

**Annual Performance Report
for
Eastcroft Energy from Waste
Facility**

Permit No: EP3034SN

Year – 2009

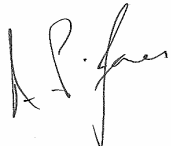
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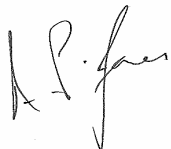

Waste Recycling Group
On behalf of WasteNotts (Reclamation) Ltd

Report Issued: 28th January 2010

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	Prepared by	Reviewed by	Approved by
Original	Name Alan P. Jones	Name Michael Day	Name
Date: 17/01/09	Signature 	Signature	Signature

	Prepared by	Reviewed by	Approved by
Revision 1	Name Alan P. Jones	Name Michael Day	Name
Date: 28/01/10	Signature 	Signature 	Signature

	Prepared by	Reviewed by	Approved by
Revision 2	Name Alan P. Jones	Name Michael Day	Name
	Signature	Signature	Signature

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Glossary

	Definition
°C	Degrees Centigrade
APC	Air Pollution Control
As	Arsenic
BAT	Best Available Technique
BS EN	British Standard - European
CDM	Construction Design Management
CEMs	Continuous Emission Monitoring
CHP	Combined Heat & Power
CFD	Computational Flow Dynamics
Co	Cobalt
CO	Carbon Monoxide
Cr	Chromium
Cu	Copper
CV	Calorific Value
EA	Environment Agency
EfW	Energy from waste
EWC	European Waste Catalogue
FGT	Flue Gas Treatment
HAZOP	Hazardous operations
HCl	Hydrogen Chloride
HWRC	Household Waste Recycling Centre
ID	Induced draught
LOI	Loss Of Ignition
LRHS	London Road Heat Station
Mn	Manganese
NDHS	Nottingham District Heating Scheme
NHIC	Non Hazardous Industrial & Commercial
Ni	Nickel
NO _x	Oxides of Nitrogen
OS	Ordnance Survey
Pb	Lead
PPC	Pollution Prevention Control
PPE	Personal Protective Equipment
Sb	Antimony
SNCR	Selective Non Catalytic Reduction
SO _x	Oxides of Sulphur
SRCL	Ex White Rose Environmental
TOC	Total Organic Carbon
V	Vanadium
WID	Waste Incineration Directive
WNR	WasteNotts (Reclamation) Ltd
WRG	Waste Recycling Group

Introduction

This report is required to be produced under the Waste Incineration Directive's Article 12(2) requirements on access to information and public participation, which requires the operator to produce an annual report to the Regulator on the functioning and monitoring of the plant and to make this available to the public.

The Nottingham Waste Incinerator installation at Eastcroft comprises the Energy from Waste facility operated by WasteNotts (Reclamation) Limited (WNR) and the clinical waste incinerator operated by SRCL. WNR is owned by Waste Recycling Group (WRG). This report relates only to the Energy from Waste facility.

The Energy from Waste facility is located at

Incinerator Road
Off Cattle Market Road
Nottingham
NG2 3JH

OS Grid Reference: SK45823391

The Energy from Waste facility is part of the Nottingham District Heating Scheme which produces heat and power for local users by burning up to 160,000 tonnes of waste from Nottingham, Nottinghamshire and the surrounding area each year. Non hazardous municipal waste, or similar, is brought to the facility after people have sorted out materials for recycling at home and at the Household Waste Recycling Centres.

The Eastcroft Energy from Waste facility generates nearly 20 megawatts of thermal energy in the form of steam, which helps to reduce the need for non-renewable fossil fuels and produces electricity for the local grid and heat for homes in the city centre.

Steam from the facility is sent by pipes to an energy generation facility on London Road. From there it is used for district heating in around 4,600 local homes and converted to electricity for distribution to the grid.

Housing in St Ann's is served by power and heat from the facility, as are the Victoria Shopping Centre, the Nottingham Magistrates Court and the National Ice Centre, amongst others.

Using waste to generate heat and power helps to reduce the need for fossil fuels. A proportion of the waste brought to Eastcroft comes from renewable sources (paper, wood, organic materials, etc.). The Government encourages the use of renewable energy sources as a way of reducing our need for fossil fuels, which are a major cause of climate change.

Should a member of the public want a copy of this report or wish to make comments then please use the following contact information

Email: info.eastcroft@wrg.co.uk
Web: www.wrg.co.uk/eastcroft
Post Eastcroft EfW Facility
Incinerator Road
off Cattle Market Road
Nottingham
NG2 3JH
Call: 0845 601 5432

Plant Description

The EfW facility currently comprises two incineration streams each capable of burning up to 11.5 tonnes/hour of municipal and light commercial and industrial waste. Approximately 160,000 tonnes of waste can be burned in the plant per year at the present time. Waste Recycling Group the owner of WasteNotts (Reclamation) Ltd has planning permission to add a third line to the plant. Planning permission was granted in 2009 for a third line which will increase the capacity of the incineration process to 260,000 tonnes per year. The third line is already included in the scope of the PPC permit (EP3034SN).

The following sections describe the existing operations at Eastcroft EfW. A summary of the proposals for the third line is given at the end of this description.

Raw materials handling

Municipal waste and non-hazardous commercial/industrial/trade waste is delivered to site by lorry and tipped into one of two refuse bunkers inside the tipping hall. Deliveries are typically made from Monday to Saturday morning. Waste is transferred from the bunkers by grab crane into the feed chute of each incinerator stream. Waste is only fed to the incinerator if the temperature is above 850°C.

Incineration

Each incinerator stream has a moving grate on which the waste is burned, with preheated air being injected above and below the grate. Combustion air is drawn from the tipping hall and boiler hall to reduce odours and dust levels in these areas and fed to the furnace via an air preheater which can raise the temperature of the air up to 160 Deg C. Two auxiliary burners, fired on gas oil, are installed halfway up each combustion chamber to maintain temperatures above the 850°C threshold. The auxiliary burners are also used to pre-heat the incinerators before start up. Ammonium hydroxide is injected into the furnaces to reduce emissions of nitrogen oxides (this technique is known as selective non-catalytic reduction or SNCR).

