

Risk Ref.	Source	Receptor	Harm	Pathway	Probability of exposure	Consequence	What is the overall risk?	Risk management	Residual risk
What harm can be caused and who can be harmed				Assessing the risk			Managing the risk		
	What has the potential to cause harm?	What is at risk? What do I wish to protect?	What are the harmful consequences if things go wrong?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the overall magnitude of the risk?	What measures will you take to reduce the risk?	Magnitude of risk after management
Odour Risks									
O1	Smell from Feedstock Deliveries.	Much Fawley Farm & surrounding areas.	Nuisance to local population.	Air - winds from South East through East to North North East.	Medium/low - Prevailing wind from west, and deliveries sporadic, therefore exposure only occasional.	Odour annoyance.	No odourous wastes accepted. Not significant as usually received waste added straight to tanks.	See Odour Management Plan.	Low.
O2	Smell from Feedstock storage clamps.	Much Fawley Farm & surrounding areas.	Nuisance to local population.	Air - winds from South East through East to North North East.	Low - Only small proportion of clamps will be exposed for removal of feedstock. Purpose grown crops not odourous. Poultry muck clamp separate and filled for a 6 week period. Poultry muck usually no high odour issues.	Odour annoyance.	Not significant as feedstock non odourous. If significant odour then sheet. If accepting wastes that have potential to be odourous either do not accept or put in digester tanks immediately.	See Odour Management Plan.	Low.
O3	Spillage of Feedstock being loaded into digester.	Much Fawley Farm & surrounding areas.	Nuisance to local population.	Air - winds from South East through East to North North East.	Low - Liquids fed direct from receiver into tanks - Low risk of spillage. Solid wastes direct from receivers bins into feeder or purpose grown crops feedstock fed from clamps - neither of these pose a high risk of odours from spillages.	Odour annoyance.	Not significant as low odour materials.	See Odour Management Plan.	Low.
O4	Smell from Digestate	Much Fawley Farm & surrounding areas	Nuisance to local population.	Air - winds from South East through East to North North East	Low - Digestate is low odour due to completion of biological breakdown. Existing lagoon and new above ground circular tank will both be covered and minimise odours.	Odour annoyance.	Not significant if plant operated correctly and biological process complete.	Maintenance of cruse on both tanks prior to installation of cover to both external storage tanks. Prompt removal of spillages from the immediate site.	Low.
O5	Smell from Digestate. Removal from tanks.	Much Fawley Farm & surrounding areas.	Nuisance to local population.	Air - winds from South East through East to North North East.	Low - Digestate is low odour.	Odour annoyance.	Not significant if plant operated correctly and biological process complete.	Liquid digestate store. Whole digestate is stored in the storage lagoon and the above ground circular tank. A natural crust is allowed to form on the digestate lagoon which prevents odour moving on prevailing wind pathway. Crust is only removed as part of digestate removal process prior to its application to land. Plan to cover lagoon and above ground circular tanks to comply with Biowaste Treatment Permit Review - Waste - Much Fawley Farm - BB3633DS. The internal pipe for removal of the digesatate has been lengthened to minimise odour during digestate removal. Assesment of wind direction and speed prior to tank emptying. Sympathetic activities discontinue if likely to cause issue. Extra care when wind speed is very low or very still as appear to be more issues at this time.	Low.
O6	Smell from Biogas Holder	Much Fawley Farm & surrounding areas	Nuisance to local population.	Air - winds from South East through East to North North East	Low - Gas Holder is sealed. Daily checks in maintenance checklist to check for odours.	Odour annoyance	Not significant as the gas holder is sealed in its operation.	Daily checks in maintenance checklist to check for odours.	Low.
