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Consulting Engineers Limited



**GENT FAIRHEAD & CO LIMITED
ENVIRONMENTAL RISK
ASSESSMENT
RIVENHALL IWMF**

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RIVENHALL IWMF**

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TABLE OF CONTENTS

TABLE OF CONTENTS	III
1 Introduction	1
1.1 Risk Assessment Process	1
1.2 Step 1 – Identify risks.....	2
1.3 Step 2 – Assess the Risk	2
1.4 Step 3 – Justify appropriate measures	2
1.5 Step 4 – Present the Assessment	2
2 Table A1 Odour Risk Assessment and Management Plan.....	3
3 Table A2 Noise Risk Assessment and Management Plan.....	5
4 Table A3 Fugitive Emissions Risk Assessment and Management Plan	6
5 Table A4 Accidents Risk Assessment and Management Plan	10
6 Detailed Assessment.....	15
6.1 Emissions to Air.....	15
6.1.1 Habitats Assessment	15
6.2 Emissions to Water	16
6.3 Noise	16
6.4 Visual Impact.....	16
6.5 Odour	16
6.6 Photochemical Ozone Creation	16
6.7 Global Warming.....	17
6.8 Disposal of Waste	17
7 Conclusions.....	18
APPENDIX A - H1 ASSESSMENT	19

1 INTRODUCTION

Gent Fairhead & Co Limited is proposing to construct and operate the Rivenhall Integrated Waste Management Facility (IWMF). The Rivenhall IWMF will be located at the former RAF Rivenhall Airfield site. The Installation will comprise the following treatment processes:

- A Materials Recycling Facility (MRF);
- An anaerobic digestion (AD) facility;
- A Mechanical Biological Treatment (MBT) facility;
- A De-inked Paper Pulp Production Facility (Pulp plant);
- Combined Heat and Power (CHP) Plant; and
- Water treatment plant.

The aim of this report is to assess the environmental risks from the activities undertaken at the installation.

Within the permit application, the applicant is required to demonstrate that the necessary measures are in place to protect the environment and ensure that the Installation, 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.

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.

This assessment considers the risks of potential accidents occurring associated with the proposed activities and the measures which will be implemented to limit accidents on site was developed and submitted with the EP application documents.

The assessment has been developed in accordance with the latest UK guidance titled 'Risk assessments for your environmental permit'.

Within the development of the EMS for the IWMF, a final Accident Management Plan, based upon this initial risk assessment, will be developed prior to the commencement of operations. This will ultimately become part of the accredited EMS when fully certified.

The EMS will identify the actions to be undertaken in the event of an incident, including any reporting to the relevant regulatory authorities (Local Planning Authority, Environment Agency, Animal and Plant Health Agency, etc), and any follow-up measures following an incident.

Furthermore, during the detailed design of the IWMF, a HAZOP assessment will be undertaken of the different waste treatment processes. The purpose of the HAZOP will be to identify potential equipment at risk and the measures to take to prevent/mitigate any risks associated with the operation of the plant, during both normal and abnormal (accident) scenarios. The HAZOP for each of the waste treatment processes will be made available to the EA following completion of the detailed design process.

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

The report will demonstrate that the applicant has considered the risks associated with the operation of the regulated activities and its directly associated activities, and will 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; or
- 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 is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Odorous emissions may occur during the delivery of waste, reception of waste and the storage and handling of waste prior to processing at the installation.	Immediate area. The nearest residential receptor to the Installation is located at 'The Lodge' which is located approximately 450m from the stack.	Air - Winds generally blow from a south westerly direction.	All wastes received at the installation will be unloaded inside enclosed Waste Reception areas. Wastes will be processed on a first-in, first-out principle. The reception halls will be retained at negative pressure. Air from waste reception areas will be extracted and treated as detailed in the Odour Management Plan (Annex 7).	Minimal.	Odour annoyance which will have more impact in summer when people are outdoors and temperatures are higher.	Not significant if managed well.
Odorous emissions may occur during the preparation and feed of organics to the digester and during digestion.	Immediate area. The nearest residential receptor to the Installation is located at 'The Lodge' which is located approximately 450m from the stack.	Air - Winds generally blow from a south westerly direction.	The feed of organics preparation takes place within an enclosed building and within enclosed processing equipment. Feed to the digester is contained within pipework and sealed buffer tanks. The digestion process is undertaken in sealed vessels with appropriate containment and pressure control systems. Biogas will be flared if there is excess biogas for combustion.	Minimal.	Odour annoyance which will have more impact in summer when people are outdoors and temperatures are higher.	Not significant if managed well.

