Accident Management Plan

Prepared on behalf of:

Murrow AD Plant Ltd

Somerset Farm AD Plant at Somerset Farm Cants Drove, Murrow, Wisbech, Cambs, PE13 4HN

Contents

1 Scope

The scope of the Accident Management Plan (AMP) applies to Somerset Farm Anaerobic Digestion (AD) Plant at Somerset Farm Cants Drove, Murrow, Wisbech, Cambs, PE13 4HN (the site). Murrow AD Plant Ltd (MUR) is the permit holder. Adapt Biogas Ltd is the operations and maintenance company for the site working on behalf of MUR. The AMP was written by Earthcare Technical Limited in collaboration with the Operator in 2020. It has subsequently been updated in 2023 and again in 2024 to reflect ongoing site changes.

The site operates according to standard rules permit SR2012 No9 On-farm anaerobic digestion facility using farm waste only, including use of the resultant biogas. Part A installation – treatment capacity over 100 tonnes of waste per day Environmental Permit No EPR/FB3133AW/V005. The operator is in the process of varying the site permit to bespoke to allow for more than 100,000tpa of feedstocks throughput which exceeds the current restriction on the standard rules. There are other changes incorporated into the ongoing variation, to make addition of a CO_2 recovery unit at the site, to make addition of a further energy crops clamp and feedstock storage area into the permitted area, and to reflect further uplift changes in accordance with Best Available Techniques (BAT).

Permit condition 1.1.1 of the Environmental Permit requires the operator to manage and operate the activity in accordance with a written management system that identifies and minimises risks of pollution including those arising from operations, maintenance, accidents, incidents, non-conformances, closure, and those drawn to the attention as a result of complaints; and using sufficient competent person and resources.

The AMP is a live document that will be updated following any incident or accident and at a minimum at least every four years.

2 Objectives

The aim of the AMP is to:

- Identify the events or failures that could cause damage to the environment;
- Assess the likelihood of occurrence and the potential environmental consequences;
- Take steps to minimise both the potential cause and the consequences of accidents; and
- Identify how to minimise the consequences should accidents occur.

3 Site Information

3.1 Site location

Address: Somerset Farm AD Plant, Somerset Farm Cants Drove, Murrow, Wisbech, Cambs, PE13 4HN

National Grid Ref.: TF 37324 04634

Local Authority: Fenland District/ Cambridgeshire County Council

The Site Location is shown in Figure 1 - Site Location Plan (ETL495/EPR01). Or 'WHAT3WORDS'

The site is located north of the A47 Peterborough-Norwich trunk road. Access to the Somerset Farm from the A47 is via the B1187, onto Cants Drove and then via the farm main access track.

The AD site benefits from security access gates, the access road passes through the Somerset Farm which provides feedstock materials to the site.

The site is in a rural location on Wisbech High Fen, characterised by a flat open fen landscape with fields artificially drained via a ditch and dyke drainage system. Somerset Farm itself is a mixed arable and livestock farm. The AD Plant is over 200 metres from the nearest sensitive receptor.

3.2 Process Description

The site treats purpose grown crop, (principally maize), crop residues, liquid feedstocks from farming activities, and cattle manure, within five primary and one secondary anaerobic digestion tank to produce biogas and digestate.

The biogas from digesters DG01, and DG02 is used within two 250 kW combined heat and power (CHP) engines. These CHPs provide both heat and power for site operations as do a further two 500 kW CHPs which are run on imported liquified natural gas (LNG).

The site also treats biogas to produce biomethane which is then injected directly to the high-pressure National Gas Transmission (NTS) system via 1km of pipework and a block valve connection. Site injection capacity into the NTS is 1,100 m^3 /hour. In contrast to many other biomethane to grid AD plants, the biogas is not blended to a distribution specification with for instance the addition of propane or an odorant because it is added to the NTS at 65 - 70 bar pressure. CO_2 removed through the biogas upgrading process is intended to be recovered in a CO_2 recovery facility to produce a food grade final product.

Digestate is separated into a solid fibre and liquor fraction which are used respectively as a soil improver and biofertiliser on local farms.