O7	Smell from digestate. Land application.	Much Fawley Farm and surrounding receptors.	Nuisance to local .	Air - winds from all directions as application field specific but predominantly winds from south east through East to North North east.	Low - Digestate is low odour due to completion of biological breakdown.	Odour annoyance.	Not significant if plant operated correctly and biological process complete.	Only apply in fields if wind direction appropriate for the specific local receptors. Stop operations if wind direction changes to minimise impact on local receptors	Low
Noise Risks									
N1	Engine Noise from CHP and emergency CHP Operation.	Surrounding residence in Much Fawley.	Nuisance to local population.	Site close enough to residents to be audible.	Low - CHP is within building and sound suppressed. Second CHP (Habo BV HPC 600G) not integrated within process building but has a sound proofed enclosure rated at 70db(a) on 1 meter based on free field conditions.	None.	Not significant.	See Noise Management Plan for mitigation. Existing height of the bund walling to be raised by wooden panelling and use of additional wall to shroud cooling fans to further reduce the noise levels during warm evenings when the cooling fans are much more likely to be operating.	Low.

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N2	Engine Noise from Loader Operation.	Surrounding residence in Much Fawley.	Nuisance to local population.	Site close enough to residents to be audible.	Medium noise level but only for short period daily.	For approximately 1 hr per day - no greater than general operation of adjoining farm.	Slight annoyance if undertaken out of hours.	The loader on site has been built to European Noise standards. It is to be maintained in accordance with its Manufacturers recommended maintenance regime, which will include keeping its noise emissions to the original levels. The site has been laid out such that the majority of operations are undertaken furthest away from local receptors as possible. Operation only to be undertaken during "working hours", and where possible reversing is to be kept to a minimum so as to reduce the Health & Safety risk as well as reduce noise emissions from the reversing alarm.	Low.
N3	Engine Noise from Deliveries of Feedstock.	Surrounding residence in Much Fawley.	Nuisance to local population.	Site close enough to residents to be audible.	Medium noise but only for short period during harvest and other occasional times.	For approximately 2 months of year - no greater than general operation of adjoining farm .	Significant annoyance if undertaken out of hours.	Operation only to be undertaken during "working hours". The total annual throughput of material averages 3 deliveries per day. However, deliveries will be localised to times of harvest when there will be considerably more. Where possible deliveries should be avoided at unsociable hours and weekends.	Low
N4	Engine Noise from Removal of Digestate	Surrounding residence in Much Fawley	Nuisance to local population.	Site close enough to residents to be audible	Medium noise but only occasionally	For approx 1 day per week - no greater than general operation of adjoining farm	Significant annoyance if undertaken out of hours	The majority of digestate will be pumped to other parts of the Operators farm and so will present no significant noise risk. Some may leave by road and this operation is only to be undertaken during "working hours".	Low.
N5	Noise from Gas Pump.	Surrounding residence in Much Fawley.	Nuisance to local population.	Site close enough to residents to be audible.	Ongoing use of pump to maintain gas pressure.	Short periods of operation but ongoing use.	Significant annoyance if moise levels at night.	Matrix Acoustic design consultants assessed at acceptable 'quiet library' levels as part of planning application works. In order to mitigate further from this level of noise the height of existing bund walling is to be extended to reduce noise levels.	Low.
N6	Noise From failing site components generating increased noise levels and pitch levels.	Surrounding residence in Much Fawley.	Nuisance to local population.	Site close enough to residents to be audible.	Limited likelihood. Efficacy of individual componnets highly likely to be affected by excessive wear.	Increased noise levels and pitch impacting on nearby receptors.	Significant annoyance if moise levels excessive at night.	Timely replacement of deteriorating components to maintain site operational efficiency and maintain acceptable noise levels.	Low.
