

COMMISSIONING REPORT 2011

Newhaven Energy Recovery Facility PPC Permit: BV8067IL

1. Introduction.

This report is based on the requirements of Article 12(2) of the Waste Incineration Directive regarding the requirements on access to information and public participation, which requires the operator of an incineration or co-incineration plant to produce an annual report to the regulator on the functioning and monitoring of the plant and to make this available to the public. For Newhaven ERF this report would be due on 31st January 2013 being 12 months from commissioning of a new plant. However the following information is provided as an additional report in 2012 to Article 12(2) as a new site Commissioning Report :

Name of Company	Veolia ES Southdowns Ltd.
Name of Plant	Newhaven Energy Recovery Facility
Permit Number	BV8067IL
Address	North Quay Road, Newhaven BN9 0AB
Phone number	01273 511310
Further information	Newhaven ERF (Energy Recovery Facility), Line 1 and 2, built on a new site situated at Newhaven (neighbouring Brighton). The site is located besides a river and approximately 2.0 km north of the south coast. Newhaven ERF provides a long term, sustainable solution for waste disposal in the area as part of an integrated approach to waste management. Municipal waste that is not recycled in East Sussex is incinerated at this ERF minimising disposal of waste to land fill.

The principal objective of the new facility is the provision of an independent ERF with two separate lines burning acceptable mixed municipal waste at an average rate of 14.0 tons per hour, per line with a calorific value of 9.2 MJ/kg for producing 19.5 MW electrical powers for export.

2. Plant Description

The main purpose of the Facility is to incinerate Mixed Municipal Waste (MMW) as defined by European Waste Catalogue (EWC) Code 20 03 01, however up to 30% of the total throughput can be composed of a range of non-hazardous trade waste of a similar nature. Current energy recovery is wholly in the form of steam and electricity for export to the National Grid, although potential does exist for the provision of community district heating that would also reduce local emissions. The permitted Facility covers the site and the entire incineration plant including all incineration lines, waste

reception and storage, waste-fuel and air supply systems, boilers, facilities for the treatment of exhaust gases, on-site facilities for handling and storage of residues and operations, recording and monitoring conditions.

Waste Reception & Storage:

Waste is delivered into the tipping hall in covered vehicles. The tipping hall is maintained under negative pressure to minimise the escape of odours, dust or litter. The vehicles tip into a waste storage bunker from where the grab cranes transfer waste as required to the feed hopper of the combustion plant.

Combustion Process:

Waste is gravity fed onto the incinerator grate. The grate is continually moving thus promoting continuous mixing of the waste with the combustion air, extracted from the tipping hall and introduced from beneath the grate into the heart of the fire eliminating any odours. Further air is injected just above the fire to promote mixing and complete combustion of the gases.

Fuel gas burners are installed for start-up and to maintain the furnace temperature, if required. However, during normal operation no support fuel is required to maintain the minimum 850°C.

Ash from the grate is discharged into a water filled quench pit from where it is moved by conveyor to the enclosed ash storage bunkers prior to being transported off site. All incinerator bottom ash is sent to a local storage facility for onward transportation by rail to an aggregate production site.

Ferrous metals are removed from the ash by magnets and stored separately prior to being sent to a local Recycling Facility.

Energy Recovery:

Hot gases from the combustion of the waste pass through a heat recovery boiler. The temperature of the gases is reduced from over 850°C to around 140°C. The energy from the hot gases is transferred to the boiler to produce high pressure steam. This steam is fed to the steam turbine driven generator capable of generating around 19.5 MW, which, after supplying the site electrical load is exported to the National Grid.

Gas Cleaning:

Whilst in the boiler combustion chamber a metered amount of ammonia solution is injected into the combustion gases to reduce the formation of oxides of nitrogen. Downstream of the boiler, lime is injected into the gas stream to neutralise acid gases produced in the process. A small quantity of activated carbon is injected to adsorb any residual organic material and heavy metals from the gases.