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 is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Odorous emissions may occur during the processing of digestate after the anaerobic digestion plant prior to transfer off-site.	Immediate area. The nearest residential receptor to the Installation is located at 'The Lodge' which is located approximately 450m from the stack.	Air - Winds generally blow from a south westerly direction.	Air will be extracted from processing areas and treated in a biofilter prior to release to atmosphere via the stack.	Minimal.	Odour annoyance which will have more impact in summer when people are outdoors and temperatures are higher.	Not significant if managed well.
Odorous air from the storage of sludge within the Pulp Plant.	Immediate area. The nearest residential receptor to the Installation is located at 'The Lodge' which is located approximately 450m from the stack.	Air - Winds generally blow from a south westerly direction.	Air will be extracted from sludge storage areas and used as combustion air within the CHP Plant.	Minimal.	Odour annoyance which will have more impact in summer when people are outdoors and temperatures are higher.	Not significant if managed well.

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 is 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 waste treatment processes, heat recovery boiler, exhaust air fans, the stack exhaust, steam turbine, cooling condensers, and noise radiation from the building envelope itself etc.	Immediate area. The nearest residential receptor to the Installation is located at 'The Lodge' which is located approximately 450m from the stack.	Sound propagation through air and the ground.	Noisy plant items, where practicable, will be installed inside buildings rather than outside and where appropriate they will be fitted with noise insulation. The Installation will be designed to reduce noise and tonal components. Regular maintenance of plant items. Additional recommendations detailed in the Noise assessment in Annex 3 will also be completed.	Minimal.	Annoyance.	Not significant if managed well. See Noise Assessment, Annex 3 for further information on the impact of noise emissions.
Noise from vehicle movements	Immediate area.	Sound propagation through air and the ground.	Waste deliveries will shall only be delivered between 0700 and 1830 from Monday to Friday and between 0700 and 1300 on Saturdays. Additional recommendations detailed in the Noise assessment in Annex 3 will also be completed.	Minimal.	Annoyance.	Not significant if managed well. See 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 is 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 waste handling activities will be undertaken within 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.	All waste handling activities will be undertaken within enclosed buildings.	Low	Nuisance and dust	Insignificant
Dust from waste deliveries being blown off-site	Immediate area - air, land	Air, surface runoff.	All waste handling activities will be undertaken within enclosed buildings.	Low	Nuisance and dust	Insignificant
Bottom ash discharge from the waste incineration plant	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 an ash quench system, prior to storage in a bottom ash storage area.	Low	Nuisance	Insignificant
Sludge from the Pulp Plant	Immediate area - air, water	Air, surface runoff, direct contact.	Once dewatered the sludge will be discharged into an enclosed sludge storage area. The drainage from the sludge storage area will be used as feedwater water for the ash quench.	Low	Nuisance, water pollution.	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 is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Sludge from the Wastewater Treatment Plant	Immediate area – air, water	Air, surface runoff, direct contact.	The sludge will be discharged into an enclosed sludge storage area prior to combustion within the CHP Plant. The drainage from the sludge storage area will be used as feedwater for the ash quench.	Low	Nuisance, water pollution	Insignificant
Discharge of Air Pollution Control residues (APCr) when emptying the APCr silo.	Immediate area – air, land	Air, surface runoff, direct contact.	When unloading the APCr silo the displaced air from the tanker will be recirculated into the silo to prevent releases into the atmosphere.	Low	Nuisance, release of hazardous dust	Insignificant
Reagent and chemical discharges 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. Unloading activities will only be undertaken in areas of hard standing with contained drainage.	Low	Nuisance	Insignificant
Lime 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. Reagent will be injected via a completely enclosed dosing and conveying system.	Low	Nuisance	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 is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
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 shut down for a sufficient time to enable the dust to settle.	Low	Nuisance, release of hazardous dust	Insignificant
Spillage/leak of liquid chemicals, 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. Tanks will be located within suitably designed secondary containment.	Low	Liquid or vapour release	Insignificant
Spillage/leak when unloading from delivery vehicles chemical containers (IBC's, FIBC'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 with contained drainage. Chemical containers will be stored within suitably designed secondary containment.	Low	Hazardous liquid or vapour release	Insignificant
Release off-site of litter.	Immediate area – air, land	Air, direct contact.	Loading/unloading of all waste vehicles will be within enclosed buildings.	Low	Nuisance, dust on cars and road	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 is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Release of dusts from the transfer off-site of bottom ash and sludge	Immediate area – air, land	Air, direct contact.	Loading of bottom ash and sludge into vehicles will be undertaken within enclosed buildings. Bottom ash and sludge will be transferred off-site in covered road 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.	Control speeds, maintain the condition of the road, and take due care and attention of trafficking conditions.	Low	Nuisance, dust on cars and road	Insignificant
Release of recovered pulp fibre during transfer off-site	Immediate area – air, land	Air, direct contact.	The pulp will be dried and pressed into boards prior to loading onto contained vehicles within enclosed buildings.	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 is 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 unloading of chemicals	Immediate area – air, land, water	Direct contact	Training in unloading practices. Under manual control, continual observation. Impervious surfaces outdoors. Containment of drainage from chemical handling areas,	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	Not significant
Leak of demineralised 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
Fuel storage failure in the CHP Plant	Immediate area - litter	Direct contact	Storage of waste in a dedicated waste storage 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 is 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 equipment 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 is 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. Controlled shutdown of the pulp and wastewater treatment plants.	Low	None	Not significant
Loss of compressed air	None	N/A	Multiple compressors, backup power supplies.	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 residue handling practices. Contained transfer systems. Impervious surfaces in residue handling areas with designated drainage systems 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 fighting and detection 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