Hot gases from the combustion chamber pass to a boiler in which steam is raised and sent to the London Road Heat Station for supply of heat to the district heating system and generation of electricity. Flue gases leaving the boiler are cooled to about 130°C in the economiser to achieve the correct temperature for acid gas treatment.

Ash handling system

Grate ash (known as bottom ash) is quenched in water and collected in a residuals bunker inside the building. Ferrous metal items are removed by magnetic separators (and are sent for recycling) and the bottom ash is stored in a silo on site. The silo is emptied regularly and the bottom ash is sent for landfill disposal, where it is used beneficially as top cover or as a road building material.

Fly ash entrained within the incinerator exhaust gases, together with any accumulations of dust removed from the walls of the economiser by the shot

cleaning system, is treated in the air pollution control equipment.

Air pollution control (APC) equipment

Each incinerator stream has its own dedicated air pollution control equipment. Cooled flue gases leaving the economiser are dosed with a mixture of hydrated lime, activated carbon and recirculated reagent, in order to reduce acid gases (by reaction with the lime), and other substances such as heavy metals and hydrocarbons (by adsorption onto the activated carbon). The exhaust gases and reagent particles are then filtered in a four compartment fabric filter to remove the dust burden. The fabric filters are regularly cleaned by reverse jet pulses, and the collected end product is stored in the APC residue silo. The APC residue silo is regularly emptied and the residue used to treat industrial acidic wastes before final disposal in a suitably licensed landfill site.

Stack emission

The treated exhaust gases from both streams are discharged via the 91m high stack. The final emissions from the municipal waste incinerator are continuously monitored for particulate matter, sulphur dioxide, nitrogen oxides, carbon monoxide, hydrogen chloride, volatile organic compounds and ammonia prior to entry into the main stack.

Outline Description of the Third Line

Engineering details of the proposed third line are not yet available since WRG has not yet awarded the contract for the design and build of the incinerator extension. However it is known that the third line will mainly comprise:

- Waste reception into the existing tipping hall and waste bunkers.
- Two new grab cranes serving the existing incineration lines and the third line.
- A moving grate incinerator and integrated steam raising boiler designed to meet the temperature and residence time requirements of the Waste Incineration Directive. The incinerator plant could possibly be housed in a separate building from the existing lines.
- An ash collection and handling system for incinerator bottom ash with an automatic conveying system to the existing bottom ash silo.
- Abatement of nitrogen oxide emissions in the incinerator combustion chamber by selective non-catalytic reduction and/or flue gas recirculation.
- An air pollution control system similar to that for the existing lines, i.e. comprising acid gas neutralisation, carbon injection and dust filtration.
- Emission of the treated flue gases via the currently unused semi-circular flue of the existing stack.
- Continuous and periodic monitoring of all emitted pollutants in the stack.
- An effluent treatment plant for all effluents which cannot be reused within the process, including back-flush water from the boiler water treatment plant, overflow from the wet ash handling system and surface water drainage.

- A possible steam turbine at the Eastcroft site for generation of electricity for sale to the grid, and possible supply of residual heat to the district heating scheme.
- An air cooled condenser to condense the residual steam and return it to the boiler system.

Summary of plant operation

The PPC forms relating to annual data can be found in Appendix 1.

Plant size including number of lines

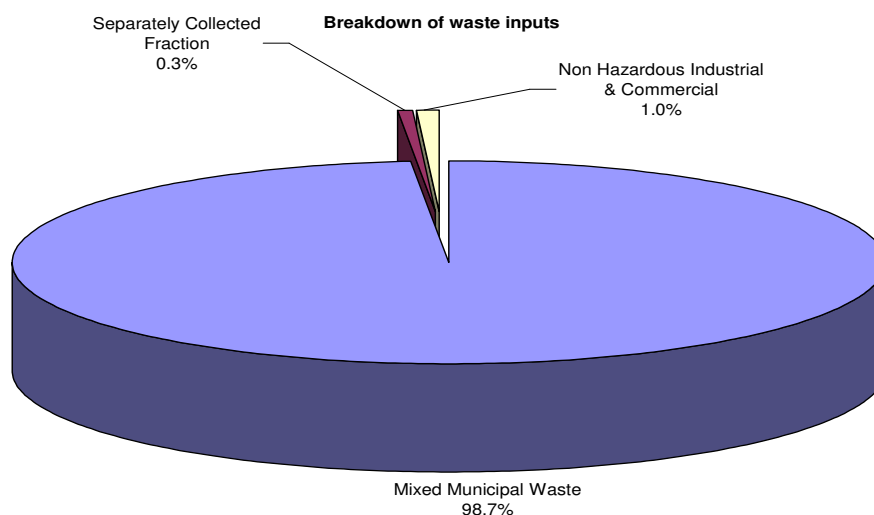
The Eastcroft Energy from Waste facility is designed around two process streams each with a capacity of 11.5 tonnes per hour with the waste having an average calorific value (CV) of 8.5 MJ/kg. The facility however can easily deal with fluctuations in the composition of the waste and has a design CV range of 6 – 12 MJ/kg which it can accept without any adverse effects.

The theoretical maximum capacity of the plant assuming a 'low' CV waste input and the plant running every hour of the year would be approximately 260,000 tonnes. In reality the plant accepts waste with a CV of around 8.5MJ/kg and has to be shut down for annual maintenance and other works, this results in a historical throughput of around 150 – 160,000 tonnes every year.

Under normal operation the facility does not need supplementary fuel to sustain the combustion process. Additional Fuel is only required for start-up and shut down, to ensure that no waste is burnt at temperatures less than 850 °C.

