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# VERUS ENERGY LIMITED
# KELVIN ENERGY ERF
# ENVIRONMENTAL RISK ASSESSMENT

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# 1 INTRODUCTION

Verus Energy Oak Limited (herein referred to as Verus Energy), is developing the Kelvin Energy Recovery Facility (the Facility) to incinerate Municipal Solid Waste (MSW), Commercial and Industrial waste (C&I), and Refuse Derived Fuel (RDF), on land at Giffords Recycling Complex, West Bromwich.

The aim of this report is to assess the environmental risks from the Facility.

Within the permit application, Verus is required to demonstrate that the necessary measures are in place to protect the environment and ensure that the Facility, throughout its life, will not pose an unacceptable risk to the environment.

The aim of this document is to:

a) identify potential risks that the activity may present to the environment;
b) screen out those that are insignificant and don't require detailed assessment;
c) identify potentially significant risks, where appropriate;
d) choose the right control measures, where appropriate; and
e) report the findings of the assessment.

This document has been developed to consider the requirements of Environment Agency Guidance Notes H1 Annexes A, C, H and F. It is acknowledged that these guidance documents have been withdraw; however, it is understood that the requirements of the guidance are still applicable.

## 1.1 Risk Assessment Process

This assessment has been developed in accordance with the Environment Agency Guidance Note H1. This guidance promotes four key steps:

a) identify risks from the activity;
b) assess the risks and check that they are acceptable;
c) justify appropriate measures to control the risks; and
d) present the assessment.

## 1.2 Step 1 – Identify risks

The following report will identify the activities that present different types of risk to the environment associated with the operation of the Installation, including:

a) odour;
b) noise;
c) fugitive Emissions; and
d) accidents.

## 1.3 Step 2 – Assess the Risk

The report will include an assessment of risks associated with the operation of the Installation, and will identify the:

a) hazard;
b) receptor; and
c) pathway.

## 1.4 Step 3 – Justify appropriate measures

This report will demonstrate that the risks associated with the operation of the Installation have been considered, and identify the control measures which will be in place to demonstrate that the risks are being appropriately managed.

## 1.5 Step 4 – Present the Assessment

The assessment will conclude by presenting the following:

a) possibility of exposure;

b) consequence; and

c) the overall risk.

The report will present the Overall Risk applying the Environment Agency's H1 criteria, defined as:

a) insignificant;

b) not significant; and

c) significant.

## 2 TABLE A1 ODOUR RISK ASSESSMENT AND MANAGEMENT PLAN

| What Do You Do That Can Harm and What Could Be Harmed? | | | Managing The Risk | Assessing The Risk | | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk Management** | **Possibility of Exposure** | **Consequence** | **What is the Overall Risk?** |
| **What has the potential to cause harm?** | **What is at risk? What do I wish to protect?** | **How can the hazard get to the receptor?** | **What measures will you take to reduce the risk? If it occurs who is responsible for what?** | **How likely it this contact?** | **What is the harm that can be caused?** | **What is the risk that still remains? The balance and probability and consequence.** |
| There are no possible sources of odour from the stack. | | | | | | |
| Odorous emissions may occur during the delivery of waste, reception of waste and the storage and handling of waste prior to combustion. | The closest residential property is more than 1km from the Facility. | Air - Winds generally blow from a south westerly direction. | Waste will be delivered in enclosed waste delivery vehicles.<br>All waste received will be unloaded inside an enclosed Waste Reception Hall. Odour suppression will be controlled by negative pressure within the Waste Reception Hall. Wastes will be removed on a first-in, first-out principle and the waste will be regularly mixed to avoid the development of anaerobic conditions. | Unlikely. | Statutory Nuisance from odour complaints. | Not significant if managed well. |
| There are no possible sources of odour from IBA process. Input materials are ashes from the Facility and outputs are mainly aggregate and ferrous/non ferrous materials. | | | | | | |

