Client: Brownhills Skip Hire Limited
Address: Brownhills Skip Hire Ltd, Collier Close, Brownhills, Walsall, WS8 7EU

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Collier Close, Brownhills, Walsall, WS8 7EU

Accidents and Incidents
Application for Small Waste Incinerator Plant (SWIP) Permit to Authorise an Advanced Thermal Treatment Plant

14 February 2022

Our Reference: Brownhills Skip Hire Ltd-RP01 (Accidents and Incidents)

Waste And Industry Compliance Ltd

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Brownhills Skip Hire Ltd-RP01 (Accidents and Incidents)

Version & Status	Date Produced	Prepared, Checked and Authorised by:
Draft v1	18/02/2022	Waste and Industry Compliance Ltd.

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1 INTRODUCTION

1.1 BACKGROUND

1.1.1 Waste and Industry Compliance Ltd has been instructed by Brownhills Skip Hire Ltd (‘**the Operator**’) to undertake and assessment of the potential for environmental accidents and incidents associated with the operation of an Advanced Thermal Treatment Plant (ATTP) at Collier Close, Brownhills, Walsall, WS8 7EU (`**the Site**`). The Site is centred on National Grid Reference SK 03336 05248 (403336 , 305248).

1.1.2 Up to 0.5 tonnes per hour of non-hazardous waste will be processed in the ATTP for the production of electricity and heat. It is proposed that the plant operates up to 24 hours a day, 7 days a week, with a maximum daily input of 10 tonnes per day and 70 tonnes per week. Feedstock will be sourced from suitable waste inputs to the Site, which are authorised under an extant Environmental Permit (ref: EPR/EB3400HD), issued by the Environment Agency on 17 November 2005. An application for a Small Waste Incinerator Plant (SWIP) permit has been submitted to Walsall MBC to authorise operation of the ATTP.

1.1.3 This Accident and Incident report is based on:

i. A risk assessment, carried out to identify, potential hazards arising from the ATTP and any possible pathways and receptors;
ii. Mitigation measures, designed to minimise the risk and consequences of, an accident;
iii. The core procedure for the prevention and management of accidents, which forms part of the operator’s Environmental Management System.

1.2 RISK ASSESSMENT

1.2.1 Table 1 identifies the potential hazards at the Site and identifies the possible pathways and receptors.

Table 1 - Potential environmental hazards, pathways and receptors

Hazard	Pathway	Receptor
Vehicle accident leading to a loss of reagents such as limestone or activated carbon	Airborne, land, water.	Site personnel, visitors, local residents and neighbouring workforces.
Waste material loss from delivery vehicle	Airborne, land, water.	Site personnel, visitors, local residents and neighbouring workforces.
Flooding	Overland flow from watercourses	Local residents and neighbouring workforces.
Inadequate waste acceptance procedures resulting in the combustion of non-permitted wastes or unsuitable wastes	Airborne/land based.	Site personnel, visitors, local residents and neighbouring workforces.
Waste storage	Airborne/land based.	Site personnel, visitors, local residents and neighbouring workforces.
Transfer of substances	Absorption to ground, run-off and site drains.	Air, groundwater, surface water and soils.

Hazard	Pathway	Receptor
Overfilling of vessels	Absorption to ground, run-off and site drains.	Air, groundwater, surface waters and soils.
Emissions from plant or equipment (e.g. leakage from joints, over-pressurisation of vessels, blocked drains).	Airborne, land, water.	Site personnel, visitors, local residents and neighbouring workforces. Groundwater, surface water, air quality and soils.
Failure of containment	Absorption to ground, run-off and site drains.	Groundwater, surface waters and soils.
Fires and explosions	Airborne.	Site personnel, visitors, local residents and neighbouring workforces. Air quality.
Failure to contain firewater	Absorption to ground, run-off and site drains.	Groundwater, surface waters and soils. Neighbouring buildings.
Wrong connections made in drains or other systems	Absorption to ground, run-off and site drains.	Groundwater, surface waters and soils.
Failure of main services	Airborne.	Air quality.
Operator error	Airborne, land, water.	Site personnel, visitors, local residents and neighbouring workforces. Groundwater, surface water, air quality and soils.
Flue gas leak	Airborne.	Site personnel, visitors, local residents and neighbouring workforces. Air quality.
Steam leak	Airborne.	Site personnel, visitors.
Loss of compressed air	Airborne.	Site personnel, visitors.
Loss of boiler water	Absorption to ground, run-off and site drains.	Site personnel, visitors, local residents and neighbouring workforces. Groundwater, surface water, air quality and soils.
Failure of bund	Absorption to ground, run-off and site drains.	Groundwater, surface waters and soils.
Failure of electrical generation equipment	Airborne, land, water.	Site personnel, visitors, local residents and neighbouring workforces. Groundwater, surface water, air quality and soils.
Failure of continuous emissions monitors (CEMS)	Airborne.	Site personnel, visitors, local residents and neighbouring workforces. Air quality.
Failure of fire control system	Airborne.	Site personnel, visitors, local residents and neighbouring workforces. Air quality.
Dust from waste handling operations and site roads etc.	Airborne.	Site personnel, visitors, local residents and neighbouring workforces.
Mud on public highway due to activities at the site.	Site roads and entrance.	Users of Collier Close and Coppice Side public highway.
Breach in site security/vandalism.	Fences and gates.	Site personnel, plant and intruders.