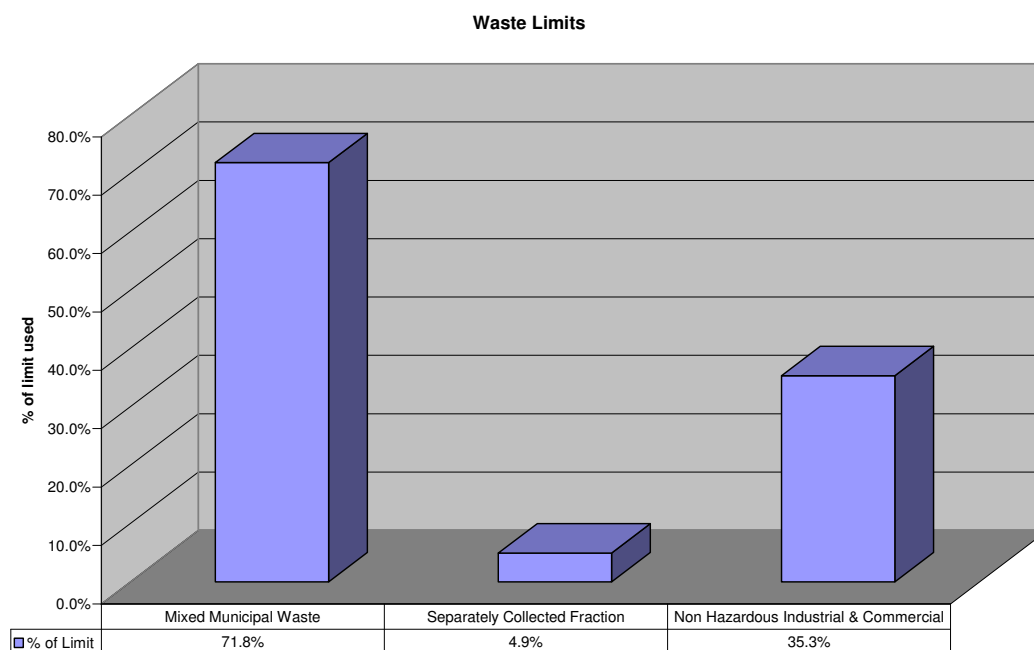
Annual Waste Throughputs

Figure 1: Breakdown by category for waste input



The facility took in approximately 116,444 tonnes of waste in the reporting period. The vast majority of this waste was mixed municipal waste from Nottingham City, Nottinghamshire and the surrounding area. A breakdown of the waste inputs is shown in Figure 1. This identifies how much waste was municipal, non hazardous industrial & commercial and separately collected fractions. The separately collected fraction tends to be waste such as confidential paper from sources such as the police, solicitors etc.

Figure 2: Percentage of waste inputs against the specified limits



As required through the Waste Incineration Directive Article 4(4) the permit identifies the types of waste by European Waste Catalogue (EWC) code and can potentially give maximum quantities of waste which can be accepted at Eastcroft.

The EWC codes have been grouped together into three main headings and maximum quantities assigned. The groupings and quantities are as shown below:

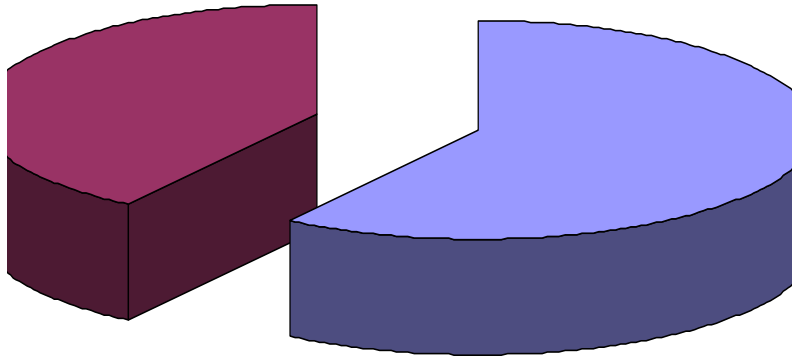
- **Municipal Waste**
 Limit 160,000 tonnes Actual 114,920 tonnes
- **Separately Collected Fraction**
 Limit 8,000 tonnes Actual 394 tonnes
- **Non Hazardous Industrial & Commercial**
 Limit 3,200 tonnes Actual 1,130 tonnes

Figure 2 shows the quantity of waste received against the limit as a percentage. It can be clearly seen from the graph that the Eastcroft facility was within its limits.

Total Plant Operational Hours

The Eastcroft facility is similar to all plants in the fact that it has a computerised maintenance management system. This allows the Operators to schedule in maintenance activities and predict when systems are likely to fail. This coupled with the experience of the Operator maximises the availability of the plant. However it must be recognised that no system is perfect and that the plant will have to come offline either because the repair necessitates it or the works are unforeseen.

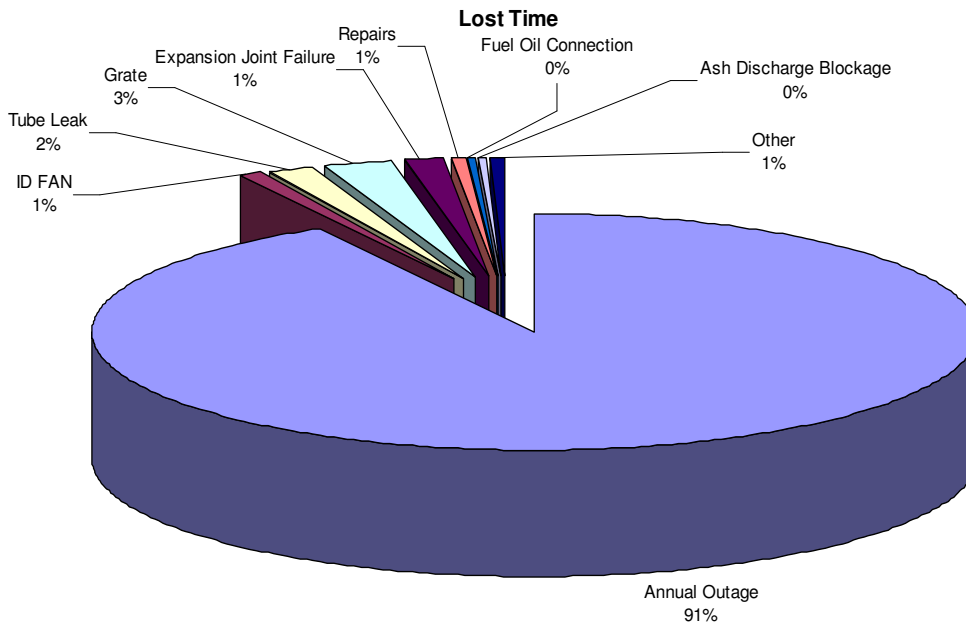
Figure 3: Plant Availability



In total the two lines operated for 10,416 hours giving an overall availability of 59% for the reporting period, as seen in Figure 3.