	Fugitive Emissions								
	To Air								
FA1	Dust from yard	Surrounding residence in Much Fawley.	Nuisance to local population. Harm to human health – respiratory irritation & illness.	Air - winds from South East through East to North North East.	Yard area concrete and process does not create mud/dust. Ensure yard cleaned following use by tractors if mud deposited.	Annoyance of dust landing on neighbouring property. Respiratory issue if significant discharge	Not significant if plant operated correctly and any mud cleared up immediately.	Clear up any deposited mud and keep yard generally clean	Low
FA2	Any airborne particles which could impact on the growth of flora / fauna.	European Sites - Sites of Special Scientific Interest (SSSIs) Birchwood SSSI, Capler Wood SSSI, Hall Wood SSSI, Kempley Daffodil Meadow SSSI, Dymock Woods SSSI.	Lack of potential floral growth in SSSIs.	Airborne, windblown.	Negligible (Birchwood is 2560 m from Much Fawley Farm, Capler Wood is 2320 m away, Hall Wood 6960 m away, Kempley Daffodil Meadow 6720 m away, Dymock Woods 7360 m away).	Medium.	Very Low.	Current EA guidance (April 2011) that bioaerosols (airborne particles) go to background levels 250 m from storage. Since all of these SSSIs (except River Wye, considered above) are much further away, then there is considered to be no danger.	Very low
FA3	Hydrogen Sulphide Emissions.	Surrounding residence in Much Fawley.	Nuisance to local population. Harm to human health – respiratory irritation & illness.	Air - winds from South East through East to North North East.	Low - Results from the bacterial breakdown of organic matter in the absence of oxygen. The only sources of Hydrogen Sulphide would be partly digested digestate or from biogas emissions directly from the digester. As part of normal operations, this should not occur. Any damage to gas train or gas holder or operation of over and under pressure valves or leaks of partially digested digestate could create this issue.	Annoyance of smell to neighbouring properties. Toxic substance if inhaled in sufficient quantities.	Very Low.	Incinerator and boiler for burning any excess gas levels produced. Clean up any partially digested digestate promptly and return into liquid feeding slurry pit.	Very Low

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FA4	Bioaerosol Emissions to local population.	Surrounding residence in Much Fawley.	Nuisance to local population. Harm to human health – respiratory irritation & illness.	Air - winds from South East through East to North North East.	Low - Bioaerosols are the airborne transportation of microorganisms. This can only occur where they are open to the atmosphere. The majority of the process is enclosed. Covering digestate storage will further reduce the potential for Bioaerosol emissions.	Annoyance of smell to neighbouring properties. Toxic substance if inhaled in sufficient quantities.	Low.	With the majority of the process enclosed, the opportunities for the production of Bioaerosols is small. Further, the risk of bioaerosol release is proportional to the risk from odours with feedstocks and all odorous feedstocks will be sealed in accordance with the Odour Management Plan. The final potential source of bioaerosols will be the final digestate. However, the Anaerobic Digestate process kills most microorganisms, and the final digestate will during standard operating be contained within a sealed or covered environment preventing access to the air prior to land application using trailing shoe or dribble bar application methods..	Very Low
To water									
FW1	Rainwater from Yard.	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Very low - yard is concrete and surrounded by concrete bund wall.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	Yard drains across impermeable concrete yard to pumping station which returns flow to process. Pumping equipment operates automatically by float control. Equipment to be checked for operation and regularly maintained. Bund wall to be checked to ensure no breaches and bunded area not to contain additional storage of items.	Very Low
FW2	Liquor from Feedstock Clamps.	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Very low - The clamps and yard have an impermeable concrete surface and are surrounded by concrete bund wall with secondary containment.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	Yard drains across impermeable concrete yard to pumping station which returns flow to process. Pumping equipment operates automatically by float control. Equipment to be checked for operation and regularly maintained. Bund wall to be checked to ensure no breaches and bunded area not to be filled which would reduce capacity.	Very Low