Prior to release into the air the gases pass through a fabric filter which removes the particulate matter, spent lime and carbon from the gas stream.

Once the gases have been cleaned they are discharged into the atmosphere via two flues in the 65 metre high stack.

Water Usage:

The plant uses mains water for steam generation after passing through a water treatment plant. The steam is reused in the boiler after being cooled and condensed using air cooled condensers.

The facility also uses mains water in various ways for water injection into the abatement system reactor tower, internal wash downs, tipping hall floor cleaning, but mostly for human domestic use, cooking, showering and sanitation. Any water that is used within the facility other than for domestic washing and cleaning is captured in dedicated drains and directed into a waste water tank where heavy sediments are removed from the water.

The cleaned water is then re-used within the facility principally for ash quenching, thus limiting the amount of fresh water used and minimising water discharge from the site.

External uncontaminated rainwater runoff from the western side flows directly to a river outfall, whilst all other roof and external surface drains run into the full retention interceptor in accordance with BS EN858 and PPG3, then discharge into the river Ouse.

3. Summary of plant Commissioning.

During 2011 the facility processed 92,678 Tonnes of waste, of this 89,581 tones was municipal waste, the remaining 3,097 came from commercial premises. Appendix A Lists the amount waste disposed of by European Waste Catalogue Number.

Plant Commissioning details for 2011 are included in the table below.

Operating Hours	Line1- 3615 Line 2 - 3293	Hours
Waste Incinerated	92,678	Tonnes
Electricity Produced	39,152	MWh
Metals Recovered	1527	Tonnes
Incinerator Bottom Ash	18001	Tonnes
APC residues	3232	Tonnes

The site generated 39,152_MWh of electricity during 2011. After subtracting on site usage, 33,947 MWh of electricity was exported to the National Grid.

All Ash residues (known as Incinerator Bottom Ash or IBA) are delivered to a local Recycling Facility.

Ferrous metal removed from the IBA is delivered to a local steel manufacturer for recycling.

According to the Steel Can Recycling Information Bureau, for every one tonne of steel packaging recycled the following environmental savings are achieved compared to producing steel from raw materials:

- 1.5 tonnes of iron ore
- 0.5 tonnes of coal
- 86% reduced air pollution
- 40% reduced water use
- 76% reduced water pollution
- 62% to 74% reduced energy usage

Fine particulate matter, known as Air Pollution Control (APC) residue, removed from the flue gases by the fabric filter is collected and sent to a specialised VES treatment works where it can be used to treat spent acid wastes, or sent for safe disposal at a licensed land fill site.

4. Summary of Plant Emissions.

All emissions to air from the 65m high twin chimneys are controlled to meet the emission limits included in the PPC Permit. The flue gases released into the atmosphere are continuously monitored for particulate matter, hydrogen chloride, oxides of nitrogen, carbon monoxide, sulphur dioxide, total volatile organic compounds and ammonia. The monitoring equipment was in service during 2011 for whole of the plant operating time. This equipment is stringently monitored with routine calibration checks and is standardised to BS EN14181. Additionally, a full range of standby equipment is permanently in service should an unexpected failure occur.

Quarterly check monitoring of these emissions is carried out by approved contractors using independent extractive reference methods. Emissions of metals, dioxins and other substances are also monitored. These tests were conducted on 14th November for quarter four of 2011; full details are listed in table 4.1 overleaf.

Table 4.1: Quarterly analysis results carried out by Environmental Compliance Ltd.