1.2.2 Environmental risks have been considered during the operational and decommissioning phases of the ATTP. The plant has been designed to minimise risks on decommissioning.

1.2.3 It is necessary to apportion a level of significance to the environmental risks identified in

Table 1. The methodology includes a scoring system within which scores are apportioned to:

- the probability of the hazard occurring, without the use of protective measures;
- the consequences of the hazard to the environment or human health; and
- the effectiveness of the mitigation used to prevent the hazard occurring.

1.2.4 Tables 2, 3 and 4 identify the scoring system.

Table 2 - Probability of hazard occurring without the use of protective measures

Frequency	Score
Never	0
Annually or less frequently	1
Monthly or less frequently	2
Weekly or less frequently	3
Daily or less frequently	4
More frequently than daily	5

Table 3 - Consequence of hazard to the environment or human health

Consequence	Score
Harmless	0
Almost harmless	5
Some harm	10
Harmful	15
Very harmful	20
Extremely harmful	25

Table 4 - Mitigation factor

Mitigation	Score
Ineffective or non existent	1
Partly effective	2
Effective	3
Very Effective	4
Entirely effective	5

1.2.5 The probability of the hazard occurring is multiplied by the consequences of the hazard to the environment, or human health, to give a risk factor. The risk factor is then divided by the mitigation factor, to give the mitigated risk factor. The higher the mitigated risk factor, the greater the level of risk.

1.2.6 The risk assessment matrix for the ATTP is shown in Table 5.

Table 5 - Risk Assessment Matrix

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Vehicle accident leading to a loss of reagents, oil or diesel etc	1	25	25	Speed restrictions will be in force on site to minimise the risk of vehicle accident. Only registered waste carriers, or those who are lawfully exempt from registration, will be permitted to use the site. Absorbent material, sweeping or vacuum cleaning will be used to treat any spillage that may arise, as appropriate to the nature of the spillage (e.g. absorbent material would be used for any liquid spillage of potentially polluting material such as oil or diesel).	4	6.25
Waste material loss from delivery vehicle	1	10	10	Wastes are delivered to the Operator's waste transfer station in accordance with an extant Environmental Permit (ref: EPR/EB3400HD), issued by the Environment Agency. Wastes are typically delivered to the site in sheeted or netted skips. Speed restrictions are in force on site to minimise the risk of vehicle accident. Only registered waste carriers, or those who are lawfully exempt from registration, are permitted to use the site.	4	2.5
Flooding	0	10	0	The site is not located in a floodplain and there is no history of flooding. Consequently, it is considered that mitigation measures are not required.	0	0
Inadequate waste acceptance procedures	4	10	40	All wastes received at the Site are subject to strict waste pre-acceptance and acceptance procedures to ensure that only compliant waste types are accepted. Waste documentation for incoming waste loads, including Waste Transfer Notes and Season Tickets, is checked to ensure that only permitted wastes are received and waste loads are visually inspected in the skips and upon deposit in the yard. Suitably wastes for combustion in the ATTP will be loaded from the waste transfer bays into a shredder to produce a ≤80mm diameter refuse derived fuel, which will be transferred by telehandler into an integral 40ft walking floor container system, for onward feed into the ATTP. Any non-permitted wastes received inadvertently at the site, will be reloaded onto the delivery vehicle for off-site removal or, placed in a quarantine area. Non-hazardous municipal, commercial and industrial skip waste is the principle waste stream accepted at the site. Hazardous wastes are not accepted.	4	10