# 3 TABLE A2 NOISE RISK ASSESSMENT AND MANAGEMENT PLAN

| What Do You Do That Can Harm and What Could Be Harmed? | | | Managing The Risk | Assessing The Risk | | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk Management** | **Possibility of Exposure** | **Consequence** | **What is the Overall Risk?** |
| **What has the potential to cause harm?** | **What is at risk? What do I wish to protect?** | **How can the hazard get to the receptor?** | **What measures will you take to reduce the risk? If it occurs who is responsible for what?** | **How likely it this contact?** | **What is the harm that can be caused?** | **What is the risk that still remains? The balance and probability and consequence.** |
| Noise from plant items such as the combustion process, heat recovery boiler, exhaust air fans, the stack exhaust, steam turbine, air cooled condensers, and noise radiation from the building envelope itself etc.<br>Noise from vehicle movements | Immediate area.<br>The closest residential property is approximately 200m from the Facility. | Sound propagation through air and the ground. | Noisy plant items, when possible, will be installed inside buildings rather than outside and where appropriate they will be fitted with noise insulation. Regular maintenance of plant items. The Installation will be designed to reduce noise and tonal components. | Minimal. | Annoyance. | Minor adverse significance. Refer to the Noise Assessment, Annex 3 for further information on the impact of noise emissions. |

# 4 TABLE A3 FUGITIVE EMISSIONS RISK ASSESSMENT AND MANAGEMENT PLAN

| What Do You Do That Can Harm and What Could Be Harmed? | | | Managing The Risk | Assessing The Risk | | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk Management** | **Possibility of Exposure** | **Consequence** | **What is the Overall Risk?** |
| **What has the potential to cause harm?** | **What is at risk? What do I wish to protect?** | **How can the hazard get to the receptor?** | **What measures will you take to reduce the risk? If it occurs who is responsible for what?** | **How likely it this contact?** | **What is the harm that can be caused?** | **What is the risk that still remains? The balance and probability and consequence.** |
| Emission releases from main building when opening/closing doors. | Immediate area - air | Air, surface runoff, direct contact. | All process activities will occur inside enclosed buildings. | Low | Nuisance, dust on clothing and cars | Insignificant |
| Spillage of waste during delivery and offloading | Immediate area – air, land, water | Air, surface runoff. | Waste will be delivered to the Installation in covered road vehicles. Fuel unloading will be undertaken within the Tipping Hall. | Low | Nuisance, dust and litter | Insignificant |
| Dust from waste deliveries being blown off-site | Immediate area – air, land | Air, surface runoff. | Waste will be unloaded within the Tipping Hall. Waste will not be stored in external areas. | Low | Nuisance, dust and litter | Insignificant |
| Bottom ash discharge when handling. | Immediate area - air | Air, surface runoff, direct contact. | Once removed from the combustion chamber by the bottom ash extractors, the bottom ash is then discharged to a dedicated bottom ash storage area. | Low | Nuisance | Insignificant |
| Discharge of Air Pollution Control residues (APCr) when emptying silo. | Immediate area– air, land | Air, surface runoff, direct contact. | When unloading APCr, negative pressure will be maintained to prevent releases into the atmosphere. | Low | Nuisance, release of hazardous dust | Insignificant |

| What Do You Do That Can Harm and What Could Be Harmed? | | | Managing The Risk | Assessing The Risk | | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk Management** | **Possibility of Exposure** | **Consequence** | **What is the Overall Risk?** |
| **What has the potential to cause harm?** | **What is at risk? What do I wish to protect?** | **How can the hazard get to the receptor?** | **What measures will you take to reduce the risk? If it occurs who is responsible for what?** | **How likely it this contact?** | **What is the harm that can be caused?** | **What is the risk that still remains? The balance and probability and consequence.** |
| Reagents discharge when filling silos. | Immediate area – air | Air, surface runoff, direct contact. | Reagents will be delivered in sealed tankers and off-loaded via a standard hose connection. Air displaced from the silo will be discharged through fabric filters on the top of the silo. Regular inspections/maintenance of abatement equipment. | Low | Nuisance | Insignificant |
| Lime / activated carbon leak during injection into APC system. | Immediate area – air | Air, surface runoff, direct contact. | Systems are enclosed and regular inspections/maintenance will be carried out. Reagents are injected via a completely enclosed dosing and conveying system. | Low | Nuisance | Insignificant |
| Spillage of air pollution control reagents when capping or changing filter bags. | Immediate area – air, land | Air, surface runoff, direct contact. | Enclosed system. Kept under suction by the ID fan. The fabric filter will have a number of cells. When capping or changing bags, the relevant cell will be isolated for a sufficient time to enable the dust to settle. | Low | Nuisance, release of hazardous dust | Insignificant |
| Spillage/leak of auxilliary, when tanker off-loading | Immediate area – air, land | Air, direct contact. | Deliveries will be from sealed tankers and off-loaded via a hose. Spillage will be prevented by good operating procedures, high tank level alarm/trips etc. Auxiliary fuel storage tanks will be located within suitably designed secondary containment. | Low | Liquid or vapour release | Insignificant |