A full process description is provided in the Section 5 of the Environmental Management System (EMS) Manual **(MUR-OD-01**).

3.3 Organisation Profile

Murrow AD Plant Ltd (MUR) is the permit holder. Adapt Biogas Ltd is the operations and maintenance company for the site working on behalf of MUR.

The site manager is responsible for the day-to-day operation of the AD plant. The Site Manager is supported by the Adapt Biogas team. Roles and responsibilities are detailed in Section 10 of the EMS Manual (MUR-OD-01).

3.4 Human receptors

Human receptors within 1km of the site are captured in Table 1 below and are shown on Figure 2 Human Receptor Location Plan (1km) - ETL495/EPR02.

Table 1: Human Receptors within 1km

Receptor ID	Name	Distance from site (m)	Direction from site
R1	Hope Farm	579	SW
R2	Cooks Farm	759	SW
R3	Ivy Farm	831	SW
R4	Hundreds Farm	914	SW
R5	1, 2 Poplar Cottages and Poplar House	273	N
R6	Coronation House	270	N
R7	Fen View House	321	N
R8	Sidmouth House	880	NE
R9	Goose Cottage	896	NE
R10	Homefield	391	N
R11	Crossingate Cottage	847	NE
R12	Ivy Home	315	N
R13	The Cottage	641	NW
R14	White Lion Farm	390	N
R15	Willow Lodge	278	N
R16	Willow Tree Cottage	535	NW

R17	Jolise House Farm	344	S
R18	Towers Farmhouse	942	S
R19	1-6 Council Houses Long Drove	946	N
R20	New Bungalow	918	N
R21	Adapt Biogas Ltd offices	Not applicable	
R22	Redfern House	373	N
R23	Seasonal workers static homes	212	N

3.5 Geology & Hydrogeology sensitivities

The western corner of the site is located on loamy and clayey soils of coastal flats with naturally high groundwater, whilst the rest of the site is depicted as loamy and sandy soils with naturally high groundwater and a peaty surface.

The western corner of the site is situated upon an unproductive Secondary aquifer and a principal bedrock aquifer (medium-low vulnerability), and the remainder of the site is described as unproductive aquifer.

The site is not within a Groundwater Source Protection Zone or within a Drinking Water Protected Area or Safeguard Zone.[1]

The site is situated in a Flood Zone 3 and is therefore at high risk for flooding [2] . Water levels in the area are managed via a pump and sluice network in place for drained farmland, and as such, there are measures in place to manage water levels in the area. In the event of a flood alert being received locally a Flood Response Procedure (MUR-OD-12) is in place for the site.

The site is not within a Nitrate Vulnerable Zone.

3.6 Surface Water receptors

There are watercourses within proximity to the site as it is situated on Fenland with all fields having drainage ditches. There is a drain which runs to the west of the site just over 10 metres from the permitted site boundary.

The Bishoplands Drain is 1.8 km to the west of the site, the Peakirk Drain 1.16 km to the south of the site. The River Nene is 2.5 km to the south and east of the site.

3.7 Air Quality Management Areas

The site is not within an Air Quality Management Area (AQMA).

[1] https://magic.defra.gov.uk/MagicMap.aspx Accessed 25 September 2020

[2] https://flood-map-for-planning.service.gov.uk Accessed 25 September 2020

3.8 Ecological Receptors

The closest offsite designated environmentally sensitive receptor is The Nene Washes 2.2km south of the site. The Nene Washes is a designated a Ramsar, Site Special Scientific Interest (SSSi), Special Protection Area (SPA) and Special Area of Conservation (SAC). There are important bird assemblages across the neutral grassland with lowland ditch systems.

Adjacent to part of the Nene Washes is the Adventurer's Land Earth Heritage SSSi site which is an area of subterranean interest.

4 Roles & Responsibilities

4.1 Day to Day

It is the responsibility of the Site Manager and the Technically Competent Manager (TCM) to ensure that:

- Site staff are adequately trained in the procedures within this Accident Management Plan;
- The requirements of this document are adhered to; and
- That suitable testing of emergency procedures takes place.