The analysis of lost time for the plant is broken down into various categories in Figure 4.

Figure 4: Analysis of Lost Time



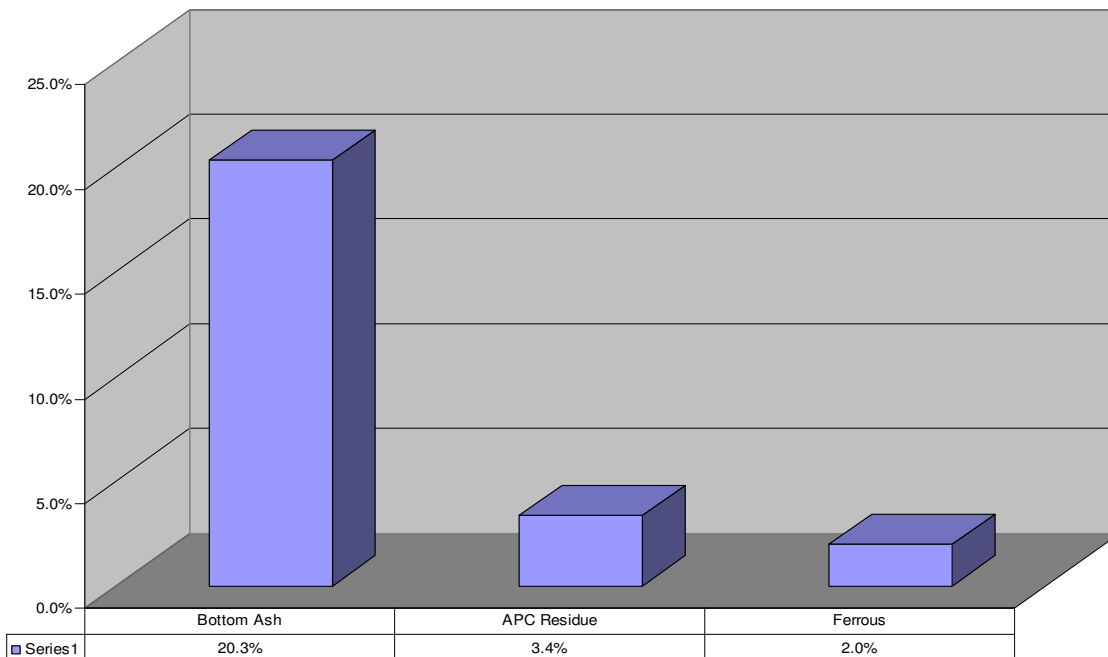
2009 saw a major refurbishment taking place at Eastcroft. This included the replacement of the original feed chutes, grate and ash discharger along with refurbishment of parts of the flue gas treatment plant. In replacing the grate system a more advanced combustion control system was installed, ensuring the plant operates in the same manner that any modern facility would be design for. This process accounts for 91% of the down time of the plant during 2009 which can be seen in Figure 4.

As in previous years, prior to the refurbishment works each boiler suffered from some tube failures, during the refurbishment works the last of the "original" boiler tube banks were replaced. It is expected that we should see a sustained period of trouble free operation in regard to tube leaks for some years to come.

Normal operational difficulties were experienced with the grate such as grate bars lifting. This is usually caused by non standard waste getting under the moving bars. The result is that the units have to come off and personnel have to get on the grate to reposition the bars. Normally whilst this work is carried out the opportunity is taken to inspect the grate and carry out other maintenance activities.

Residue production

Figure 5: Quantity of Residue Produced as a % of the input



The plant produces three types of residue;

- Bottom Ash – an inert material left over from the combustion process. This material is currently sent to local landfill sites where it is used as daily top cover and as a road building material. This saves on virgin materials which would otherwise be used.
- Air Pollution Control Residue – A mixture of lime and other particles that have been captured by the Flue Gas Treatment Facility. This material gets sent to a treatment facility where it is mixed with other waste before final disposal in a suitable landfill site
- Ferrous – the ferrous metal in the bottom ash is reclaimed using a magnet. This material is sent away for recycling.

The quantities of residues produced can be seen in Figure 5.

Energy Production

The Eastcroft EfW Facility is part of the Nottingham District Heating Scheme providing energy in the form of steam to the heat station at London Road owned by EnviroEnergy which in turn is wholly owned by Nottingham City Council.

The premises on London Road convert the energy into electricity and hot water. Electricity is supplied to major customers using dedicated cabling. Hot water is distributed to customers over the extensive pipe network that covers much of the city centre. Customers have heat exchangers rather than boilers to keep their building warm and to provide a constant supply of hot water.

EnviroEnergy's customers include the National Ice Arena, the Broadmarsh and Victoria shopping centres, the Inland Revenue offices beside the canal, Capital One's UK headquarters and Nottingham Trent University as well as over 4,600 domestic consumers.

In 2001 EnviroEnergy generated 61,862 mWh of electricity and distributed 177,279 mWh for heat and hot water. Waste produced by 250,000 homes and businesses was used as a fuel to generate this energy. EnviroEnergy have 60 miles of pipes beneath the streets of city centre Nottingham.

If energy were not recovered from Nottingham's waste, fossil fuels would be burnt and more land would be required for landfill sites. By using Nottingham Green Energy our customers are helping to tackle global warming and over time they will also save themselves money.

For the reporting period Eastcroft generated 653 TJ of energy in the form of steam

Summary of plant emissions

The monitoring requirements are set out in Section 2.2 of the permit.