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Inappropriate waste storage	4	15	60	Upon arrival at the site, wastes will be deposited into dedicated waste transfer bays comprising fire resistant concrete and steel sheet lined side walls and rear push walls. The site surfacing comprises engineered concrete pavement which drains to sealed, concrete lined tanks, which are periodically emptied by tankers for authorised removal off site to prevent the accumulation of rainwater and site runoff waters. Wastes that are suitable for combustion such as paper, card, plastic, textiles and non-hazardous wood wastes will be loaded from the waste transfer bays into a shredder to produce a ≤80mm diameter refuse derived fuel (RDF), which will be transferred by telehandler into an integral 40ft walking floor container, suitably sized to hold 24 hours waste storage for onward feed into the ATTP. The walking floor container feeds a dedicated hopper for each of two waste processing lines. A screw conveyor below each hopper transfers RDF into the ATTP. The system is fully automated and a variable speed drive is incorporated to ensure that feedstock is delivered at a controlled rate to enable optimised combustion of wastes. Wastes will be managed on a first in first out basis to ensure a rapid turnover of materials on site and to minimise any potential for odour generation. Typically combustible materials will be incinerated within 24 hours of receipt for electricity and heat production. Waste transfer bays will be emptied within 24 hours, taking care to sweep and remove all materials in the corner of the bays to ensure that dust or degradable material does not accumulate, thereby minimising the potential for particulate and odour emissions. Hazardous wastes will not be accepted at the site, so there is no risk of incompatible waste deliveries coming into contact with each other.	5	12

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Inappropriate waste storage (continued)				The ATTP incorporates a fully contained and automatically discharged bottom ash management system. Ashes fall by gravity from the moving grate into an ash chamber. Ashes are removed by a wet ash discharge scrapper conveyor situated beneath the ash chamber. This minimises the risk of dust emissions. The scrapper conveyor transfers the bottom ash to enclosed ash storage containers. Residues from the wet flue gas treatment system are recovered with the bottom ash in the wet ash discharge system and transferred by scrapper conveyer to the enclosed ash storage containers.		
Transfer of substances (e.g. filling or emptying of vessels)	2	15	30	Diesel for the auxiliary burner will be stored in a 2,000 litre, bunded steel tank. The bund will have a minimum capacity of 110% of the tank's contents. Other liquids with the potential to pollute will either be stored in tanks or containers that are either self-bunded or surrounded by bunds with a minimum capacity of 110% of the tank's contents. Where more than one tank is located in a bund, the capacity of the bund will be 110% of the largest tank or 25% of the total storage capacity, whichever is the greater. All bund bases and side walls will be impermeable. All vents, sight glasses and pipework etc will be located within the bunded area. Absorbent material will be used to treat any liquid spillage that may arise. The ATTP incorporates a wet flue gas treatment system for acid gas abatement. Ground limestone is delivered to the site in dedicated bags, which are filled off site by the supplier. Similarly activated carbon is delivered to the site in dedicated bags and used to control dioxin and heavy metal emissions. There is no requirement to fill these bags on site and therefore no potential to overfill them.	5	6

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Transfer of substances (e.g. filling or emptying of vessels) (continued)				An automated limestone dosing system pneumatically injects the limestone to a venturi mixer, where the reagent is mixed with the flue gas to effectively absorb acid gases such as hydrogen chloride (HCl), sulphur dioxide (SO_2) and hydrogen fluoride (HF). Activated carbon is also pneumatically injected into the venturi mixer and mixed with the flue gas for dioxin and heavy metals abatement. A continuous emissions monitoring system (CEMS) monitors flue gas emissions. A programmable logic controller (PLC) is used to automatically control the reagents dosing rates, based on CEMS readings. Additionally, there is a manual dosing capability, utilizing hydrated lime, providing redundancy and rapid pH adjustment. pH is also constantly monitored. Operation of the ATTP will be controlled by an automated PLC and human machine interface (HMI). Plant equipment status conditions, waste flows, temperatures, tank levels and gas pressures will be presented on the HMI display for operator information. Control, feedback and monitoring signals from around the plant will be recorded on the PLC. Safety procedures are incorporated in the design of software so that fault conditions will generate an alarm and the most appropriate safe action taken. All emergency stop push-buttons and safety interlocks will be configured to operate in a fail safe manner and will be monitored through the PLC. The site incorporates an impermeable concrete pavement with sealed drainage system to concrete lined tanks. Liquid level in the tanks is inspected at least weekly or daily during periods of heavy rain. A road tanker is used to remove the tank contents to an authorised wastewater treatment facility, as required. Any liquid spillage from the ATTP would be contained on site and drain to the concrete tanks.		