FW3	Liquid Digestate.	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Stored in liquid digestate lagoon and above ground circular storage tank.	Pollution of ground water / River Wye.	Very low for lagoon and tank unless breached. Low for lagoon and circular tank as CQA structure to BS5502 and CIRIA C736.	Integrity of above ground tank to be regularly checked. Lagoon and above ground circular tank leak detection to be monitored as part of weekly checks and if evidence of leak then use terminated followed by integrity check (empty adhering to Digestate Contingency Management Plan then refill with water and monitor levels to check for any issues). High level alarms fitted to digester tanks and freeboard operated on digestate storage lagoon and above ground circular storage tank.	Very Low
FW4	Condensate released from traps in pipework	Ground water/ River Wye	Pollution of the ground & groundwater	Condensate released into pre digestate slurry tank.	Very low - yard is concrete and surrounded by concrete bund wall	Pollution of ground water / River Wye	Very Low as pathway does not exist unless protection measures breached	The condensate traps empty automatically into the pre digestate slurry tank. The traps contain no moving parts, but are checked as part of the daily walk around to ensure there are no blockages.	Very Low
FW5	Leakage from Digester due to failure of the structure (2 nr above ground digester tanks each of 1567m3 capacity).	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Very low - The tanks are made from impermeable precast concrete panel tanks. They are also situated within the containment area. Maintenance schedule and inspection as per management system.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	Any leakage from the sides would gravitate to ground level and then flow across the impermeable concrete yard to the site pumping station. Any leakage through the insitu concrete base would be intercepted by the polyethene damp proof membrane which was installed under the base. The tank is inspected daily as part of the site walk around and so any seepage would be identified then.	Very Low
FW5	Leakage from Digestate Storage Lagoon due to failure of the structure (1571.1 m3 lagoon).	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Very low - The tanks are made from pre cast concrete panels - Milbury system installation and guarantee's.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	Visual checks. Leak Detection . Checked as part of site Ammonia Testing used to check samples if a breach suspected.	Very Low
FW6	Leakage from slurry store (below ground tank of 120m3 capacity)	Ground water/ River Wye	Pollution of the ground & groundwater	Soakaway through ground / surface run off	Very low - The tank is made from insitu concrete. It is also constructed within the containment area	Pollution of ground water / River Wye	Very Low as pathway does not exist unless protection measures breached	The tank is made from insitu concrete base and walls. The nature of the slurry material contained within the tank is such that should any leak occur the leakage would self seal. The tank is automatically emptied using a submersible pump. The filling of the tank is monitored by a high level alarm, but should the tank overflow then it is within the containment area and the contents would be retained by the bund before flowing to the site pumping station.	Very Low
FW7	Leakage from Site pumping station (Below ground tank of 15m3 capacity).	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Very low - The tank is made from precast concrete rings and an insitu concrete base.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	The pumping station was constructed from Precast concrete rings with sealed joints and an insitu concrete base. It contains a submersible pump with automatic float switch operation. The pump control panel has an indicator light to show if the pumps have failed. The pumps are also put into manual daily to ensure their operation.	Very Low

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FW8	Leakage from Digestate Lagoon Reception pit (Below ground tank of 60m3 capacity).	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Very low - The tank is made from in situ poured concrete 1mm hdpe mebrane and polysulphide jointing as required.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	In situ pored tank - membrane beneath. Part of daily check and annual washdown and integrity check. Annual water capacity test should be done to ensure integrity.	Very Low
FW9	Leakage from temporary glycerol storage tank (IBC tank of 1m3 capacity) - NOT CURRENTLY IN USE.	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Very low - The industry standard tank is made from plastic and stored within the containment area.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	The glycerol would be delivered in the sealed IBC tank and positioned where it is not at risk of collision damage, and within the containment area. The contents will be pumped directly into the primary digester manually as and when required. Should there be any leakage from the pumping equipment, an operative will be present to immediately resolve the problem. The status of the tank will be otherwise assessed as part of the daily walkaround. Glycerol is a non toxic, non odourous, semi viscous substance and any spillage could safely be returned to the process. Leak would also be into the existing containment area so does not pose a risk to the wider environment.	Very Low