Substance / Parameter	Emission Limit Value	Results A1	Results A2
Hydrogen fluoride	1 mg/m ³ over minimum 1 hour period	0.15mg/m ³	0.06mg/m ³
Cadmium & thallium and their compounds (total)	0.05 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.0008mg/m ³	0.0008mg/m ³
Mercury and its compounds	0.05 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.0022mg/m ³	0.0021mg/m ³
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.020mg/m ³	0.039mg/m ³
Particulate Matter	20 mg/m ³ over minimum 1 hour period	2.13mg/m ³	0.13mg/m ³
VOC as Total Organic Carbon (TOC)	20 mg/m ³ over minimum 1 hour period	5.98mg/m ³	1.34mg/m ³
Hydrogen chloride	30 mg/m ³ over minimum 1 hour period	9.95mg/m ³	8.45mg/m ³
Carbon monoxide	100 mg/m ³ (average of ½-hour averages) over minimum 4 hour period	13.3mg/m ³	15.65mg/m ³
Sulphur dioxide	200 mg/m ³ (average of ½-hour averages) over minimum 4 hour period	10.67mg/m ³	13.57mg/m ³
Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	400 mg/m ³ (average of ½-hour averages) over minimum 4 hour period	169.73mg/m ³	179.29mg/m ³
Nitrous oxide (N ₂ O)	No limit applies	6.7mg/m ³	10.5mg/m ³

Dioxins / furans (I-TEQ) ⁶	0.1 ng/m ³ over minimum 6 hour, maximum 8 hour period	0.002 to 0.0022 ng/m ³	0.0024 to 0.0028 ng/m ³
Dioxin-like PCBs (WHO-TEQ Humans / Mammals) ⁶	No limit applies	0.025ng/m ³	0.0096ng/m ³
Dioxin-like PCBs (WHO-TEQ Fish) ⁶	No limit applies	0.00013ng/m ³	0.00041ng/m ³
Dioxin-like PCBs (WHO-TEQ Birds) ⁶	No limit applies	0.0056ng/m ³	0.012ng/m ³
Dioxins / furans (WHO-TEQ Humans / Mammals) ⁶	No limit applies	0.0022 to 0.0024ng/m ³	0.0026 to 0.0030ng/m ³
Dioxins / furans (WHO-TEQ Fish) ⁶	No limit applies	0.002 to 0.0022 ng/m ³	0.0023 to 0.0027 ng/m ³
Dioxins / furans (WHO-TEQ Birds) ⁶	No limit applies	0.0034to-0.0037ng/m ³	0.0004to-0.0044ng/m ³
Poly-cyclic aromatic hydrocarbons (PAHs) Total	No limit applies	0.16 to 0.32 ug/m ³	0.19 to 0.36 ug/m ³
Anthanthrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo{a}anthracene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[b]fluoranthene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[k]fluoranthene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[b]naph(2,1-d}thiophene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[c]phenanthrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[ghi]perylene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[a]pyrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Cholanthrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Chrysene	No limit applies	0.0012ug/m ³	0.0013ug/m ³

Cyclopenta(c,d)pyrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Dibenzo[ah]anthracene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Dibenzo[a,i]pyrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Fluoranthene	No limit applies	0.025ug/m ³	0.0013ug/m ³
Indo[1,2,3-cd]pyrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Naphthalene	No limit applies	0.14ug/m ³	0.0018ug/m ³

5. Summary of Plant Compliance

Strict environmental controls and proven operating experience ensures that the facility is compliant with all conditions of its Pollution Prevention Control (PPC) Permit at all times. This is achieved through constant monitoring of the incineration process during all of the stages, with detailed procedures in place to enable trained staff to carry out their work in an environmentally compliant manner.

During 2011 Newhaven ERF operated within the limits of pre-operational condition D, the agreed commissioning plan and subsequently within limits (ELV) of the WID.

Table 5.2: Plant compliance.

Breach of Permit Conditions	1
Enforcement Actions	0
General Complaints	49

During commissioning the ERF made 34 separate discharges to sewer, with discharge volumes ranging between 8.5m³ and 31m³, with 15m³ being the average discharge volume. In normal operation, waste water will not be discharged to sewer as it will be reused on site. Whilst in commissioning, waste water discharged to sewer has exceeded the limits of the environmental permit in 3 specific parameters (Cd, Pb & ZN). However, Zinc has not exceeded the drinking water standards limit, which is 5mg/l where our highest concentration was 2 mg/l. With regard to Cadmium, the highest concentration recorded was 0.053 mg/l, with the limit being 0.050mg/l. Regarding lead, this is a widely used element within the construction industry and therefore appeared at elevated levels on two occasions during the commissioning process but can be removed in effluent treatment processes.

