Appendix D Risk Assessment and Management Plan For Fugitive Emissions

Hazardous Event			Risk Assessment			Controls and Mitigations	Mitigation Factor	Residual Risk
Event	Pathway	Receptor	Probability	Consequence	Risk			
1. *Releases To Air*								
Dust, particulates and litter during loading and unloading of waste vehicles	▪ Air ▪ Water ▪ Land	Staff Public	6	2	12	• Loading and unloading of waste takes place in a fully enclosed tipping hall – emissions are therefore retained inside. • Tipping hall has fast-acting roller shutter doors minimise the release of materials from vehicle off-loading or being loaded in the building • All loads (incoming/despatch) will be fully covered to minimise the potential for material becoming airborne. • Site operators and drivers will be fully trained. ▪ Material clean-up via sweeping or vacuum will be utilised in the event of a spillage.	5	2.4
Windblown dust from external roads, pathways and other surfaces	• Air	Public Staff	5	2	10	• Road and yard surfacing will be subject to routine inspection and maintenance – any accumulation of materials will be removed promptly. • Water suppression to abate dust emissions will be available for use during dry periods if necessary. ▪ Speed limits on site will be restricted to 10mph to minimise the potential for dust raise from roads/yards.	5	2
Silo (PAC, sodium bicarbonate, urea and APC residue) overfills or dust release during discharge	▪ Air	Public Staff	5	2	10	• Silo design in accordance with appropriate design, fabrication and safety standards • Silos fitted with level alarm connected to the control system that will cause discharge into silo to be automatically stopped. • Silos are equipped with local dust filter and over-pressure control. ▪ Load discharge in accordance with discharge procedures.	5	2
2. ***Releases to Land and Water***								
Spillage of waste, fuels or other materials	▪ Water • Land	Surface water Ground water	4	3	12	▪ Operator daily checks for signs of leak. ▪ High standards of housekeeping will be maintained across the site. ▪ Spill kits will be available to deal with any leaks.	5	2.4
Leaks from tanks, containers, valves or pipework	▪ Water • Land	Surface water Groundwater	4	1	4	▪ Flanged connections will be kept to a minimum ▪ All tanks, pipes and valves will be designed to appropriate industry standards ▪ All tanks, pipes and valves will have a preventative maintenance programme to ensure ongoing integrity and effectiveness. ▪ Operator daily checks for signs of leak. ▪ Spill kits will be available to deal with any leaks.	5	0.8
Contaminated surface run-off	▪ Water • Land	Surface water Groundwater	4	4	16	▪ Engineered site drainage system developed in line with EA guidance. ▪ Drainage system equipped with high efficiency separators and silt trap systems. ▪ Drainage system subject to routine inspection along with a preventative maintenance regime. ▪ Emergency spills kits used in conjunction with a site emergency plan will help mitigate the effects of any contamination. ▪ Site surfacing for all areas accessed by vehicles will be concrete designed to an appropriate BS	5	3.2

Hazardous Event			Risk Assessment			Controls and Mitigations	Mitigation Factor	Residual Risk
Event	Pathway	Receptor	Probability	Consequence	Risk			
3. Nuisance Issues								
Mud/litter carried onto highway	• Water ▪ Land	Public	5	2	10	▪ All incoming and outgoing loads will be sheeted ▪ All internal roads, storage and processing areas will be hard-surfaced with concrete or tarmac, and swept regularly ▪ A vehicle wash down area is available on site and can be used by all vehicles.	5	2
Pest, vermin and scavengers	▪ land	Staff Public	4	1	4	▪ Due to the design of the facility, waste that will be the main attraction for pests, vermin and scavengers will be kept inside the fully enclosed treatment building. ▪ Use of registered pest control contractors and rodenticide will be considered if required.	6	0.67
4. ***Odour***								
Odour from loading, storage and unloading of waste	▪ Air	Staff Public	6	3	18	• During plant commissioning, staff training will include raising employee awareness with respect to normal plant operational odour levels and actions to be taken to rectify any faults. • All waste will be unloaded, stored and loaded within an enclosed treatment building. • The treatment building will be maintained at a slight negative pressure. • Fast-acting roller doors ensure that the potential for odour releases from the treatment building are minimised. • Waste within the treatment building will normally be stored for a 3 – 5 days before processing or where this is not possible during shutdowns may be stored up to 10 days in the bunker and/or will be baled and stored in the bale store. In this case the shutdown exhaust system will operate. ▪ Air from within the tipping area, waste bunker and bale store is extracted into the furnace as combustion air and any odourous compounds are thermally destroyed.	5	3.8
Odour release from the waste bunker and bale store area	▪ Air	Staff Public	6	3	18	• Waste bunker and bale store process air is used as combustion air for the thermal treatment process and any odourous compounds are destroyed. • Tipping hall and process buildings maintained at negative pressure ▪ Tipping hall, waste bunker and bale store air is vented through a dust and carbon filter when the thermal treatment process is shut-down.	5	3.8
5. ***Noise and Vibration***								
Noise and vibration from motors and other	▪ Air	Staff Public	6	3	18	▪ During plant commissioning, staff training will include raising employee awareness with respect to normal plant operational noise levels and actions to be taken to rectify any faults. ▪ During periods of downtime, all non-essential plant will be switched off. ▪ Site plant will be maintained in line with manufacturer's recommendations this includes checking for deterioration of plant condition (eg bearings becoming worn). Repairs will be undertaken as appropriate to rectify any identified defects.	5	3.6
Noise from vehicles delivering/collecting waste	▪ Air	Staff Public	6	3	18	▪ Reversing will be minimised where possible ▪ Engines will be switched off when not in use.	5	3.6
Noise from on-site mobile plant movements	▪ Air	Staff Public	6	3	18	▪ Mobile plant will be maintained in accordance with manufacturer's recommendations to ensure potential vehicle noise is minimised. ▪ Plant operator training includes using the plant effectively to minimise noise emissions, switching off when not in use, ensuring daily checks are completed to identify defects as early as possible. ▪ Mobile plant operates primarily inside the WTS building and this will be clad using materials with appropriate acoustic attenuation properties. ▪ Doors on the treatment building will be kept closed when practicableto minimise the release of noise due to internal vehicle movements. This is assisted by fast-acting doors.	5	3.6