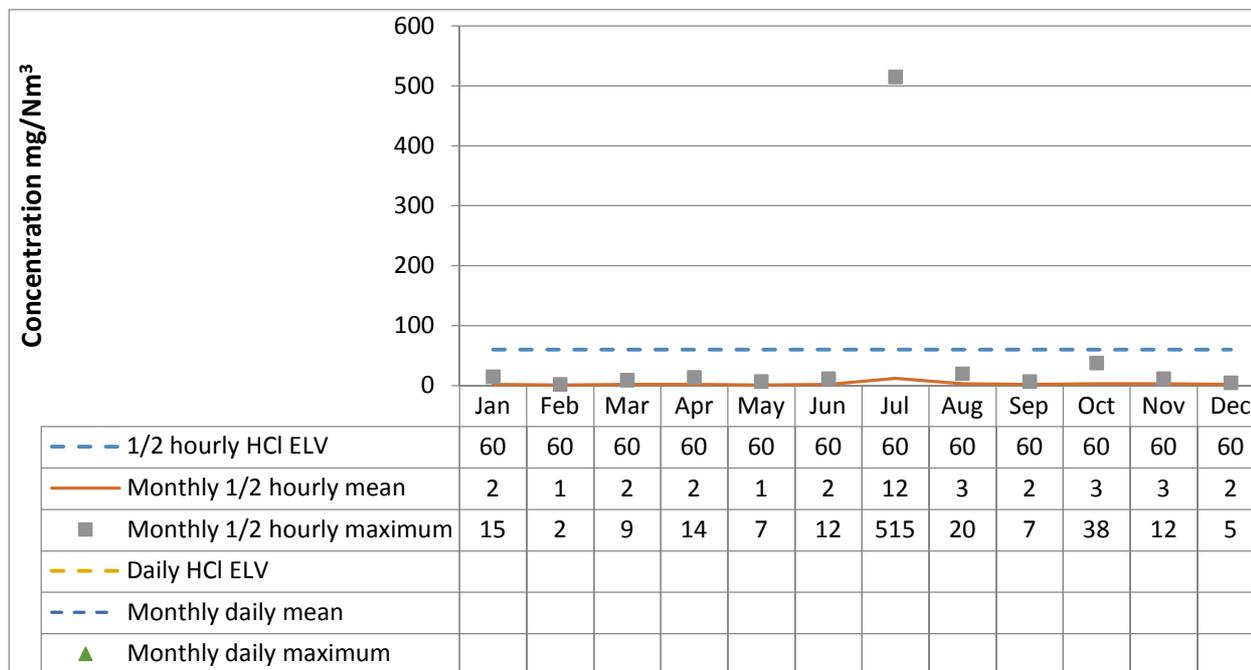
Hazardous clinical waste received	803 tonnes
Animal Waste	337 tonnes (Incinerated in Animal by-products machine)
Total waste received	1,139 tonnes
Total plant operational hours	2,007 hours (Haz waste only)
Total hours of "abnormal operation" (see permit for definition)	None hours
Total quantity of incinerator bottom ash (IBA) produced	101 tonnes (both machines)
Disposal or recovery route for IBA	Landfill
Did any batches of IBA test as hazardous? If yes, state quantity	none
Total quantity of air pollution control (APC) residues produced	69 tonnes
Disposal or recovery route for APC residues	Recovery at Castle Environmental