However, all waste water discharge to sewer ceased as a result of indicated elevated levels and have not as yet recommenced. In addition to this the waste water tank has been emptied and cleaned, with the waste water going for treatment and safe disposal in accordance with Duty of Care requirements.

Any complaints received at the facility are recorded and thoroughly investigated with a full report being kept detailing the outcome of the investigation. During 2011 there were 49 pollution related complaints from observations outside the plant:

27 complaints were due to noise. Upon investigation the source of the noise was identified and preventative measures have been put in place to avoid recurrence of the problem.

15 were related to odour. Newhaven ERF staff conducts and record daily odour checks around the site perimeter where wind speed and direction is also recorded. These are the first checks when an odour complaint is received. Upon investigation the source of the odour was identified and preventative measures have been put in place to avoid recurrence of the problem.

Newhaven ERF is confident that its recent activities do not result in odours noticeable outside the plant. There are several other waste management activities in the area, some of which store biodegradable waste in open air pits which are more likely to produce odours than the fully enclosed waste storage at Newhaven ERF which is odour controlled and kept at a negative pressure.

5 Smoke/Fumes related complaints. Summaries of half hourly and daily average emission data for continuously monitored emissions are supplied to the Environment Agency on a monthly basis. All operational activities related to air emissions remained within the permitted levels governed by the commissioning plan and subsequently the WID. Other reports as required by the PPC Permit are also forwarded quarterly. All will be available on the public register.

1 Dust and 1 light pollution related complaint were also received and investigated. No further action was required, however Veolia are currently reviewing their operational procedures to incorporate lighting control measures

6. Summary of plant improvements.

This section will be completed for 2012 and reported in 2013.

7. Summary of information made available.

A general process description can be found on the company website at <http://www.veoliaenvironmentalservices.co.uk/southdowns/Facilities/Energy-Recovery-Facility>

This site also contains details of average emissions for the full year.

A community liaison group meeting will be held quarterly as a minimum.

As part of their regulatory responsibility the Environment Agency inspector visits the Facility on a regular basis.

The Operating Permit is available on the Public Register from the Environment Agency's office at:

The Environment Agency
Solent and South Downs Area Office,
Guildbourne House, Chatsworth Road,
Worthing, Sussex, BN11 1LD

Useful web addresses:

<http://www.veoliaenvironmentalservices.co.uk>
www.environment-agency.gov.uk

Registered Office: Veolia Environmental Services (UK) Plc,
8th Floor, 210 Pentonville Road,
London N1 9JY

Compiled on behalf of the Operator by:

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Veolia ES Southdowns Ltd.

January 2012

Appendix A

List of waste disposed of during 2011 at The Newhaven Energy Recovery Facility

Table 2.1.2 Waste Types

Waste type	Limitations	EWC Codes	Maximum annual throughput ^{Note 1}
Mixed Municipal Waste (MMW)	Excluding separately collected fractions unless recycling/reuse options cannot practicably be exploited.	20 03 01	Up to 242,000 tonnes of all waste types received
Waste from markets	Only if recycling/reuse options cannot practicably be exploited	20 03 02	All wastes other than MMW to constitute no more than 30% of total
Wastes from waste and water treatment	Arising as mechanical treatment (shredding) of bulky solid non-hazardous municipal waste	19 12 12	All wastes other than MMW to constitute no more than 30% of total
Street Cleaning residues	Only if recycling/reuse options cannot practicably be exploited.	20 03 03	All wastes other than MMW to constitute no more than 30% of total
Bulky waste (includes civic amenity waste from household waste recycling sites)	Only if recycling/reuse options cannot practicably be exploited	20 03 07	All wastes other than MMW to constitute no more than 30% of total