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Overfilling of vessels	4	15	60	Liquids with the potential to pollute will be bunded (see above). The volume of liquid in these tanks will be recorded. Absorbent material will be used to treat liquid spillages. The used absorbent material and any contaminated materials will be removed and stored in a sealed container, prior to authorised disposal. Any spillage of dry materials will be cleaned by vacuum, or by manual sweeping, and be removed.	5	12

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Emissions from plant or equipment, e.g. due to abnormal conditions.	5	25	125	The automation system includes temperature controls and pressure controls, excess air controls, combustion and auxiliary burner performance, alarms/alert and data retention systems. The PLC is digitally linked with a computer based HMI serving as a process data monitor and logger. The computerised system enables supervision of plant performance on site by the Operator and remote access by Bio Renewables Ltd (the ATTP supplier).The plant control software will be modem linked to Bio Renewables technical services team to enable monitoring of all parameters during the guarantee period and enable online, real time diagnosis and intervention. This will ensure plant performance can be closely monitored both on site and remotely. Alarms and interlocks will be used on major items of plant and equipment in the ATTP. The ATTP has been designed and manufactured in accordance with appropriate standards and regulations. Maintenance of the plant and equipment will be in accordance with Bio Renewables Ltd recommendations. The high standard of plant manufacture and maintenance will minimise the risk of inadvertent emissions. The sealed drainage system and concrete lined collection tanks, site surface concrete pavement, waste transfer bays, waste shredding plant, ATTP, diesel storage tank and bund will be inspected weekly. Any repairs will be made as soon as practicable and, subject to the availability of replacement materials, no later than 5 working days from discovery. Mitigation measures will be undertaken immediately, if there is a risk of pollution or harm.	5	25

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Emissions from plant or equipment, e.g. due to abnormal conditions. (continued)				An automated limestone dosing system will be used to minimise acid gas emissions to atmosphere. Ground limestone will effectively absorb acid gases such as hydrogen chloride (HCl), sulphur dioxide (SO_2) and hydrogen fluoride (HF). Activated carbon will be automatically injected into the flue gas to minimise dioxin and heavy metal emissions to air. The reagent dosing systems will enable compliance with statutory Air Quality Standards. A continuous emissions monitoring system will be installed in the ATTP, which will be linked to the PLC. CEMS results will be used by the PLC to automatically control the reagents dosing rates, thereby ensuring optimum emissions control. Additionally, there is a manual dosing capability, utilizing hydrated lime, providing redundancy and rapid pH adjustment. ATTP flue gas will be emitted to atmosphere via a dedicated stack (see Air Quality Assessment report). Flue gas will be continuously monitored by the CEMS to record the concentrations of CO, NOx, SO_2, HF, HCl, O_2, TOC and Particulate Matter. Nominal outlet temperature of flue gases will be in a range of 80 - 90 ^oC, no plume will be visible on the stack as this will not cross the water dew point under all atmospheric conditions. In the unlikely event of failure of the CEMS, failure of the main exhaust fans or a significant leak of flue gas before abatement in the ATTP, an alarm will sound and the process control system will automatically shut down the plant.		

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Failure of containment	1	15	15	Liquids with the potential to pollute will be stored in suitable tanks and fully bunded. The effective capacity of the bunds will be maintained at all times. Process water for the wet flue gas treatment system and wet ash discharge system will be supplied by a 5000 litres process water storage tank, with automated float type level control, two process water supply pumps (one running, one on standby) and related instrumentation and plant water distribution piping. As the wet flue gas treatment system and wet ash discharge systems both operate on a closed loop basis, there is no waste water discharge to the foul sewer or surface water drainage system. Periodically spent process water will be removed from the site for authorised disposal at a wastewater treatment works. Process water will be replenished from the mains water supply or from captured clean surface water runoff from the site office roof etc. Mitigation measures will be implemented immediately, if there is a potential for pollution or harm, including: • removal of liquid from a damaged tank and transfer to a replacement tank or sealed container • immediate repair of any damaged bund and/or removal of any liquid contained therein • temporary disuse of any damaged tank or container, with transfer of contents into another vessel.	5	3
Fires	1	25	25	The ATTP feed hopper is equipped with a water spray system to automatically suppress any incident of fire in the feed hopper. Fire extinguishers will be located at the site. All fire extinguishers will be clearly marked and tested at appropriate intervals, to confirm their integrity. Site personnel will be made aware of their location and trained in their correct use. There will be strict compliance with pre-acceptance and acceptance procedures at the site to ensure only permitted wastes are accepted. Explosive, flammable and oxidising wastes will not be received.	4	6.25