## 4. Summary of Plant Emissions

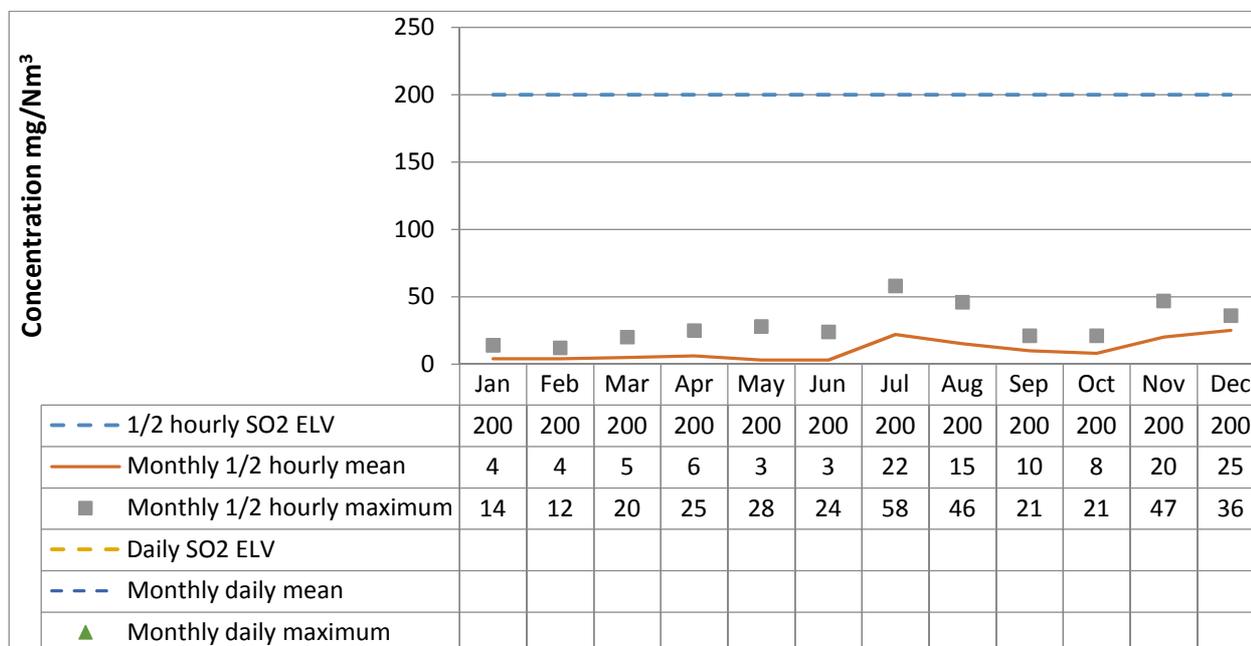
### 4.1 Summary of continuous emissions monitoring results for emissions to air

The following charts show the performance of the plant against its emission limit values (ELVs) for substances that are continuously monitored. Please note: as the plant only operates for 12 hours per day, the daily limits are not valid and thus do not apply.