FW10	Leakage from temporary liquid feedstock storage tank (Articulated lorry tanker of 20m3 capacity - as typically used for sewage transportation) NOT CURRENTLY IN USE.	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Very low - The industry standard articulated lorry sewage tanker is made from steel and will be stored within the containment area.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	The tanker will only be emptied into the slurry storage tank manually and so an operative will be present to ensure no leakages occur. At all other times the sealed tanker will be parked within the containment area to ensure that any leakage flows across the impermeable concrete yard to the site pumping station.	Very Low
FW11	Leakage from liquid digestate slurry store (below ground lagoon of 1571.1 m3 capacity).	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground.	Very low - The tank is made from pre fabricated concrete milbury system panels.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	The lagoon is made from precast concrete panel walls constructed using the Milbury System. The base is poured in situ incorporating membrane and leak detection. Jointing is using approved polysulphide expanding sealant .Leak detection is checked weekly and visual inspection of the lagoon is done daily. 5 yearly wash down and inpection done to ensure constructional integrity.	Very Low
FW12	Leakage from above ground circular Digestate Store due to failure of the structure (1000 m3 lagoon).	Ground water/ River Wye.	Pollution of the ground & groundwater.	Soakaway through ground / surface run off.	Very low - The tanks are made from coated steel panels - leak detection and failure would be into the existing banded site containment area.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	Visual checks. Leak Detection. Ammonia Testing used to check samples produced if breech suspected.	Very Low
	Pests								
FP1	Flies.	Surrounding residence in Much Fawley.	Nuisance to local population. Health & Hygiene.	Airborne.	Medium - flies will feed/breed on feedstock or partially digested digestate.	Health and Hygiene risk to local population together with nuisance.	Medium.	Feedstock should be covered and sealed to prevent flies causing an issue. Routinely digestate does not leave the sealed environment of the digester until it is fully digested - at which point it carries very little food for flies.	Low
FP2	Rodents.	Surrounding residence in Much Fawley.	Nuisance to local population. Health & Hygiene.	Land borne.	Medium - Rodents will feed on feedstock if excess populations exist.	Health and Hygiene risk to local population together with nuisance.	Medium.	Feedstock should be covered and sealed to reduce access by rodents if they are a problem. There has been no historical need for this to happen. Rat poison should be placed around the site to control the vermin population.	Low
FP3									
	Mud/Litter								
FM1	Mud from delivery vehicles.	Surrounding residence in Much Fawley, Site operators, Road Users.	Nuisance to local population. Danger to road users if spread onto public highway. General safety hazard on site.	Spread by vehicles.	Yard area concrete and process does not create mud. Ensure yard cleaned following use by tractors if mud deposited.	Nuisance to local population. Danger to road users if spread onto public highway. General safety hazard on site.	Not significant if plant operated correctly and any mud cleared up immediately.	Clear up any deposited mud and keep yard generally clean. Has not been an issue to date.	Low
FM2	Litter / Waste.	Surrounding residence in Much Fawley, Site operators.	Nuisance to local population. Health & Hygiene.	Windborne.	Low - process does not create litter / waste.	Nuisance to local population. General safety hazard on site.	Not significant if any litter / waste generated is disposed of into bins / skips.	Only litter waste will be personally generated by operatives or service personnel with spare parts. Bins / Skips to be provided and emptied when full.	Very Low
FM3									

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Accidents									
A1	Discharge from Digester due to structural failure.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Pollution of surface & ground water with partially or fully digested waste.	Soakaway through ground / surface run off.	Very low - yard is concrete and surrounded by concrete bund wall.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	Yard drains to pumping station which returns flow to process. Equipment to be checked for operation and regularly maintained. Bund wall to be checked to ensure no breaches and banded area not to be filled with non essential items which would reduce capacity. In the event of a catastrophic failure, the contents of the digester would be pumped into the lagoon and or above ground storage tank before it was tankered off site for disposal.	Very Low