The plant is required to carry out both continuous monitoring as well as extractive tests up to four times a year however the emissions to be measured do vary. In addition to this the EA carry out a full suite of tests during a year. The EA tests are unannounced i.e. the EA turn up without prior warning.

Pollutants Measured

Pollutants Measured	Continuously	Periodically
Particulates	✓	✓
Oxides of Nitrogen	✓	✓
Sulphur dioxide	✓	✓
Carbon Monoxide	✓	✓
Ammonia	✓	✓
Total Organic carbon	✓	✓
Hydrogen Chloride	✓	✓
Mercury		✓
Cadmium & Thallium		✓
Group III Metals		✓
PCDD & PCDF		✓
Hydrogen Fluoride		✓

Control of emissions

The control of the emissions is explained in the “Plant Description” section although for ease of reference the control measures have been summarised below:

- The acidic gases (Sulphur Dioxide & Hydrogen Chloride) are controlled by the addition of lime to the flue gases.
- Carbon Monoxide and the Total Organic Carbons are controlled through the combustion controls which affect the amount of air in the combustion chamber
- Oxides of Nitrogen are controlled by adding sufficient amounts of ammonium hydroxide solution. The use of computers allows the system to react to the changing parameters within the boiler exactly controlling the levels of NOx and minimising the formation of ammonia.
- The particulates or dust are captured by the bag filters which are highly effective capturing around 99.9% of the particles generated from the process.

Figures 6 and 7 show the maximum daily and half hourly values recorded in the reporting period. Line 1 exceeded the permit level for a single 30 minute average period in May. This took place during the initial commissioning of the line as it returned to operation following its refurbishment.

There was also a single half hourly period in November when line 2 exceeded the permit level, however following the experience of commissioning line 1 and an assessment of environmental impact a commissioning plan was agreed with the Environment Agency as allowed within the Waste Incineration Directive. The single half hourly period was within a limit acceptable under the commissioning plan and indeed lower than that experienced on line 1.

More detailed graphs showing the plants performance on a month by month basis can be found in Appendix 2.

Figure 6: Line 1 Max Values for Year

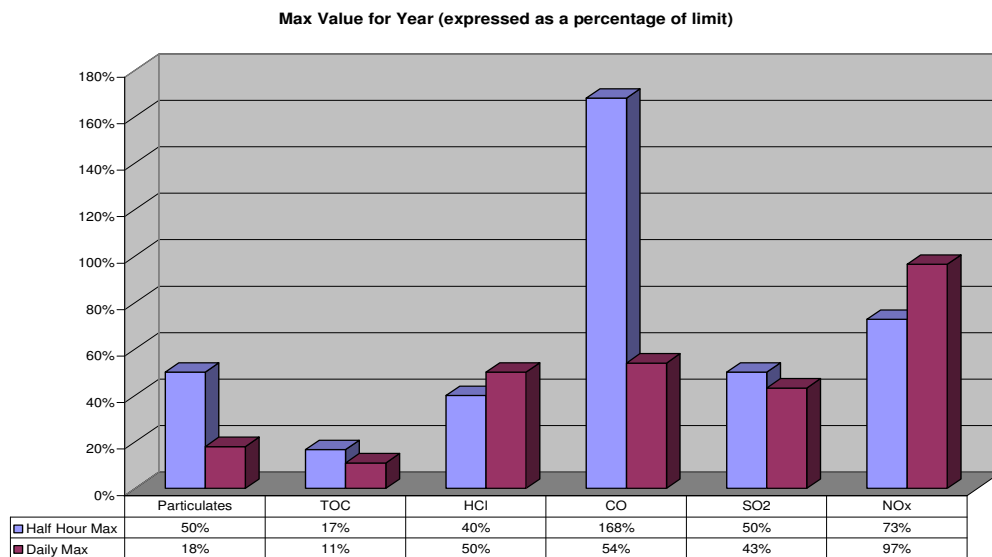
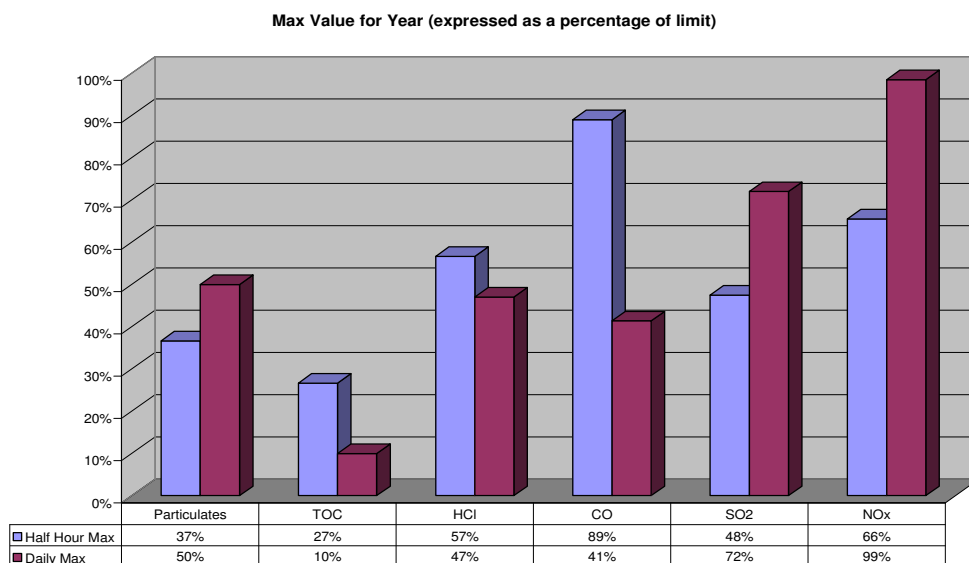


Figure 7: Line 2 Max Values for the Year



Periodical Monitoring (Extractive testing)

Emissions to Air

Within the permit there is an obligation to carry out extractive tests on the substances emitted from the stack. These tests act as a comparison for the CEMs equipment. Some substances are checked bi-annually others are measured quarterly. A UKAS certified company carries out these tests and submits a report to WRG. The results from the tests are included in the quarterly report to the EA.