#### Line 1 - Hydrogen chloride



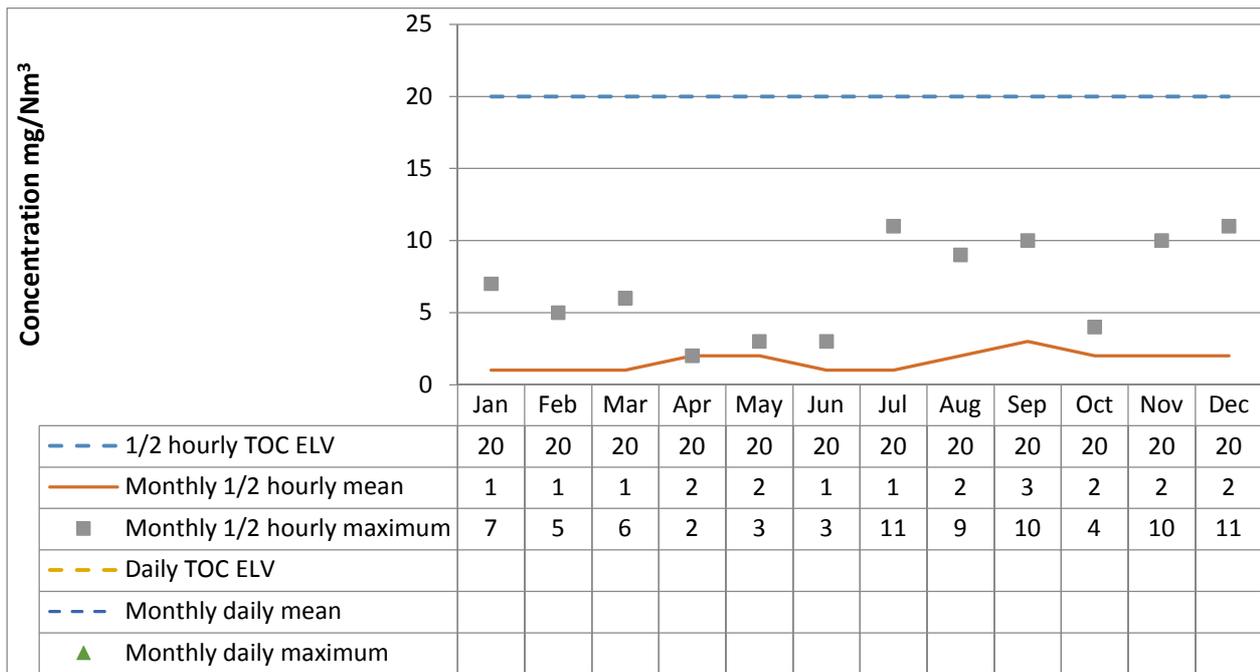
#### Line 1 – Sulphur dioxide



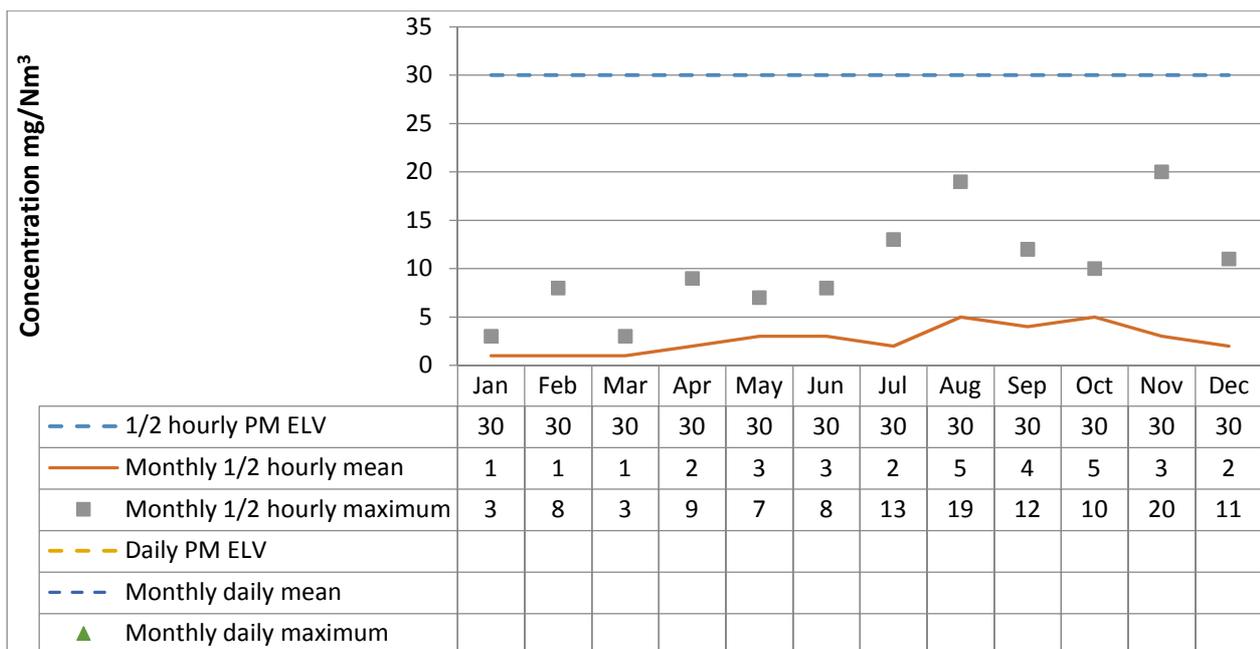
#### Line 1 – Oxides of nitrogen

Not applicable as no ½ hour limit is set in the Permit. The daily limit is 400, which no half hour reading exceeded.