A2	Over Pressure of Gas within Digester or Gas Holder.	Much Fawley Farm & surrounding areas.	Nuisance to local population.	Operation of pressure relief valve would release to Air - winds from South East through East to North North East.	Very low - Gas is burnt off by CHP. Second CHP on site to act as standby plus incinerator / boiler.	Nuisance to local population.	Acceptable.	Operation of plant in accordance with procedures will ensure that overpressure does not occur either from diet management or external use of gas.	Very Low
A3	Discharge from liquid process pipework due to pipework failure.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Pollution of surface & ground water with partially or fully digested waste.	Soakaway through ground / surface run off.	Very low - yard is concrete and surrounded by concrete bund wall.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	Yard drains to pumping station which returns flow to process. Equipment to be checked for operation and regularly maintained. Bund wall to be checked to ensure no breaches and containment area not to be filled which would reduce capacity.	Very Low
A4	Discharge from Gas Process Pipework due to pipework failure.	Much Fawley Farm & surrounding areas.	Nuisance to local population.	Air pathway then inhalation.	Very Low - Would be part of an accident and the wind not coming from the Prevailing direction (west).	Odour Nuisance to local population.	Very low as would require accident, wind in specific direction to receptor, and no dissipation of gas.	Operation and Maintenance regime to be followed to ensure that unplanned failure of equipment (pumps, valves, pipework) does not occur. All equipment to be inspected at least daily to ensure integrity. Any pipework and equipment that is at risk of collision damage should be protected. Should a failure occur then the pressure drop within the pipework would be automatically picked up and an alarm sound.	Very Low
A5	Overflow from Lagoon.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Pollution of surface & ground water with partially or fully digested waste.	Soakaway through ground / surface run off.	Very low - yard is concrete and surrounded by concrete bund wall.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	Yard drains to pumping station which returns flow to process. Equipment to be checked for operation and regularly maintained. Bund wall to be checked to ensure no breaches and banded area not to be filled which would reduce capacity.	Very Low
A6	Failure of Digestate Pumps.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Pollution of surface & ground water with partially or fully digested waste.	Soakaway through ground / surface run off.	Very low - yard is concrete and surrounded by concrete bund wall.	Pollution of ground water / River Wye.	Very Low as pathway does not exist unless protection measures breached.	Should the digestate pumps fail this will activate alarm both at the AD plant and remotely at the residence of the operator (see plant O&M manual) Should this occur then no more feedstock will be added to the process. This will mean that the digestate will remain in each tank and will not be at risk of escape.	Very Low
A7	Discharge from Gas Holder.	Much Fawley Farm & surrounding areas.	Nuisance to local population.	Air pathway then inhalation.	Very Low - Would be part of an accident and the wind not coming from the Prevailing direction (west).	Odour Nuisance to local population.	Very low as would require accident, wind in specific direction to receptor, and no dissipation of gas.	Operation and Maintenance regime to be followed to ensure that unplanned failure of equipment (pumps, valves, pipework) does not occur. All equipment to be inspected at least daily to ensure integrity. Any pipework and equipment that is at risk of collision damage should be protected. Isolated location will prevent unintended collision or impact.	Very Low
A8	Spillage / failure of fuel & oil.	River Wye SSSI / SAC.	Pollution of the River Wye & groundwater.	Fuel or oil release, then surface run-off and/ or percolation.	Low.	Pollution of ground water / River Wye.	Low.	Fuel and oil can contaminate the water and ground. If enough is spilled, a fire may start. Oil stored adjacent to CHP for routine use in engines. Spillages cleaned up immediately with spill kit from the farm workshop. The spent spill kit should then be suitably disposed of depending on its level of contamination.	Very Low
A9	Fire within digester/biogas holder.	Much Fawley Farm itself, plus neighbouring properties.	Nuisance to local population. Injury to staff, fire-fighters or arsonists/ vandals.	Air transport of smoke. Contaminated firewater by runoff from site and via surface water drains and ditches.	Low.	Nuisance to local population. Health and Safety.	Low.	Due to the design of the digesters / gas holder, they are sealed from air and so the contents should not be combustible unless the contents are released to atmosphere. Refer to Fire Protection Plan in Management System.	Very Low