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Fires (continued)				In the event of a fire at the site, it will be regarded as an emergency situation and appropriate action taken immediately. Site security systems will be in place, including CCTV, to prevent unauthorised entry. A Fire Safety Strategy is set out as follows: • separation and / or control of hazards • control / elimination of ignition sources • adequate passive fire safety measures; fire breaks and doors, plus means of escape • detection systems to provide an early warning of fire before initiation of flaming combustion and • first aid, mobile fire-fighting equipment suitable for use in enclosed spaces. The fire safety strategy above will be reviewed during the construction programme in discussion with the Fire Safety Officer.		
Failure to contain firewater	1	15	15	The site surfacing comprises engineered concrete pavement which drains to sealed, concrete lined tanks. In the event of a fire incident, fire water would drain to these tanks for collection and subsequent removal from site by road tankers for authorised disposal at a wastewater treatment works.	4	3.75
Wrong connections made in drains or other systems	1	15	15	The site's surface water drainage system to concrete lined tanks has been installed for a number of years and has been subject to regular inspection by the Environment Agency under the site's extant Environmental Permit for the waste transfer station. A surface water drainage plan has been prepared for the site. During installation of the ATTP, any associated drainage works that are required to be undertaken will be subject to construction quality assurance by a suitably qualified engineer. An as built drawing will be provided, which will be updated to provide an up to date drainage record of the site.	4	3.75

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Failure of main services	1	10	10	Electricity to power the ATTP will be either supplied from the National Grid or sourced parasitically from the plant. In the event of a power cut, the plant and waste feedstock will be automatically shut down by the PLC.	5	2
				The use of process water operates on a closed loop basis and therefore if mains water supply is unavailable it is unlikely to have any significant impact on operation of the ATTP, unless water supply is unavailable for a significant number of days. Back up water could be sourced from clean run-off water from the site office building roof etc and collected in a rain water storage tank. In the unlikely event that water loss results in detrimental plant performance, emergency shut-down procedures will be activated to ensure that the ATTP is safely shut-down.		
Operator error	2	15	30	Strict compliance with the operator's Environmental Management System (EMS). Use of Technically Competent Persons, as part of the Fit and Proper Person requirement, to manage activities at the site. Health and safety, environment and accident management training, will be provided for all employees. The ATTP will be fully automated, with a PLC and HMI system. Flows and pressure will be monitored within the system, which will be self-adjusting (e.g. pumps to clear blockages). Manual overrides are possible and where used, a flashing light will registered on the control screen to alert operators. Such process controls ensure that the plant will be operated safely at all times.	4	7.5
Flue gas leak	5	25	125	Flow rate and pressure monitoring will result in the rapid detection of any flue gas leakage from the ATTP. In the event of a significant leak of flue gas before abatement in the WFGT system, an alarm will sound and the process control system will automatically shut down the plant until remediation works are completed.	5	25

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Steam leak	5	25	125	Flow rate and pressure monitoring will result in the rapid detection of any steam leakage from the heat recovery steam boiler. An alarm will sound and the plant will be automatically shut down. Remediation works will then be implemented.	5	25
Loss of compressed air	1	10	10	Loss of compressed air will be detected by the PLC, which will automatically shut down the ATTP. Remediation works will then be implemented.	4	2.5
Loss of boiler water	5	25	125	Flow rate and pressure monitoring will result in the rapid detection of any water loss from the heat recovery steam boiler. An alarm will sound and the plant will be automatically shut down. Implementation of remediation works.	5	25
Failure of bund	1	15	15	Failure of a bund could result in the escape of contaminated liquid. The site surface comprises an impermeable pavement. All bunds will be inspected at least weekly and any repairs will be made as soon as practicable and, subject to the availability of replacement materials, no later than 5 working days from discovery. Any collapse of a bund is likely to be detected within a very short time period and mitigation measures will be undertaken immediately, if there is a risk of pollution or harm.	5	3
Failure of electrical generation equipment	1	10	10	The site's electrical generation equipment includes heat recovery and steam generator and turbine. In the event of failure of the electrical generation equipment associated with the ATTP automatic shut-down will be implemented. Remediation measures will be made as a priority.	4	2.5

