

What do you do that can harm and what			Assessing the risk			Managing the Risk	
Hazard	Receptor	Pathway	Probability of Exposure	Consequence	What's the overall risk	Risk Management	What is the residual 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?	How likely is this contact?	What is the harm that can be caused?	What is the risk? The balance of probability and consequence	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	What is the risk that still remains?
ODOUR							
Odourous Waste	Local Human Population	Air	Low	Nuisance from odour	Low	The changes to the operating techniques proposed by this variation do not have any impact on the waste types accepted and have no impact on the sites potential to cause odour issues. Based on the existing waste types managed by the site and the controls in place the activitie sare considered to have a low potential to generate nuisance odours. The site does not process will not accept putrescible or malodourous wastes. Waste acceptance procedures (WAP) are implemented at the site which minimise the risk of unsuitable wastes being accepted which may be malodorous. The pre-acceptance process employed at the site includes an assessment of the odour of the waste, any wastes displaying malodourous properties are rejected at this stage. All incoming wastes are subject to the company waste acceptance procedures. Incoming wastes are checked to confirm that they are consistent with the findings of the pre-acceptance process and wastes are again checked for malodourous properties. Wastes that are received at the site that are malodorous will be rejected. Waste inputs are managed within closed storage and transfer systems. Venting is only permitted via suitable abatement systems. Based on meteorological data, the prevailing wind direction at the site is from the west or south west. There are no residential receptors within 500m directly downwind of the site. Olfactory monitoring (sniff testing) is undertaken as part of the general daily site inspection. The storage and treatment tanks are sealed and vent through appropriate abatement systems.	Low

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NOISE							
Mobile plant and vehicles including waste delivery and waste processing.	Local Human Population	Air	Low	Nuisance from noise	Low	The changes to the operating techniques proposed by this variation do not have any impact on the waste types accepted and have no impact on the sites potential to cause noise issues. Based on the existing waste types managed by the site and the controls in place the activitie sare considered to have a low potential to generate nuisance odours. Based on meteorological data, the prevailing wind direction at the site is from the west or south west. There are no residential receptors within 500m directly downwind of the site. The nearest residential receptor is approximatley 1000m from the process enclosure. The proposed changes do not involve any additional use of mobile plant when compared to current operations. There will be no change to the waste types treaed by the process or to the capacity of the process. It is anticiapted there will be one additional delivery to the site per week. This is considered insignificant with regard to noise. All site-based plant and vehicles are subject to a Planned Preventative Maintenance (PPM) programme including inspection and maintenance of the abatement and cooling systems. Plant and machinery are operated in a noise sensitive manner. The site perimeter will be inspected on a daily basis and any adverse noise events will be recorded in the site diary.	Low
Process infrastructure including existing, equipment and additional equipment related to proposd change.	Local Human Population	Air	Low	Nuisance from noise	Low	The changes to the operating techniques proposed by this variation do not have any impact on the waste types accepted and have no impact on the sites potential to cause noise issues. Based on the existing waste types managed by the site and the controls in place the activitie sare considered to have a low potential to generate nuisance odours. Based on meteorological data, the prevailing wind direction at the site is from the west or south west. There are no residential receptors within 500m directly downwind of the site. The nearest residential receptor is approximatley 1000m from the process enclosure. The change of operating technique has involved the introduction of 1 off additional slurry pump. This is identical to the existing pumps within the system and will not be run concurrently with them hence it has an overall neutral impact on the current noise load generated by the site. In addition to the new pump, a tank for the storage of liquified carbon dioxide and associated vapourisor has been installed. This system has a low sound level associated with it with the equipment datasheet stating a level of <70dBA, hence having an insignificant impact on the sound levels at the site.	Low