A10	Fire outside digester / biogas holder/ process pipework.	Much Fawley Farm itself, plus neighbouring properties.	Nuisance to local population. Injury to staff, fire-fighters or arsonists/ vandals.	Air transport of smoke. Contaminated firewater by runoff from site and via surface water drains and ditches.	Low.	Nuisance to local population. Health and Safety.	Low.	Should a biogas containing vessel become ruptured (risk A4/A7) and then a source of ignition presented then there is a risk of fire. Provided risks A4/A7 are mitigated this risk cannot occur.	Very Low

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A11	Vandalism.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC	Nuisance to local population. Injury to staff, arsonists/ vandals.	Vandalism would increase the probability on other risks above.	Low.	Depends on individual risk.	Low.	The plant is isolated and kept secure. Properties including permit holder adjacent to site. All equipment is locked away. As part of an active farm there are operatives present for the majority of the time to act as a deterrent.	Low
A12	Flood.	Local water courses. Ground and groundwater, the River Wye SSSI / SAC.	Drains, pollutants to River Wye.	Surface water drainage system. Diffusion into ground.	Possible.	Low.	Medium.	The site is 40m+ above the River Wye. Greatest flood risk from flash flood run off. However, site is bounded by surface water drains (outside bund) which should intercept most run off. Use of ridge and furrow and tussocky grass species and implementation of Water Management Plan measures to intercept and disperse water in high rainfall events. Inform EA. Take appropriate corrective and preventative actions to minimise environmental impact.	Low
A13	Failure of routine operation due to Severe Weather Conditions.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Increase in "to water" and "accident" risk probabilities.	Dependent on specific risk.	Very Low.	Increase in "to water" and "accident" risk probabilities.	Very Low.	All equipment with the exception of the feeder and separator are self contained, and therefore not exposed to the elements. If these ceased operation then the biological process would continue but would slow as the feedstock within the digester was consumed.	Very Low
A14	Failure to dispose of digestate due to Severe Weather Conditions.	Local water courses. Ground and groundwater, the River Wye SSSI / SAC.	Pollution of surface & ground water with fully digested waste.	Soakaway through ground / surface run off.	Very Low.	Overfilling of digestate storage tank / lagoon.	Very Low.	If the digestate storage is reaching capacity then, simply stopping the addition of feedstock will stop the production of digestate. The biological process would continue but would slow as the feedstock within the digester was consumed. Refer to Digesatte Contingency Management Plan for specific mitigation and resolution measures.	Very Low
A15	Collision damage to digester tank.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Pollution of surface & ground water with partially or fully digested waste.	Soakaway through ground / surface run off.	Very low - yard is concrete and surrounded by concrete bund wall.	Pollution of ground water / River Wye.	Very Low.	The digester tanks are constructed from concrete and so it is very unlikely that an accidental collision would rupture the tank. Notwithstanding this, the yard is impermeable and surrounded on its lowest edge by a bund wall with the capacity to accept the full contents of a tank. The tank is also isolated from traffic by concrete levels layout and is not unduly exposed.	Very Low
A16	Collision damage to process pipework.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Pollution of surface & ground water with partially or fully digested waste.	Soakaway through ground / surface run off.	Very low - yard is concrete and surrounded by concrete bund wall.	Pollution of ground water / River Wye.	Very Low.	All liquid process pipework is contained within the link building or underground and so should be at no risk of collision damage. There are some gas pipes external to this building but these are protected by crash barriers to prevent collision damage.	Very Low
A17	Blockages within pipework.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Increase in "to water" and "accident" risk probabilities.	Dependent on specific risk.	Very Low.	Increase in "to water" and "accident" risk probabilities.	Very Low.	The flow of liquids and gases around the system are monitored by the control panel and alarms will activate should part of the process not operate as planned. Should this blockage be critical then the plant will safely shut itself down. This includes for blockages. The operator will immediately attend the plant to ascertain the location of the blockage and commence measures to clear the blockage. The urgency of this will depend on whether the blockage is critical to the process (which will have shut itself down) or if it is a part which has a standby alternative and can be taken out of the process. Maintenance in accordance with the AD Plant Operation and Maintenance Manual will be undertaken in order to ensure the risk of blockages is kept to a minimum.	Very Low