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 is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
Over pressurisation of the boiler	Immediate area – air	Direct contact	The boiler will be fitted with a pressure release valve which will open to prevent the risk of an explosion within the boiler.	Low	Pollution of air	Not significant
Fires in all waste reception storage and handling areas	Immediate area – air	Direct contact	Fire detection systems, water sprinklers and fire hoses. Fire marshals.	Low	Visual impact, pollution of air	Not significant
Generation of excess process waste waters from pulp plant	Immediate area – water	Surface runoff, direct contact	Excess containment capacity will be maintained in a Buffer tank within the waste water treatment plant. The Buffer tank will provide storage of process water prior to treatment.	Low	Pollution of water	Insignificant
Failure of the waste water treatment system	Immediate area – water	Surface runoff, direct contact	Treated process water is analysed prior to release. Each batch will be analysed prior to release to the lagoon. Any batch which does not achieve the required standards will be returned to the treatment plant for further treatment.	Low	Pollution of water	Insignificant
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

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 is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance and probability and consequence.
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 firefighting 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 shut-off valve within the drainage system. 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
Flooding of the water storage lagoon.	Land, Water.	Flood water	Storm attenuation capacity to be maintained within the lagoon.	Low	Release of surface water	Insignificant

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 Dispersion Modelling Assessment (see Annex 5) and a Noise Assessment (see Annex 3).

6.1 Emissions to Air

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.

A more detailed assessment and discussion of the emissions to air has been presented within the Dispersion Modelling Assessment which is contained within Annex 5. In summary, as presented within the Dispersion Modelling Assessment, the Installation is not predicted to have a significant impact on local air quality, the general population or the local community.

6.1.1 Habitats Assessment

There are a number of habitat sites within the Environment Agency screening distances. These habitat sites are presented in Table 6.1.