Appendix B

Reporting of Waste Disposal and Recovery for the year 2011

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
APC residues	For treatment process	3232	0
Total hazardous waste		3232	0
2) Non-Hazardous Wastes			
IBA	For processing	18001	18001
Ferrous Metals	To scrap industry	1527	1527
Total non-hazardous waste		19529	19529
TOTAL WASTE	-	22761	19529

Trends in Waste Disposal and Recovery			
Year	Parameter	Total Waste	Waste per unit output
2011	APC residues	3232	0.03
	IBA	18001	0.19
	Ferrous Metals	1527	0.02

Reporting of Water Usage for the year 2011

Water Source	Usage	
	(m3)	Specific Usage (m3/t)
Mains water	17 581	0.19
Site borehole		
River abstraction		
TOTAL WATER USAGE	17581	0.19

Trends in Water Usage			
Year	Parameter		
	Named Water source	Total Water usage	Water per unit output
2011	Main	17581	0.19

Reporting of Energy Usage for the year 2011

Energy Source	Energy Usage		CO2 Produced (tonnes)
	Quantity	Primary Energy (MWh)	
Electrical Energy generated and used on installation	5,205 (MWh)	13,533	11,088
Electricity Imported	1,370 (MWh)	3,562	0
Gas Oil	394236 litres		719
TOTAL	6,575 (MWh)	17,095	11,807

Trends in Energy Usage			
Year	Parameter		
	Primary Energy usage	CO2 produced	CO2 per unit output
2011	17,095	11,807	0.9

Reporting of Performance Indicators for the periodto.....

Annual Production/Treatment		
Total Municipal Waste Incinerated	89,541	tonnes
Total other wastes incinerated	3097	tonnes
Electrical Energy generated and exported	39,152,000	KWhrs
Electrical Energy generated and used on installation	5,205,000	KWhrs

Environmental Performance Indicators

Parameter	Quarterly Average	Units
Supplementary Fuel Oil	4.25	kg/tonne of waste incinerated
Mass of bottom ash produced	194	kg/tonne of waste incinerated
Mass of APC residues produced	25	kg/tonne of waste incinerated
Mass of carbon used	0.4	kg/tonne of waste incinerated
Mass of lime used	11.8	kg/tonne of waste incinerated
Mass of ammonia used	0.75	kg/tonne of waste incinerated
Water Use	0.19	m ³ /tonne of waste incinerated
Electrical energy imported to site.	14.8	kwhrs/tonne of waste incinerated
Waste Disposal Score	N/A	

Trends in Environmental Performance		
Year	Parameter	
	Supplementary Fuel Oil used	Waste Hazard Score
2011	0.004	N/A

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Dioxins / furans (WHO-TEQ Fish) ⁶	No limit applies	0.002 to 0.0022 ng/m ³	0.0023 to 0.0027 ng/m ³
Dioxins / furans (WHO-TEQ Birds) ⁶	No limit applies	0.0034to-0.0037ng/m ³	0.0004to-0.0044ng/m ³
Poly-cyclic aromatic hydrocarbons (PAHs) Total	No limit applies	0.16 to 0.32 ug/m ³	0.19 to 0.36 ug/m ³
Anthanthrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo{a}anthracene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[b]fluoranthene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[k]fluoranthene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[b]naph(2,1-d}thiophene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[c]phenanthrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[ghi]perylene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Benzo[a]pyrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Cholanthrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Chrysene	No limit applies	0.0012ug/m ³	0.0013ug/m ³

Cyclopenta(c,d)pyrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Dibenzo[ah]anthracene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Dibenzo[a,i]pyrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Fluoranthene	No limit applies	0.025ug/m ³	0.0013ug/m ³
Indo[1,2,3-cd]pyrene	No limit applies	0.0012ug/m ³	0.0013ug/m ³
Naphthalene	No limit applies	0.14ug/m ³	0.0018ug/m ³

5. Summary of Plant Compliance

Strict environmental controls and proven operating experience ensures that the facility is compliant with all conditions of its Pollution Prevention Control (PPC) Permit at all times. This is achieved through constant monitoring of the incineration process during all of the stages, with detailed procedures in place to enable trained staff to carry out their work in an environmentally compliant manner.