Figures 8 & 9 show the extractive monitoring results. All of the substances measured are well within the limits set in the permit.

Figure 8: Bi- annual results showing the maximum and average reading from Lines 1 & 2 expressed as an average of the limit

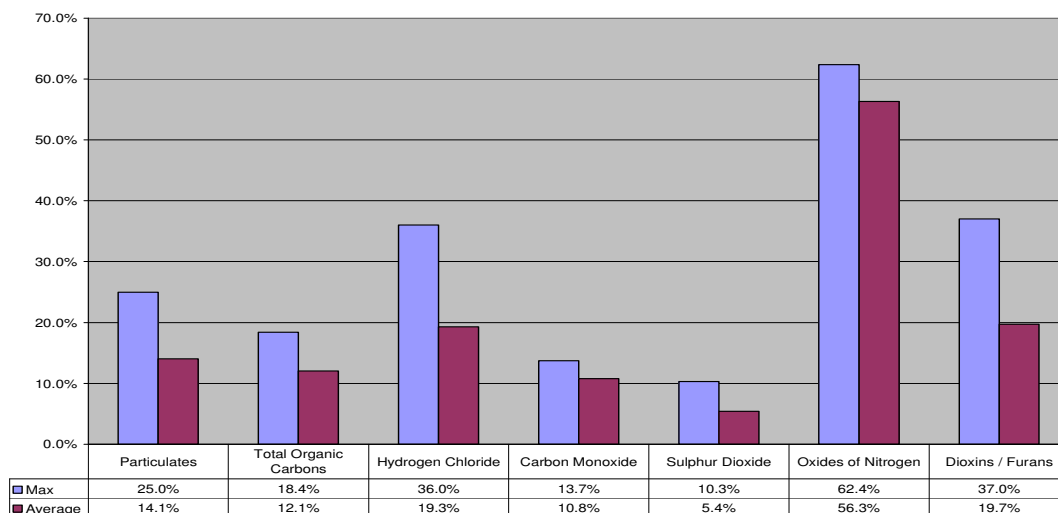
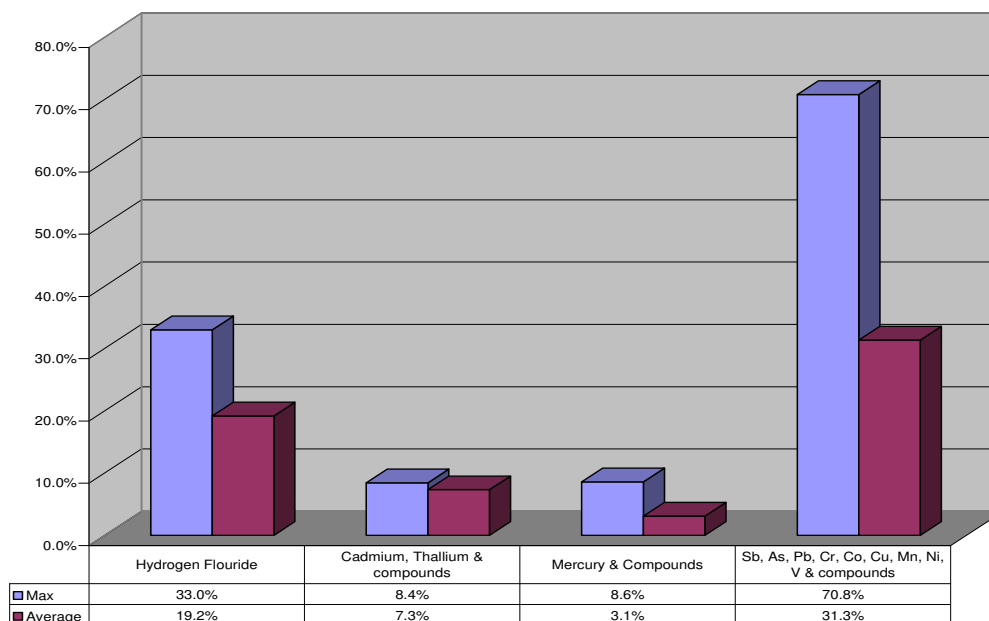


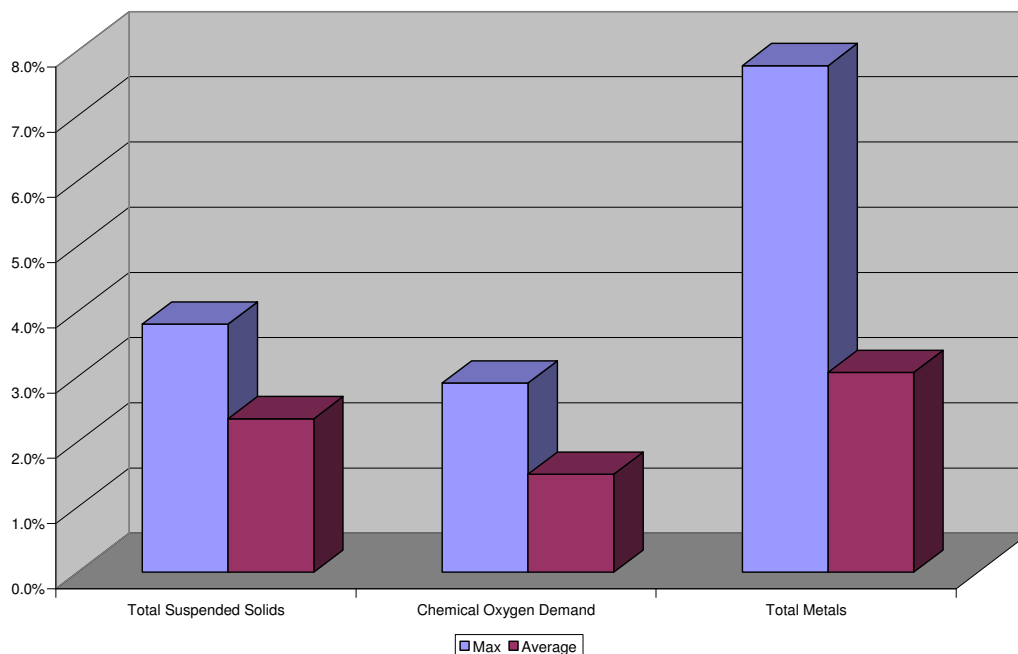
Figure 9: Quarterly extractive Results showing the maximum and average values from Lines 1 & 2 expressed as a % of the limit



Emissions to water

Limits for the emissions to sewer are set in Table 2.2.2.8 of the PPC permit applicable to Eastcroft. These require the substances flowing over the v-notch weir for lines 1 & 2 to be measured quarterly. The method for monitoring is given in the permit.