Table 6.1: Sensitive Ecological Receptors				
Site	Location (m)		Distance from the Main Stack at Closest Point (km)	Lichens identified as present within APIS database
	x	y		
European designated sites (within 10km)				
None identified	-	-	-	-
UK designated sites (SSSIs) (within 2km)				
None identified	-	-	-	-
Locally designated sites (within 2km)				
Blackwater Plantation	582769	222075	1.7	-
Maxeys Spring	582730	220038	0.5	-
Storeys Wood	581843	220964	0.8	-

An assessment of the impact of the Installation upon these habitat sites is presented in Annex 5. A summary of the assessment is as follows:

- (1) No European or UK designated site have been identified as requiring consideration within this air quality assessment.
- (2) A number of non-statutory designated sites have been identified within 2km of the facility. APIS does not include site specific Critical Loads for non-statutory designated sites. In lieu of this the search-by-location function of APIS has been used. The broad habitat type has been assumed. The assessment has concluded that emissions are not significant. This conclusion has been drawn because the process contribution is less than 100% of the Critical Level or Load.

6.2 Emissions to Water

There will be no process emissions to water or sewer from the installation. Process effluents will be recirculated, reused or treated. The water (from the Pulp plant) which is treated within the wastewater treatment plant will be recycled into the process as process feedwater.

The installation will give rise to surface water run-off from roads, vehicle parking areas, building roofs, hard-standings and hard landscaped areas. Surface water run-off from these areas will be discharged to the Upper Lagoon which is adjacent to the installation. The lagoon will be used to store uncontaminated run-off from these areas prior to re-use within the installation.

External areas of hardstanding will be provided with curbed containment, where appropriate, to prevent any potential spills from causing pollution of the ground/groundwater and surface 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.

Unloading of chemicals will take place within areas of concrete hardstanding with falls to a gully and/or a sump.

6.3 Noise

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

6.4 Visual Impact

An application is being made to vary Planning Condition 56 of the implemented IWMF planning permission (ESS/34/15/BTE) that limits the height of the IWMF stack, namely:

Planning Condition 56: Only one stack shall be erected on the site to service all elements of the IWMF. The height of the stack shall not exceed 85 m Above Ordnance Datum.

The application seeks to vary the height of the stack to 105 m Above Ordnance Datum and represents a change in stack height of 20 m. This planning application is being twin-tracked by GFC with the EP application.

For the purposes of this EP application, the visual impact associated with the Rivenhall IWMF has not been considered as this is primarily a matter for the local planning authority.

6.5 Odour

An odour management plan for the installation is presented in Annex 7.

6.6 Photochemical Ozone Creation

Releases of CO, NO₂, SO₂ 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 values relative to ethylene are stated in Annex (f) of Technical Guidance Note EPR-H1 as:

a)	CO	2.7
b)	NO ₂	2.8
c)	SO ₂	4.8
d)	Benzene	21.8
e)	NO	-42.7

The total POCP for the plant is calculated in the H1 Software Tool as 5,600 tonnes, on the assumption that all NO_x is released as NO₂.

6.7 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 gasoil and RDF. 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 combustion of RDF within the Installation and compares this with the emissions produced if the electricity were produced in a gas fired CCGT power station has been presented in Annex 5.

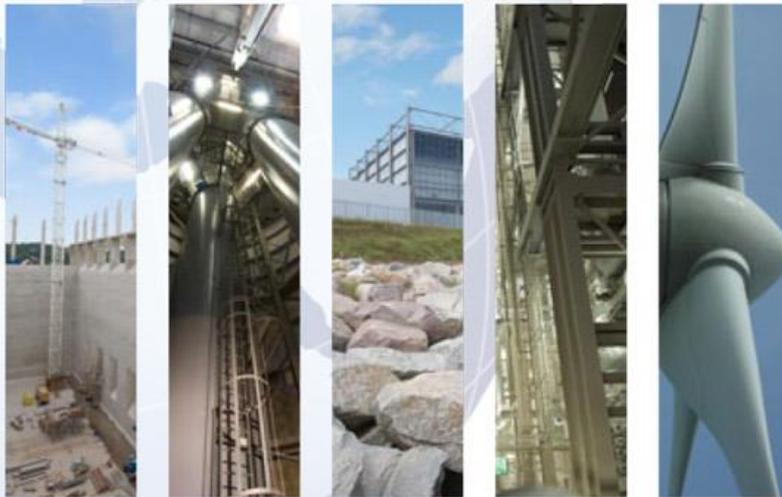
6.8 Disposal of Waste

Methods for reducing the impact from waste disposal are considered in section 2.8 of the supporting information.

7 CONCLUSIONS

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

Appendix A - H1 Assessment



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