During 2011 Newhaven ERF operated within the limits of pre-operational condition D, the agreed commissioning plan and subsequently within limits (ELV) of the WID.

Table 5.2: Plant compliance.

Breach of Permit Conditions	1
Enforcement Actions	0
General Complaints	49

During commissioning the ERF made 34 separate discharges to sewer, with discharge volumes ranging between 8.5m³ and 31m³, with 15m³ being the average discharge volume. In normal operation, waste water will not be discharged to sewer as it will be reused on site. Whilst in commissioning, waste water discharged to sewer has exceeded the limits of the environmental permit in 3 specific parameters (Cd, Pb & ZN). However, Zinc has not exceeded the drinking water standards limit, which is 5mg/l where our highest concentration was 2 mg/l. With regard to Cadmium, the highest concentration recorded was 0.053 mg/l, with the limit being 0.050mg/l. Regarding lead, this is a widely used element within the construction industry and therefore appeared at elevated levels on two occasions during the commissioning process but can be removed in effluent treatment processes.

However, all waste water discharge to sewer ceased as a result of indicated elevated levels and have not as yet recommenced. In addition to this the waste water tank has been emptied and cleaned, with the waste water going for treatment and safe disposal in accordance with Duty of Care requirements.

Any complaints received at the facility are recorded and thoroughly investigated with a full report being kept detailing the outcome of the investigation. During 2011 there were 49 pollution related complaints from observations outside the plant:

27 complaints were due to noise. Upon investigation the source of the noise was identified and preventative measures have been put in place to avoid recurrence of the problem.

15 were related to odour. Newhaven ERF staff conducts and record daily odour checks around the site perimeter where wind speed and direction is also recorded. These are the first checks when an odour complaint is received. Upon investigation the source of the odour was identified and preventative measures have been put in place to avoid recurrence of the problem.

Newhaven ERF is confident that its recent activities do not result in odours noticeable outside the plant. There are several other waste management activities in the area, some of which store biodegradable waste in open air pits which are more likely to produce odours than the fully enclosed waste storage at Newhaven ERF which is odour controlled and kept at a negative pressure.

5 Smoke/Fumes related complaints. Summaries of half hourly and daily average emission data for continuously monitored emissions are supplied to the Environment Agency on a monthly basis. All operational activities related to air emissions remained within the permitted levels governed by the commissioning plan and subsequently the WID. Other reports as required by the PPC Permit are also forwarded quarterly. All will be available on the public register.

1 Dust and 1 light pollution related complaint were also received and investigated. No further action was required, however Veolia are currently reviewing their operational procedures to incorporate lighting control measures

6. Summary of plant improvements.

This section will be completed for 2012 and reported in 2013.

7. Summary of information made available.

A general process description can be found on the company website at <http://www.veoliaenvironmentalservices.co.uk/southdowns/Facilities/Energy-Recovery-Facility>

This site also contains details of average emissions for the full year.

A community liaison group meeting will be held quarterly as a minimum.

As part of their regulatory responsibility the Environment Agency inspector visits the Facility on a regular basis.