A18	Failure of Secondary Digester / Digestate store to accept further digestate due to system inundation with abnormally high levels of rainwater.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Increase in "to water" and "accident" risk probabilities.	Dependent on specific risk.	Very Low.	Increase in "to water" and "accident" risk probabilities.	Very Low.	Because all yard drainage is passed through the system, should there be an abnormal amount of rainfall then the system may become inundated. Should this failure result in the Secondary Digester / Digestate Store being unable to accept further digestate, then the system will separate the digestate and discharge separated digestate liquor into the lagoon. At the earliest opportunity (which may be affected by NVZ restrictions) the lagoon contents will be emptied (either to land or an external disposal point). Maintenance in accordance with the AD Plant Operation and Maintenance Manual will be undertaken in order to ensure the risk of this occurrence is kept to a minimum.	Very Low

Risk Ref.	Source	Receptor	Harm	Pathway	Probability of exposure	Consequence	What is the overall risk?	Risk management	Residual risk
What harm can be caused and who can be harmed				Assessing the risk			Managing the risk		
	<i>What has the potential to cause harm?</i>	<i>What is at risk? What do I wish to protect?</i>	<i>What are the harmful consequences if things go wrong?</i>	<i>How can the hazard get to the receptor?</i>	<i>How likely is this contact?</i>	<i>What is the harm that can be caused?</i>	<i>What is the overall magnitude of the risk?</i>	<i>What measures will you take to reduce the risk?</i>	<i>Magnitude of risk after management</i>
A19	Failure of mobile storage tank. NOT CURRENTLY IN USE.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Pollution of surface & ground water with partially or fully digested waste.	Soakaway through ground / surface run off.	Very low - yard is concrete and surrounded by concrete bund wall.	Pollution of ground water / River Wye.	Very Low.	Bulk deliveries up to approx 20m3 of liquid feedstock will be stored in a mobile storage tank (Articulated Tanker) on the concrete yard; which is within the bund and typically between the secondary digester/store and the cattle shed. This will be fed into the sealed slurry storage tank in a controlled manner and will be undertaken by pipes to a level below that of the existing liquid. Should the tanker (or any of its associated pipework) fail then the spillage will be captured within the bunded area.	Very Low
A20	Failure of emissions limits set by EA Permit.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Nuisance to local population. Harm to human health – respiratory irritation & illness. Airborne contamination of local environment.	Air - winds from South East through East to North North East.	Low - The limits have been set based upon the site specific details of this plant. The plant has been designed to meet these levels, subject to all equipment being operated and maintained in accordance with the equipment manufacturers instructions.	Nuisance to local population. Health and Safety.	Low.	The Environmental Management System Manual (in conjunction with the Equipment Manufacturer's Operation and Maintenance manuals clearly show how the plant should be operated. If these instructions are followed - and any defects to equipment are corrected in accordance with these requirements - then all emissions will remain below the required levels. In accordance with the EA Permit, an emissions monitoring regime has been agreed and the EA require notification and this should be followed to ensure no deviation beyond the agreed limits	Very Low
A21	Spread of contaminated fire water following fire.	Much Fawley Farm & surrounding areas, River Wye SSSI / SAC.	Pollution of surface & ground water with partially or fully digested waste.	Fire Water within the containment area would flow across the impervious concrete yard and into the pumping station.	Low - because of the containment area the fire water should be contained.	Pollution of ground water / River Wye.	Low.	Fire waters should be contained within the bund. Within the Accident Management Procedures, for a Type B emergency, instruction 4 notes that the site pumping station should be disabled such that contaminated fire water will be contained and not circulated around the site. Upon completion of any fire suppression, suitable contractors should be employed to tanker away any contaminated water.	Very Low