| What Do You Do That Can Harm and What Could Be Harmed? | | | Managing The Risk | Assessing The Risk | | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk Management** | **Possibility of Exposure** | **Consequence** | **What is the Overall Risk?** |
| **What has the potential to cause harm?** | **What is at risk? What do I wish to protect?** | **How can the hazard get to the receptor?** | **What measures will you take to reduce the risk? If it occurs who is responsible for what?** | **How likely it this contact?** | **What is the harm that can be caused?** | **What is the risk that still remains? The balance and probability and consequence.** |
| Spillage/leak when unloading from delivery vehicles chemical containers (IBC's, drums, etc) | Immediate area – air, land | Air, direct contact. | Deliveries will be from road vehicles and off-loaded via mobile plant. Potential leaks/spills will be prevented by experienced mobile equipment operators undertaking unloading activities. Unloading activities will only be undertaken in areas of hard standing. Chemical containers will be stored within suitably designed secondary containment. | Low | Hazardous liquid or vapour release | Insignificant |
| Release of dusts from the transfer off-site dry residues | Immediate area – air, land | Air, direct contact. | Loading of bottom ash into vehicles will be undertaken in areas of hardstanding.<br>Bottom ash will be transferred off-site in covered vehicles. | Low | Nuisance, dust on cars and road | Insignificant |
| Re-suspension of dust from road surface, when site vehicles arrive/leave. | Immediate area – air, land, water | Air, surface runoff. | Due care and attention. | Low | Nuisance, dust on cars and road | Insignificant |

# 5 TABLE A4 ACCIDENTS RISK ASSESSMENT AND MANAGEMENT PLAN

| What Do You Do That Can Harm and What Could Be Harmed? | | | Managing The Risk | Assessing The Risk | | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk Management** | **Possibility of Exposure** | **Consequence** | **What is the Overall Risk?** |
| **What has the potential to cause harm?** | **What is at risk? What do I wish to protect?** | **How can the hazard get to the receptor?** | **What measures will you take to reduce the risk? If it occurs who is responsible for what?** | **How likely it this contact?** | **What is the harm that can be caused?** | **What is the risk that still remains? The balance and probability and consequence.** |
| Spill during transfer of substances | Immediate area – air, land, water | Direct contact | Training in unloading practices. Under manual control, continual observation. Impervious surfaces outdoors. | Unlikely | Low | Not significant |
| Overfilling of vessels | Local environment air, land, water | Surface runoff, wind. | Training in unloading practices. Under manual control, continual observation. Impervious surfaces outdoors. High level alarms. Secondary containment for storage vessels. | Unlikely | Low | Insignificant |
| Leak of demin water treatment and boiler water treatment chemicals | Immediate area - water | Surface runoff | Secondary containment for storage vessels. Routine inspection and maintenance. Impervious surface indoor, separate drains for process water. | Unlikely | Pollution of surface water | Not significant |
| Flue gas leak | Local environment - air | Air | Design standards. Inspection and maintenance programme. Controls and alarms for pressure. Most of the systems are retained at negative pressure. | Very unlikely | Pollution of atmosphere, health impacts | Not significant |
| Waste storage failure | Immediate area - litter | Direct contact | Storage of waste in an enclosed waste bunker. | Unlikely | Litter | Insignificant |