The Operating Permit is available on the Public Register from the Environment Agency's office at:

The Environment Agency
Solent and South Downs Area Office,
Guildbourne House, Chatsworth Road,
Worthing, Sussex, BN11 1LD

Useful web addresses:

<http://www.veoliaenvironmentalservices.co.uk>
www.environment-agency.gov.uk

Registered Office: Veolia Environmental Services (UK) Plc,
8th Floor, 210 Pentonville Road,
London N1 9JY

Compiled on behalf of the Operator by:

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Appendix A

List of waste disposed of during 2011 at The Newhaven Energy Recovery Facility

Table 2.1.2 Waste Types

Waste type	Limitations	EWC Codes	Maximum annual throughput ^{Note 1}
Mixed Municipal Waste (MMW)	Excluding separately collected fractions unless recycling/reuse options cannot practicably be exploited.	20 03 01	Up to 242,000 tonnes of all waste types received
Waste from markets	Only if recycling/reuse options cannot practicably be exploited	20 03 02	All wastes other than MMW to constitute no more than 30% of total
Wastes from waste and water treatment	Arising as mechanical treatment (shredding) of bulky solid non-hazardous municipal waste	19 12 12	All wastes other than MMW to constitute no more than 30% of total
Street Cleaning residues	Only if recycling/reuse options cannot practicably be exploited.	20 03 03	All wastes other than MMW to constitute no more than 30% of total
Bulky waste (includes civic amenity waste from household waste recycling sites)	Only if recycling/reuse options cannot practicably be exploited	20 03 07	All wastes other than MMW to constitute no more than 30% of total

Appendix B

Reporting of Waste Disposal and Recovery for the year 2011

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
APC residues	For treatment process	3232	0
Total hazardous waste		3232	0
2) Non-Hazardous Wastes			
IBA	For processing	18001	18001
Ferrous Metals	To scrap industry	1527	1527
Total non-hazardous waste		19529	19529
TOTAL WASTE	-	22761	19529

Trends in Waste Disposal and Recovery			
Year	Parameter	Total Waste	Waste per unit output
2011	APC residues	3232	0.03
	IBA	18001	0.19
	Ferrous Metals	1527	0.02

Reporting of Water Usage for the year 2011

Water Source	Usage (m3)	Specific Usage (m3/t)
Mains water	17 581	0.19
Site borehole		
River abstraction		
TOTAL WATER USAGE	17581	0.19

Trends in Water Usage			
Year	Parameter	Total Water usage	Water per unit output
2011	Main	17581	0.19

Reporting of Energy Usage for the year 2011

Energy Source	Energy Usage		
	Quantity	Primary Energy (MWh)	CO ₂ Produced (tonnes)
Electrical Energy generated and used on installation	5,205 (MWh)	13,533	11,088
Electricity Imported	1,370 (MWh)	3,562	0
Gas Oil	394236 litres		719
TOTAL	6,575 (MWh)	17,095	11,807

Trends in Energy Usage			
Year	Parameter	CO ₂ produced	CO ₂ per unit output
2011	Primary Energy usage	11,807	0.9

Reporting of Performance Indicators for the period 2011

Annual Production/Treatment		
Total Municipal Waste Incinerated	89,541	tonnes
Total other wastes incinerated	3097	tonnes
Electrical Energy generated and exported	39,152,000	KWhrs
Electrical Energy generated and used on installation	5,205,000	KWhrs

Environmental Performance Indicators

Parameter	Commissioning Average	Units
Supplementary Fuel Oil	4.25	kg/tonne of waste incinerated
Mass of bottom ash produced	194	kg/tonne of waste incinerated
Mass of APC residues produced	25	kg/tonne of waste incinerated
Mass of carbon used	0.4	kg/tonne of waste incinerated
Mass of lime used	11.8	kg/tonne of waste incinerated
Mass of ammonia used	0.75	kg/tonne of waste incinerated
Water Use	0.19	m ³ /tonne of waste incinerated
Electrical energy imported to site.	14.8	kwhrs/tonne of waste incinerated
Waste Disposal Score	N/A	

Trends in Environmental Performance		
Year	Parameter	
	Supplementary Fuel Oil used	Waste Hazard Score
2011	0.004	N/A