Figure 10: Emissions to Water



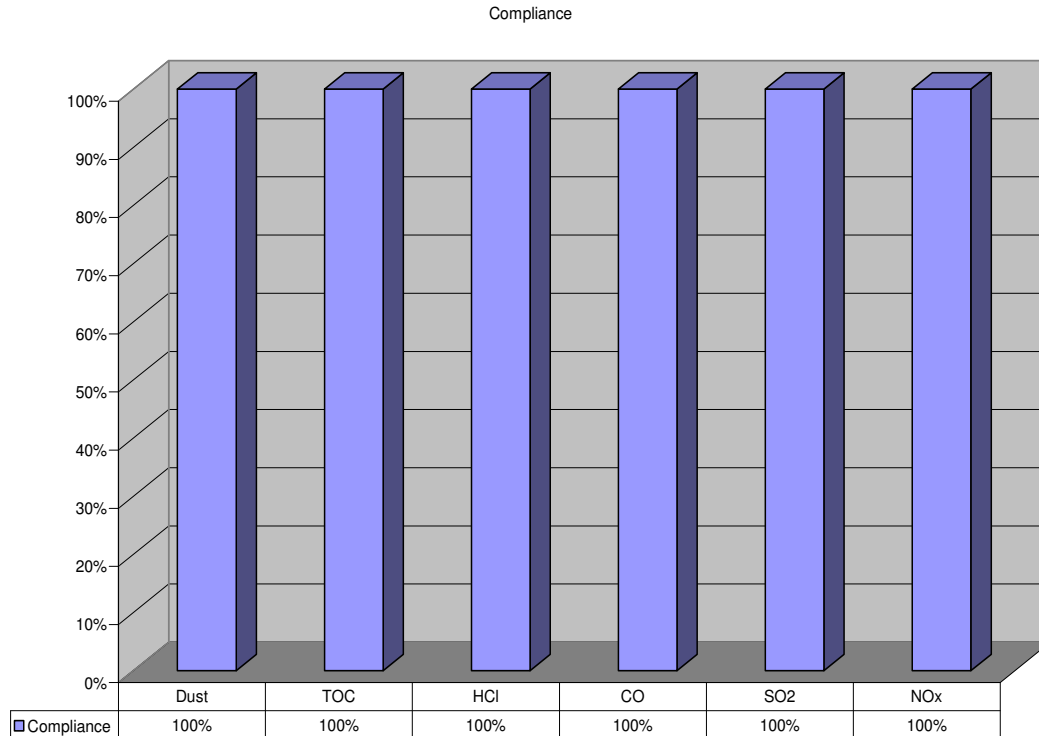
It can clearly be seen in the figure above that the plant remained easily in compliance for all of the quarterly checks.

The pH of the process water going to sewer was between 10.5 and 11.5 averaging at 11.

Summary of plant compliance

Compliance with emissions to air

Figure 11: Compliance with emissions



During the reporting period there was 1 exceedances of the emission limits. The occurrence was due to a substance within the incoming waste, this produced a spike within the 30 minute average period. The daily average remained well within its permitted level. In total the exceedance released 0.3 kg of Carbon Monoxide. Weekly checks of the incoming waste are carried out in order to attempt to minimise the frequency of issues of this nature occurring.

Compliance with Ash Limits.

Full compliance with the permit limits for ash was achieved during 2009

Formal Enforcement Notices

WNR did not receive any enforcement notices for operations during 2009.

Summary of plant improvements

Improvement Conditions

Within the PPC permit applicable to the EfW facility, the EA set out ten improvement conditions in Table 1.4.1. WRG has not been required to submit responses to any improvement conditions during this reporting period.

Review of potential for CHP Line 3

(Table 1.4.1 Reference 9 Submission by 28/12/06)

WRG are actively discussing with EnviroEnergy the possibility of using the steam generated from Line 3 on the existing District Heating System. There are many benefits in utilising the steam in this way such as improved efficiencies.

Planning permission for the development of a third line was granted in 2009, there are a number of permit conditions which must be met before a third line can be built and commissioned.

Verification of combustion conditions for Line 3

(Table 1.4.1 Reference 10 Submission by 3 months after Takeover of L3)

No work can be done on this until Line 3 is under construction.

Other Plant Improvements

Tanker Out Loading:

Following successful demonstration of dry out loading of Air Pollution Control Residue a new screw conveyor and bellows were added to allow the discharge of APC residue along with a newly created and bunded extension to the existing APC out loading building.

Boiler & Grate Refurbishment Project:

As previously mentioned an extensive refurbishment of the plant was undertaken in 2009 including replacement of feed chutes, grates, combustion system, addition of primary air pre-heater, ash discharger, auxiliary burners, sootblowers and various areas of the flue gas treatment plant. These developments now see Eastcroft operating to the Best Available Techniques that a newly designed plant would be built with.

Continuous Environmental Monitoring System:

During 2009 a new Continuous Environment Monitoring System (CEMS) was commissioned to ensure that the BS 14181 can be complied with.