| What Do You Do That Can Harm and What Could Be Harmed? | | | Managing The Risk | Assessing The Risk | | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk Management** | **Possibility of Exposure** | **Consequence** | **What is the Overall Risk?** |
| **What has the potential to cause harm?** | **What is at risk? What do I wish to protect?** | **How can the hazard get to the receptor?** | **What measures will you take to reduce the risk? If it occurs who is responsible for what?** | **How likely it this contact?** | **What is the harm that can be caused?** | **What is the risk that still remains? The balance and probability and consequence.** |
| Control failure leading to combustion control upset | Local environment - air | Air - Winds generally blow from a south westerly direction. | Fuel inspection. Design of control system. Monitoring of combustion conditions. Maintenance of combustion air systems | Unlikely | Pollution of atmosphere (short term), human health | Not significant |
| Failure of emission abatement equipment | Local environment - air | Air - Winds generally blow from a south westerly direction. | Regular maintenance, inspections. Redundancy of critical equipments or spares on stock. | Unlikely | Pollution of atmosphere, human health | Not significant |
| Failure of emission monitoring systems | Immediate area - air | Air - Winds generally blow from a south westerly direction. | Regular maintenance, inspections. Back-up CEMS system will be available. | Unlikely | Lack of data, public concern. | Not significant |
| Failure of containment (e.g. bund) | Immediate area – water, land | Surface runoff, wind, leaching. | Regular inspections of bunds. | Unlikely | Pollution of surface water | Not significant |
| Making the wrong connections to drains | Local environment – water | Direct contact, leaching. | Detailed site drainage plan, which will be available to all staff. | Low | Pollution of surface water | Not significant |
| Preventing incompatible substances coming into contact | Immediate area | Surface runoff, wind, direct contact. | Due care and attention. | Low | Low | Not significant |
| Unwanted reactions | Immediate area | Surface runoff, wind, direct contact. | Due care and attention. | Unlikely | Low | Not significant |

| What Do You Do That Can Harm and What Could Be Harmed? | | | Managing The Risk | Assessing The Risk | | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk Management** | **Possibility of Exposure** | **Consequence** | **What is the Overall Risk?** |
| **What has the potential to cause harm?** | **What is at risk? What do I wish to protect?** | **How can the hazard get to the receptor?** | **What measures will you take to reduce the risk? If it occurs who is responsible for what?** | **How likely it this contact?** | **What is the harm that can be caused?** | **What is the risk that still remains? The balance and probability and consequence.** |
| Loss of power | None | N/A | Back-up generation for combustion control systems. | Low | None | Not significant |
| Loss of compressed air | None | N/A | Multiple compressors, backup power suppliers. | Low | None | Not significant |
| Loss of boiler water | None | N/A | Failsafe shutdown. | Low | None | Not significant |
| Steam leak to plant building/atmosphere | Noise, Visual | Air | Statutory design, fabrication and inspection standards for steam systems. Controls and alarms for pressure. Routine operator checks. | Low | Nuisance from noise and visual impact | Not significant |
| Residues handling failure | Immediate area – air, land, water | Direct contact | Training in transfer practices. Contained transfer systems. Impervious surfaces outdoors. Controlled drainage in areas where residues are stored | Unlikely | Pollution of surface waters | Not significant |
| Fires in FGT bag filter | Local environment | Air - Winds generally blow from a south westerly direction. | Temperature measurement in filter, fire fighting systems, | Low | Dust, pollution of air | Not significant |
| Fire in furnace / feed system | Immediate area - air | Air | Furnace charging procedures / training. Level indicator in chute. Fire detection and fighting systems. | Low | Pollution of air | Not significant |
| Fires in waste reception and storage areas | Immediate area – air | Direct contact | Fire detection and suppression systems, water sprinklers and fire hoses, refer to Annex 8. | Low | Visual impact, pollution of air | Not significant |

| What Do You Do That Can Harm and What Could Be Harmed? | | | Managing The Risk | Assessing The Risk | | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk Management** | **Possibility of Exposure** | **Consequence** | **What is the Overall Risk?** |
| **What has the potential to cause harm?** | **What is at risk? What do I wish to protect?** | **How can the hazard get to the receptor?** | **What measures will you take to reduce the risk? If it occurs who is responsible for what?** | **How likely it this contact?** | **What is the harm that can be caused?** | **What is the risk that still remains? The balance and probability and consequence.** |
| Fire from ignition of lube oil leak | Immediate area – air | Wind, direct contact | Use of fire-proof lube oil. Fire detection and protection systems. | Low | Visual | Not significant |
| Contaminated fire water | Immediate area – water, land | Surface runoff, leaching. | Site drainage for external areas will be fitted with a shut-off alarm, linked to the fire detection systems to contain any fire fighting water from external areas. Additional storage will be available from site kerbing. | Low | Pollution of surface water | Not significant |
| Failure to contain firewater | Land | Land, water, ground water | Maintenance of the Fire Fighting Water Storage Tanks and associated infrastructure.<br>Inspection and maintenance of roadways and areas of hardstanding. | Unlikely | Release of chemicals to water | Not significant |
| Vandalism | Immediate area | Land, air, water | Security fences, controlled entrance to the site. | Low | Release of substances to any environment | Not significant |

# 6 DETAILED ASSESSMENT

The environmental impact of the Installation has been evaluated using the H1 software tool as described in Part 2 of Technical Guidance Note EPR-H1, presented in Appendix A. This assessment has been expanded by a more comprehensive Air Quality Assessment (see Annex 5) and a full Noise Assessment (see Annex 3).

