

Spills prevention plan

MAESYDD AD FACILITY SPILLAGE MANAGEMENT PLAN

Tank failure

In the event of a tank failure following actions to follow:

- 1) Identify leak
- 2) Isolate outlet
- 3) Assess volume of leak — if **minor** close outlet and inlet valve until leak identified and problem solved. If **MAJOR**, then refer to below actions
- 4) Stop feedstock acceptance and cease feeding the anaerobic digester
- 5) Isolate the digester, associated pumps, separator and pipework. Under emergency stop or power failure conditions, all loading and unloading valves automatically return to their closed position and pumping operations are inhibited, preventing any further release of digestate.

Major Digestate Failure

- 1) Stop the AD process and isolate the digester pumps, separator and associated pipework.
- 2) Identify the source and extent of the leak and assess whether it can be safely contained.
- 3) Deploy drain covers or drain bungs where required to prevent digestate entering the drainage system.
- 4) Recover spilled digestate using a vacuum tanker or other suitable equipment and transfer it to the above ground digestate storage tank where capacity is available, or another suitable storage facility.
- 5) Notify Natural Resources Wales immediately if there is any actual or potential pollution.
- 6) Before commencing operations, all affected pumps, electrical systems, sensors and associated equipment shall be inspected and tested. Any equipment damaged or affected by the incident shall be repaired or replaced before the plant is returned to service.
- 7) Record the incident and corrective actions within the Environmental Management System.

Above Ground Digestate Storage Tank Failure

- 1) Stop all pumping operations to and from the tank.
- 2) Isolate all inlet and outlet pipework.
- 3) Contain any released digestate within the site's bunded operational area wherever possible.
- 4) Recover digestate using a vacuum tanker or suitable pumping equipment and transfer it to an alternative storage facility where available.
- 5) The emergency stop shall be activated where appropriate to isolate plant equipment, stop all pumping operations and ensure loading and unloading valves return to their fail safe closed position.
- 6) Notify Natural Resources Wales immediately if pollution has occurred or may occur.
- 7) Record the incident and any corrective actions taken.

Spills prevention plan

Minor Leak from one tank

If source detected potentially pump out of relevant tank using pump in control room and either transfer to the above ground digestate storage tank where capacity is available, or another suitable storage facility.

Tank over fill

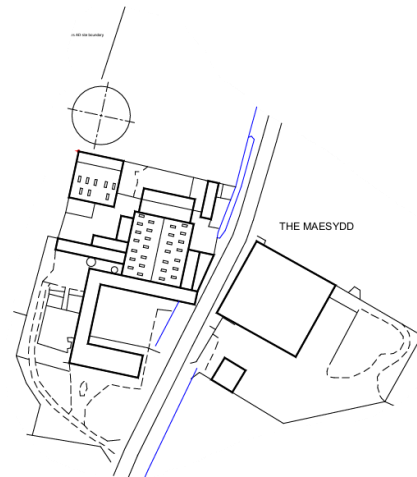
Any overfill should trigger auto alarm. Use pump in control room to reduce level or if not possible use a vacuum tanker or pumping system to transfer digestate to the above ground digestate storage tank or another suitable storage facility.

SPILL RESPONSE PROCEDURE

Minor Spill

The Maesydd AD facility is constructed within a 1.5m high reinforced concrete bund with an impermeable concrete floor, constructed over a welded membrane. These measures provide primary containment for any accidental spillages occurring within the operational area.

- 1) Stop the source of the spill where it is safe to do so.
- 2) Notify the site manager immediately.
- 3) Deploy spill kits, absorbent materials and drain covers as required.
- 4) Prevent the spill from entering the drainage system or leaving the operational area.
- 5) Recover spilled material using suitable equipment.
- 6) Clean the affected area and dispose of contaminated materials appropriately.
- 7) Record the incident in the Environmental Management System.



Major Spill

- 1) Stop the source of the spill where it is safe to do so.
- 2) Contact the site manager and emergency services if required.
- 3) Isolate all pumps and valves.
- 4) Protect drainage points using drain covers or drain bungs.
- 5) Activate the emergency stop where necessary to isolate the plant.
- 6) Deploy spill kits, absorbents and containment materials.
- 7) Recover digestate using a vacuum tanker or other suitable equipment.
- 8) If there is any actual or potential pollution, notify Natural Resources Wales immediately.
- 9) Record the incident and corrective actions within the Environment Management System.

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Incident Records

Following any spill, the site manager shall record the date, time, location, material involved, estimated quantity, causation, actions taken and any notifications made to natural Resources Wales. The incident shall be reviewed and any corrective actions implemented before normal operating procedures continue.

Plant Safety Systems

The anaerobic digestion plant incorporates several engineering controls designed to minimise the likelihood and consequences of possible spillages.

These include:

- A 1.5m high reinforced concrete bund surrounding the operational area.
- An impermeable reinforced concrete floor constructed over a welded membrane.
- Automatic closure of loading and unloading valves during emergency stop or power failure.
- Automatic inhibition of pumping operations during plant shutdown.
- Independent over pressure, under pressure and overflow protection systems.
- Remote monitoring of plant performance to assist operators in identifying faults whilst maintaining the integrity of the primary safety systems.