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FUGITIVE EMISSIONS							
Particulates from waste delivery, waste handling and processing.	Local human population	Air	Low	Deposition of particulate matter	Low	The APCr Recycling Proces is essentially a wet process, therefore the potential to generate dust through the storage and handling of input wastes is low. The process treats waste APCr which is in a powdered form. It is delivered in bulk powder tankers and is discharged directly into a powder storage silos. The silo is fitted with reverse jet filters which prevent the loss of powder during offloading whilst allowing the silo to vent during filling. Silos are fitted with overfill and over pressure protection to avoid accidental emission of powder, all transfer is within a closed system. Preparation of hydrated lime slurry is undertaken in a purpose built (existing) slurry plant. With suitable dust abatement measures in place on mixing tanks. Slurry handling arrangements are unchanged from the existing arrangements. Fugitive emissions management plan is in place for the site. This specifies necessary control to prevent fugitive emissions. Based on the proposed changes to the activity and the control measures that will be employed, the addition of the new activity will not increase the risk associated with dust emission compared with the currently permitted operations.	
Fugitive loses of vapours during reception, storage and treatment of wastes	Local human population and local environment	Air	Low	Exposure to Odour / Deposition	Low	The process does not accept solvenst or flammable wastes and all inputs are inorganic in nature. All tanks are sealed and only vent via suitable abatement systems (other than emergency venting). Fugitive emissions management plan is in place for the site. This specifies necessary control to prevent fugitive emissions. Based on the nature of the HATP activity and the control measures that will be employed, the addition of the new activity will not increase the risk associated with noise compared with the currently permitted operations.	Low
Mud and debris deposited on the public highway	Public highway	Vehicle movements	Low	Mud on the public highway	Low	The waste treatment site is located within a port complex hence there is no direct access from the site to the public highway. The variation will not increase the risk of the accumulation of significant quantities of mud and debris on the public highway compared with the currently permitted operations. All waste operations are undertaken on an easily cleanable concrete surface. Site surfaces are inspected on a working daily basis and maintained in a condition consistent with minimising the risk of the accumulation of mud and debris on the highway.	Low
Windblown litter	Local human population	Air	Very Low	Deposition of litter and debris	Very Low	The variation will not increase the risk of the accumulation of significant quantities of windblown litter compared with the currently permitted operations. All waste operations are undertaken on an easily cleanable concrete surface. Site surfaces are inspected on a working daily basis and maintained in a condition consistent with minimising the risk of the accumulation of mud and debris on the highway.	Very Low
Scavenging animals, birds and pests (e.g. flies)	Local human population	Air transport and over land	Very Low	Harm to human health from waste carried off site and faeces. Nuisance and loss of amenity	Very Low	The storage and processing of the waste types that are accepted for treatment at the site are not considered attractive to scavenging animals, birds or pests as no food wastes will be accepted and the wastes which will be accepted do not comprise a source of food.	Very Low

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ACCIDENTS							
Spillage of wastes during reception, storage or treatment.	Water resources	Runoff through the drainage system	Low	Contamination of controlled waters	Low	The process enclosure and wider site benefits from impermeable primary, secondary and tertiary containment for all storage and treatment tanks Procedures are in place that document sampling and waste acceptance activities. Offloading areas are provided with self contained sumps to capture any leaks during offloading. All tanks are fitted with level transmitters and independent level switches these are linked to audible alarms and trips which prevent overfilling events. The powder storage silo at the site utilises a Hycontrol safety panel to avoid overfill / overpressure events, the system employs Ground Level Testing to confirm all elements of the system are functioning prior to permitting filling. All tanks are of suitable construction for the proposed duty and are inspected in accordance with third party recommendations. The treatment tanks are located within a bunded area. Gas monitors are used to check for 'spillage' of CO₂ during processing in addition to measurments taken within the headspace of the treatment tank. The carbon dioxide storage tank is designed and maintained in accordance with guidance document CP26 <i>'The design, installation, operation and maintenance of bulk liquid carbon dioxide storage systems at users' premises'</i>. Overfilling is prevented by a balance line with the delivery vehicle. The tank has a defined operating pressure which is maintained by a refidgeration unit. This system has alarms for high and low pressure and has a number of relief valves within the system for emergency venting. Company operational, maintenance, inspection and accident management procedures will minimise the risk of spillages occurring. Spillage kits are available on site and site personnel are trained in their use.	Low
Adverse reactions	Water resources	Various hazardous outcomes including release of toxic gases and failure of vessel	Low	Contamination of controlled waters	Low	All wastes to be processed must be deemed suitable after assessment through the company Pre-Acceptance Procedure. Upon arrival at the site, wastes are analysed in order to confirm it matches the parameters determined through the Pre-Acceptance Procedure. An assessment of compatibility is undertaken as part of the Pre-Acceptance and Acceptant process. The treatment of wastes that are likely to present hazardous adverse outcomes is prevented. All tanks are complete with level indicators and independent level switches linked to alarms and trips. The treatment tank is fitted with pressure indicators which are linked to alarms and trips. All tanks are fitted with Pressure / Vac relief vents.	Low