## 6.1 Emissions to air

The detailed air quality assessment is presented in Annex 6 of the application. The assessment concludes that 'The operational air quality effects are judged to be 'not significant'.

An assessment of emissions to air has been undertaken using the Environment Agency's assessment tool H1. The H1 assessment is presented in Appendix A of this report.

## 6.2 Habitats assessment

The following habitat features have been considered within the air quality assessment:

| Table 6.1: Sensitive Ecological Receptors |
|---|
| **European designated sites (within 10km)** |
| Fens Pool SAC |
| **UK designated sites (SSSIs) (within 10km)** |
| Wrens Nest SSSI |
| **Locally designated sites (within 2km)** |
| Galton Valley SLINC |
| Balls Hill Branch SLINC |
| Holly Lane, West Smethwick SLINC |
| Snow Hill to Wolverhampton Railway SLINC |
| Stream of Europa Avenue SLINC |

The air quality assessment concludes that the impact on these features can be described as follows:

(1) For the internationally- and nationally-designated habitats, the PCs would be <1% of the long-term EALs and <10% of the short-term EALs. There is thus no need to calculate the PECs, and it can be concluded that there would be no likely significant effects.

(2) For the locally-designated sites, the PCs would be <100% of the relevant EALs. There is thus no need to calculate the PECs, and it can be concluded that there would be no likely significant effects.

## 6.3 Emissions to water

### 6.3.1 Emissions to surface water

There will be no emission to water from the Facility. All discharges of surface water will be discharged to a combined sewer.

### 6.3.2 Emissions to sewer

All excess process effluents, which cannot be re-used, will be collected in the waste water system, prior to discharge to sewer in accordance with a Trade Effluent Consent which will be applied for prior to commencement of commissioning of the installation. As assessment of emissions to water has been undertaken. The application assumes an process effluent composition from a 'typical' EfW facility, as follows:

**Table 6.2 – 'Typical' Emissions limits for Discharges to Sewer from an EfW**

| Parameter | Units | Daily Average |
|---|---|---|
| **Emission Point W1** | | |
| pH | | 6 to 11 |
| Temperature | °C | 43.3 |
| Volume | $m^3$/day | 48 |
| Volume | $m^3$/hour | 2 |
| Maximum volume | l/second | 0.27 |
| Suspended Solids | mg/l | 500 |
| COD | mg/l | 1800 |
| Saponifiable Material | mg/l | 300 |
| Unsaponifiable Material | mg/l | 50 |
| Sulphide | mg/l | 1 |
| Ammoniacal Nitrogen | mg/l | 70 |
| Sulphate | mg/l | 1800 |
| Settleable Solids | mg/l | 500 |
| Total Phosphorus | mg/l | 1 |

An assessment of the impact of these emissions has been undertaken using the H1 assessment tool presented in Appendix A. For the purposes of the assessment the following assumptions have been made:

(1) The maximum volume has been assumed to be the mean flow rate.

(2) Only those pollutants which have an EQS have been assessed.

(3) Ammoniacal nitrogen has been assumed to be ammonia.

(4) Total phosphorus has been assumed to be phosphate.

(5) The effluent is treated in the Roundhill Sewage Treatment Works. The flow rate within the receiving watercourse (River Stour) is 0.0139$m^3$/sec.

The H1 assessment criteria applied a multi stage assessment, set out below. For the purposes of the methodology, only those pollutants which have a water quality standard (WQS) have been considered.

(1) Test 1 – Is the concentration of the pollutant in the discharge more than 10% of the environmental quality standard (EQS).

- If it less than 10% the impact can be screened as insignificant.
- If it is more than 10%, move to stage 2.

(2) Test 2 – Is the process contribution (PC) of the pollutant is more than 4% of the EQS. PC is the concentration of a discharged pollutant in the water after it's been diluted. The PC can be calculated using the following formula:

$$PC = \frac{(EFR \times RC)}{(EFR + RFR)}$$

where

- PC = process contribution (µg/l)
- EFR = effluent flow rate ($m^3/s$)
- RC = release concentration of the pollutant in the effluent (µg/l)
- RFR = river flow rate ($m^3/s$).