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Failure of continuous emissions monitors (CEMS)	1	10	10	In the event of a failure of the CEMS, the ATTP will be automatically shut down. Surrogate or alternative monitoring will be made available and undertaken in the event that CEMS monitoring off line for an extended period, provided it meets at least the same quality requirements as the installed CEMS. All forms of surrogate or alternative monitoring shall comply with applicable international standards for monitoring, meet the uncertainty budgets specified in the Industrial Emissions Directive and instrumental systems used within alternative monitoring arrangements shall be MCERTS certified for the applicable determinands and ranges: • Subject to the above requirements, allowable forms of alternative monitoring include: Full, back-up CEMs serving the same stack as the principal CEMS. • Portable monitoring systems, which are calibrated for the processes they are monitoring. • Manual standard reference methods, provided that these are performed by a test laboratory accredited for the MCERTs performance standard for organisations and the applicable monitoring standards, and can provide real-time data in order to demonstrate compliance with the ELVs.	4	2.5
Dust from waste handling operations , engineering works etc	3	10	30	Strict compliance with waste pre-acceptance and acceptance procedures. Waste deliveries will be off-loaded in the waste transfer bays. The site is hard-surfaced with impermeable concrete on all operational areas. The site will utilise dust suppression, as well as manual or mechanical sweeping as necessary. Visual monitoring for dust will be undertaken daily. Potentially dusty wastes loads will be dispatched from the site in enclosed or sheeted vehicles. Bottom ash and wet flue gas treatment residues will be quenched to reduce temperature and minimise dust emissions and stored in sealed ash containers.	4	7.5

Hazard	Probability of Hazard Occurring Without Protective Measures	Consequence of Hazard	Risk Factor (Probability x Consequence)	Summary of Preventative Measures/Controls	Mitigation Factor	Mitigated Risk Factor (Risk Factor/ Mitigation Factor)
Mud on adjacent highways due to activities on site	2	25	50	All internal roads and waste storage and processing areas will comprise an impermeable concrete surface that is fit for purpose. The site entrance and public highway will be cleaned by mechanical sweeping, as appropriate. Waste handling activities are unlikely to generate mud. Site staff will inspect the site entrance and adjacent public highway each working day and instigate remedial action if required.	5	10
Breach in site security	3	15	45	Perimeter fencing and lockable gates are installed. CCTV will be used.	4	11.25

1.2.7 The risk assessment matrix for the ATTP is shown in Table 5. It can be seen that the highest risk, associated with the Site will be emissions from plant or equipment.

1.2.8 In practice, all identified hazards, which could cause harm, will be subject to strict, preventative measures or control at the Site, to ensure that all risks are minimised.

1.2.9 The preventative measures/controls, detailed in Table 5, must be maintained to ensure a high level of operational practice. To achieve this, the monitoring of relevant control systems, the utilisation of collated data and, the review of preventative measures, will be carried out. Repairs and/or improvements will be made, where monitoring shows this is necessary.

1.2.10 The operation of the ATTP will rely on the performance of site personnel and plant, to store and process the incoming waste streams correctly. Monitoring of procedures and maintenance schedules will aid the risk management assessment process, in relation to environmental controls. General good housekeeping checks will be employed to ensure the smooth and efficient running of the Site.

1.2.11 Engineered containment systems on site will be inspected and maintained, to ensure their integrity, throughout the operational life of the Site.

1.2.12 It is also recognised that there is a close link between environmental risk and health and safety. It is envisaged that the environmental risk assessment, carried out here, will assist in the overall risk appraisal for the operation of the ATTP.

2 CORE PROCEDURE FOR THE PREVENTION AND MANAGEMENT OF ACCIDENTS

2.1.1 The Operator will utilise an EMS that includes a core procedure to identify, assess and minimise the environmental risks and hazards of accidents and incidents.

2.1.2 The core procedure for the prevention and management of accidents defines the steps required to:

- Ensure all accidents, incidents, dangerous occurrences and emergencies are promptly reported, investigated and recorded accurately and that remedial actions are put in place where necessary;

- Ensure the Operator complies with good practice with regard to the investigation of all incidents.

2.1.3 Systems will be in place to communicate health and safety and environmental issues to all relevant staff and contractors, in order to minimise the risk of accidents.

2.1.4 All staff will receive training appropriate to their post to help minimise accidents. Records will be kept to ensure training needs are assessed and addressed where refreshment is required.

2.1.5 The Site will be audited on a regular basis, both internally and independently. Accidents and near misses will be investigated and the findings recorded. This information will be used to develop an improvement programme to prevent future accidents.

2.1.6 Operating procedures include the safe shut down of the plant in an emergency.