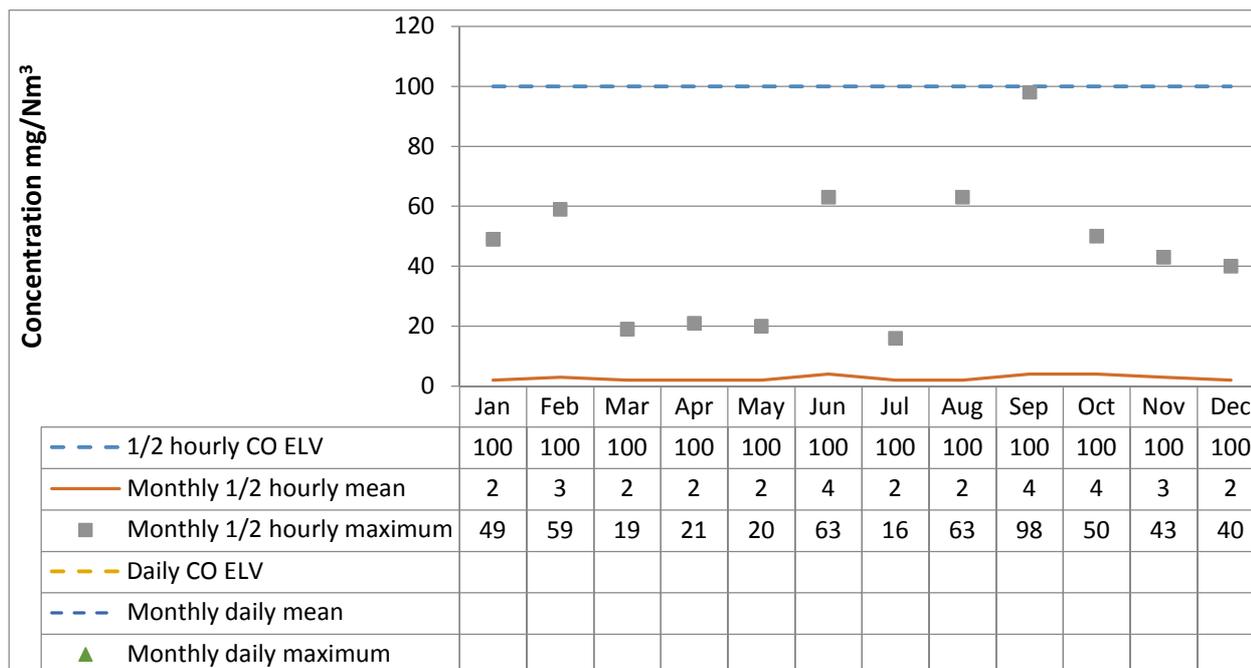
### Line 1 – Total organic carbon



### 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	
		March 2018	September 2018
Mercury and its compounds	0.05 mg/m <sup>3</sup>	0.0008 mg/m <sup>3</sup>	0.0029 mg/m <sup>3</sup>
Cadmium & thallium and their compounds (total)	0.05 mg/m <sup>3</sup>	0.002 mg/m <sup>3</sup>	0.003 mg/m <sup>3</sup>
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m <sup>3</sup>	0.077 mg/m <sup>3</sup>	0.088 mg/m <sup>3</sup>
Dioxins and furans (I-TEQ)	0.1 ng/m <sup>3</sup>	0.051 ng/m <sup>3</sup>	0.071 ng/m <sup>3</sup>
Hydrogen Fluoride	2 mg/m <sup>3</sup>	0.07 mg/m <sup>3</sup>	0.099 mg/m <sup>3</sup>

## 4.3 Summary of monitoring results for emissions to water

There are no emissions to water from the process [other than clean surface water]

## 5. Summary of Permit Compliance

### 5.1 Summary of any notifications or non-compliances under the permit

Date	Summary of notification or non-compliance	Reason	Measures taken to prevent reoccurrence
31/07/18	notification for half-hourly HCl ELV exceedance	Something in the waste resulted in the high emission	Unable to ascertain what was in the bin? All remaining emissions for the day were within Permitted limits

### 5.2 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.**

The bag filters were changed in November because the dust emissions, while compliant, were higher than normal.

A tender document has been issued to the incineration market for the installation of a new incinerator. Once commissioned this will replace the old plant with new. This will improve the efficiency of the incinerator.