  - If the PC is 4% or less of the EQS the impact can be screened as insignificant.
  - If it is more than 4%, move to Test 3.

(3) Test 3 - Check whether your discharge increases the concentration of the pollutant in the river downstream of the discharge by more than 10% of the pollutant's EQS value.

(4) Test 4 – Check whether the PEC is higher than the EQS.

The assessment utilises a staged screening assessment. The results from the screening assessment are presented in Tables 3 and 7 below.

**Table 3 – Stage 1 screening**

| Substance Assessed | WQS (µg/l) | Emission Concentration (µg/l, unless stated) | TEST 1: Pass or Fail (<10% of WQS) |
|---|---|---|---|
| **Long Term Impacts** | | | |
| Ammonia | 300 | 70 | Fail |
| Sulphate | 400,000 | 1,800 | Pass |

For all pollutants where the emission concentration is less than the 10% of the WQS, no further assessment has been undertaken as these pollutants have been screened as insignificant.

All other pollutants have been taken forward for stage 2 screening assessment, shown in Table 4.

**Table 4 – Stage 2 screening**

| Substance Assessed | WQS (µg/l) | Process Contribution (µg/l) | %PC of WQS | TEST 2: PC > 4% of the WQS |
|---|---|---|---|---|
| **Long Term Impacts** | | | | |
| Ammonia | 300 | 2.690 | 0.90 | Pass |

Therefore, applying the Stage 2 screening criteria, it is concluded that the discharge of process effluent to sewer from the Facility will have an insignificant impact on the receiving watercourse.

### 6.3.3 Controlling fugitive emissions to water

All chemicals will be stored in an appropriate manner incorporating the use of bunding and other measures (such as acid and alkali resistant coatings) to ensure appropriate containment. The potential for accidents, and associated environmental impacts, is therefore limited.

Adequate quantities of spillage absorbent materials will be made available on-site, at an easily accessible location(s), where liquids are stored. A site drainage plan, including the locations of foul and surface water drains and interceptors will be made available on-site, where practicable.

Tanker off-loading of chemicals will take place within areas of concrete hardstanding with falls to a gully and/or a sump.

## 6.4 Noise

The impact of noise from the Installation is considered in the noise assessment contained in Annex 3.

## 6.5 Visual impact

The visual impact of the Installation has not been considered in the EP application, since this is primarily a matter for the planning authorities.

## 6.6 Odour

The mitigation measures for odour are presented in section 2.4.5 of the supporting information.

If these measures are not effective and there are complaints of odour which can be attributed to the Facility, Verus will develop and implement an odour management in consultation with the Environment Agency.

## 6.7 Photochemical Ozone Creation

Releases of CO, $NO_2$, $SO_2$ and benzene contribute to the generation of excess tropospheric ozone, while releases of NO remove ozone from the atmosphere. The annual releases of these substances can be ascribed a photochemical ozone creation potential (POCP). Values for the POCP are stated in Annex (f) of Technical Guidance Note EPR-H1, for the pollutants included within the air quality assessment, as:

a) CO 2.7
b) $NO_2$ 2.8
c) $SO_2$ 4.8
d) Benzene 21.8

The total POCP for the Installation is calculated in the H1 Software Tool as 5,623 tonnes. This assessment is based on the assumption that all $NO_x$ is released as $NO_2$.

## 6.8 Global warming

The assessment of the contribution of the Installation to Global Warming is complex. On the one hand, the Installation releases carbon dioxide to the atmosphere by the combustion of Municipal Solid Waste (MSW), Commercial and Industrial waste (C&I), and Refuse Derived Fuel (RDF) and auxiliary fuel. On the other hand, the Installation generates electricity, which displaces other electricity generation, which would release carbon dioxide from the combustion of fossil fuels.

In accordance with the Environment Agency requirements, a Greenhouse Gas Assessment which considers the direct and indirect emissions from the incineration of waste within the Installation and compares this with the emissions produced if the electricity were produced by conventional fossil fuel power station has been presented in Annex 5.

## 6.9 Disposal of waste

Methods for reducing the impact from waste disposal are considered in section 2.9 of the supporting information.

# 7 CONCLUSIONS

As presented in this report, the Facility is considered to contain appropriate control measures and management systems to ensure that the Facility does not have any significant impacts upon the local environment.

# Appendix A – H1 Assessment Tool

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