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Fire causing the release of polluting emissions to air and water	Local human population and local environment	Air and water	Low	Respiratory irritation, illness and nuisance to local population. Injury to staff or fire fighters. Pollution of water or land.	Low	The process does not treat flammable wastes, inputs to the process are inorganic in nature. The site does not accept flammable wastes for treatment or transfer. It also does not accept combustible C&I wastes. Accident Prevention Plan in place to prevent development of fires by controlling and minimising potential fuels and removing ignition sources. Testing and certification of fixed electrical systems and thermographic surveys. No sources of ignition are permitted on site, Strict hot work controls are in place. Emergency venting is in place on the treatment tank	Low
Accidental release of fuel from fuel store	Water resources	Infiltration through the impermeable surface or runoff through the drainage system	Low	Contamination of controlled waters	Low	The proposed change to the process does not require the storage of any additional fuel stores. Existing controls include: Fuel tank(s) are provided with secondary containment designed to provide at least 110% of the capacity of the fuel tank(s). Tanks and secondary containment are inspected and maintained consistent with manufacturer recommendations.	Low
Flooding of site	Roads, buildings, gardens or natural habitats downstream	Flood waters	Low	Contamination of roads, buildings, gardens or natural habitats downstream	Low	Based on Natural Resources Wales digital flood map the site is not at risk from flooding from river or marine sources. The proposed change to the process will not introduce any changes to that.	Low

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Vandalism: Unauthorised access to the site causing accidental release of waste material	Local human population and local environment	Air and Water	Low	Pollution of water or land. Injury to intruder, staff or emergency services responder. Nuisance to local population.	Low	The Cardiff treatment plant is located within the Cardiff Dock complex which requires access via a 24 hour manned security gate. The port security conduct random checks of the port during non-operational periods and will report any issues to site management. A CCTV system is installed across the site with remote access possible from mobile devices. All visitors and contractors are required to wear a visitors badge in a visible location. Staff are encouraged to challenge any person they do not recognise who is not wearing a badge. The site perimeter is protected by 2.4m palisade fencing with all gates locked when the site is unoccupied. Ladder guards are in place to prevent access to tops of tanks and silos.	Low
Waste accepted on site/Vehicle movements on site	Local human population gaining unauthorised access to the waste operation	Direct physical contact	Low	Bodily injury	Low	Security measures are implemented at the site to minimise the potential for unauthorised access to the site. The proposed changes to the process will not increase significantly the risk associated with unauthorised access to the site.	Low
Waste operations may cause harm to and deterioration of nature conservation sites.	Protected sites - European sites and SSSIs	Air	Low	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Low	The Cardiff plant is located within the dock complex and is approximately 10m from the Roath Dock. In addition, the site is within 550m of the Severn Estuary which is designated as RAMSAR and SSSI. The site has sufficient controls in place to prevent any adverse impacts on Roath Dock and the Estuary. The proposed change will not introduce a significant risk to any environmental receptors.	Negligible
Waste operations may cause harm to and deterioration of nature conservation sites.	Protected habitat – Priority habitat	Air	Medium	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Low	The Cardiff plant is located within the dock complex and is approximately 10m from the Roath Dock. In addition, the site is within 550m of the Severn Estuary which is designated as RAMSAR and SSSI. The site has sufficient controls in place to prevent any adverse impacts on Roath Dock and the Estuary. The proposed change will not introduce a significant risk to any environmental receptors.	Low

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Waste operations may cause harm to and deterioration of heritage conservation sites.	Designated heritage sites – Scheduled Monuments and Listed Buildings	Direct physical contact	Low	Movement of vehicles and the deposition of debris	Low	There are no designated heritage sites in the immediate vicinity of the site. The propsed change to the process will not have an impact on the potential for damage to heritage sites.	Low