Summary of information made available

General information about Waste Recycling Group and the Eastcroft Energy from Waste Facility can be found at www.wrg.co.uk and www.wrg.co.uk/eastcroft, alternatively written enquiries can be sent to the following address:

Eastcroft Energy from Waste Facility
Incinerator Road
Off Cattle Market Road
Nottingham
NG2 3JH

For telephone enquiries please phone 0845 601 5432 quoting Eastcroft as a reference.

Information held on the public register can be found at:

Environment Agency Trentside Scarrington Road West Bridgford Nottingham NG2 5FA Tel: 0115 846 3608	City of Nottingham City Development Lawrence House Talbot Street Nottingham NG1 5NT Tel: 0115 915 6410
--	--

In both cases members of the public are advised to phone to arrange a viewing. This is to allow the sites time to make the information requested more accessible. This information can be viewed during normal working hours e.g. 09:00 to 17:00.

- The Nottingham Waste Installation will re-initiate an active liaison group in 2010 involving a range of representatives from the local community and other interested parties

The liaison group will meet once a quarter to discuss the performance of the installation and future activities. If you are interested in joining the group or require further information please contact:

Alan Jones
Secretary, Eastcroft Liaison Group
Eastcroft Energy from Waste Facility
Incinerator Road
Off Cattle Market Road
Nottingham
NG2 3JH

Tel: 0115 986 9505
Fax: 0115 986 5129
Email: Alan.jones@wrg.co.uk

Appendix 1

Permit Reference Number : EP3034SN

Operator : WasteNotts (Reclamation) Limited

Reporting of Waste Disposal and Recovery for the year 2009

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
APC Residue	Landfill	3904	0
Other hazardous wastes			
Total hazardous waste		3904	0
2) Non-Hazardous Wastes			
Bottom Ash	Landfill	23,659	23,659
Ferrous Material.	Recycling	2,311	2,311
Total non-hazardous waste		25,970	25,970
TOTAL WASTE	-	29,874	25,970

Trends in Waste Disposal and Recovery Year	Parameter	Total Waste	Waste per unit output
2006	Named Waste		
	Bottom Ash	32,198	0.21
	APC Residue	7674	0.05
	Ferrous Material	3013	0.02
2007	Bottom Ash	33,852	0.22
	APC Residue	6529	0.04
	Ferrous Material	2395	0.02
2008	Bottom Ash	34,209	0.215
	APC Residue	6031	0.038
	Ferrous Material	2,629	0.0165

Operator's comments :

Permit Reference Number : EP3034SN

Operator : WasteNotts (Reclamation) Limited

Installation : Nottingham Waste Incinerator

Form Number : Agency Form / EP3034SN / WU1/ Form Dated 22/12/05

Reporting of Water Usage for the year 2009

Water Source	Usage (m3)	Specific Usage (m3/t)
Mains water	5150	0.0442

Trends in Water Usage		
Year	Parameter	
	Named Water source	Water per unit output
2006	Mains Water	0.0582
2007	Mains Water	0.0531
2008	Mains Water	0.0274

Operator's comments :

Permit Reference Number : EP3034SN
Installation : Nottingham Waste Incinerator

Operator : WasteNotts (Reclamation) Limited
Form Number : Agency Form / EP3034SN / E / Form Dated 22/12/05

Reporting of Energy Usage for the year 2009

Energy Source	Energy Usage		CO ₂ Produced (tonnes)
	Quantity	Primary Energy (MWh)	
Electricity imported from London Road Heat Station*	MWh	7634	0 ¹
Electricity imported from national grid*	MWh	N/A	N/A ²
Gas Oil	Tonnes	416	416

Trends in Energy Usage			
Year	Parameter		
	Primary Energy usage	CO ₂ produced	CO ₂ per unit output
2006			
Electricity imported from London Road Heat Station ¹	9,661	0 ¹	
Electricity imported from national grid ²	N/A	N/A ²	
Gas Oil	582	582	
2007			
Electricity imported from London Road Heat Station*	9861	0 ¹	
Electricity imported from national grid*	N/A	N/A ²	
Gas Oil	782	782	

* Conversion factor for delivered electricity to primary energy =

Operator's comments :

¹The Electricity imported from London Road is generated from the steam sent by Eastcroft. The CO₂ produced is assumed to be zero as it is the process at Eastcroft that produces CO₂ rather than the activities at London Road. Eastcroft produces approximately 0.39 tonne of CO₂ for every MW hour of steam.

² Eastcroft Does not have a direct connection to the grid.

Reporting of Performance Indicators for the period 2009

Annual Production/Treatment		
Total Municipal Waste Incinerated (including separately collected fractions)	Tonnes	116,444
Total Commercial/Industrial Waste Incinerated	Tonnes	394
Steam exported (as measured at London Road Heat Station)	terajoules	653
Hot water exported (as measured at London Road Heat Station)	MWh	37,282
Electrical energy used on installation (MWI and CWI)	KWhrs	7,634,041
Gas oil used	Tonnes	416

Environmental Performance Indicators

Parameter	Quarterly Average	Units
Electrical Energy imported to site	66	KWHrs/t waste
Fuel oil consumption	3.18	Kg/t waste
Mass of bottom ash produced	203	Kg/t waste
Mass of APC residues produced	33.5	Kg/t waste
Mass of ammonia used	1.70	Kg/t waste
Mass of carbon used	0.68	Kg/t waste
Mass of lime used	7.11	Kg/t waste
Water consumption	0.04	M3/t waste

Trends in Environmental Performance				
Year	2006	2007	2008	
Parameter	Quarterly Average	Quarterly Average	Quarterly Average	Units
Electrical Energy imported to site	62	63	62	KWHrs/t waste
Fuel oil consumption	3.76	2.53	4.91	Kg/t waste
Mass of bottom ash produced	218	210	214	Kg/t waste
Mass of APC residues produced	42	50	37.9	Kg/t waste
Mass of ammonia used	1.61	1.95	1.88	Kg/t waste
Mass of carbon used	0.25	0.22	0.65	Kg/t waste
Mass of lime used	8.31	8.75	7.4	Kg/t waste
Water consumption	0.05	0.06	0.027	m3/t waste

Operator's comments :

Appendix 2