The Site Manager has overall responsibility for all activities on the site during normal and abnormal operations. To cover for annual leave, sickness, and unavailability of the Site Manager there will be a requirement to temporarily delegate the duties to other members of staff to cover. They will be known as the, Nominated Competent Person (NCP). Necessary hand over information will be delivered verbally where possible and backed up via using the **Site Diary** (Book) **(MUR-MM-07**).

4.2 During an Incident or Accident

On detection of an incident or accident, the Site Manager or NCP becomes the Incident Controller. It is the responsibility of the Incident Controller to:

1. Assess danger.
2. Assist in the evacuation process by checking specific areas if required (i.e. if not everyone accounted for) ONLY if safe to do so.
3. Assess response - Decide whether to alert the Emergency Services and / or Environment Agency.
4. Take control of an incident until relieved by the Emergency Services.
5. Serve as a single point of contact between the Emergency Services and other involved parties.
6. Ensure that the correct procedures within the Accident Management Plan are followed.
7. Ensure a formal handover takes place if the Incident Controller changes.
8. Assist in a full incident / accident root cause analysis, review lessons learnt and recommend any changes to procedures.

9. Making a record of the accident and the subsequent investigation using **Accident and Incident Report Form (MUR-FT-02)** (for actual or potential environmental incidents); and

10. Review and update the Accident Management Plan and procedures, as necessary.

5 Accident / Incident Prevention & Management Plan

The key events that could lead to a failure in the risk management systems in place are listed in Table 1 below.

Table 1 Accident / Incident Risk Assessment, Prevention & Management Plan

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
Spillages					
Spillages of maize, crop residues or cattle manure when transporting to solids feeder	Low – use of telehandler on concrete apron	Potential contamination of the soil, surface water and groundwater through leaching	Low risk of environmental harm from dry feedstock spillages upon concrete which is in a dirty water drainage area.	Operate site in accordance with Environmental Management System including: Daily checks for spillage around site to be carried out by Site Manager or NCP. Daily Inspection (Smartsheet) (MUR-MP-03). Appropriate training of staff with respect to the spillage procedure.	In the event of a spillage follow the Spillage Procedure (Section 9)
Spillages of maize, crop residues or cattle manure when loading of solids feeders	Low	As above	Low risk of environmental harm as area around feeder benefits from an impermeable surface and sealed drainage; dirty water back to process for treatment.	As above	In the event of a spillage follow the Spillage Procedure (Section 9)

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
Spillage during delivery of oil and other raw materials for Combined Heat and Power (CHP) Engines and CO_2 recovery unit and collection of waste oil from CHP	Low – carried out by trained external contractors	CHP is inside a container where spill kit is stored. As above	Potential contamination of the soil, surface water and groundwater.	Ensure that collection and delivery of oil/raw materials and/or fuel is overseen by an employee. Operate site in accordance with the Environmental Management System in particular: Daily checks for spillage around site to be carried out by Site Manager or NCP. Daily Inspection (MUR-MM-03). Appropriate training with respect to Spillage Procedure including the location of spill kits.	In the event of a spillage follow the Spillage Procedure (Section 9)
Leaks and spillages of oil or fuel from plant and equipment	Low	As above	Potential contamination of the soil, surface water and groundwater.	Operate in accordance with the Environmental Management System in particular: Inspection and maintenance of plant and equipment in	In the event of a spillage follow the Spillage Procedure (Section 9)

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
				accordance with a planned preventative inspection and maintenance programme. Daily checks for spillages of oil or fuel to be carried out by Site Manager or NCP. Daily Inspection (MUR-MM-03)	
Overfilling					
Overfilling of digester	Low	As above	If the high-level sensor is triggered on a digester then the control system automatically disables the feed system. If there was a spillage it has the potential to contaminate soil, surface water and groundwater.	Operate in accordance with Environmental Management System in particular: Checks on level sensors in digesters as part of planned preventative inspection and maintenance programme. Daily visual check on tank levels Daily Inspection (MUR-MM-03)	Site benefits form secondary containment which will contain any digestate released from digester tanks. In the event of a telemetry alarm follow Control Panel Alarm Response Procedure (Section 7).

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
					In the event of a spillage follow the Spillage Procedure (Section 9)
Failure of containment infrastructure					
Digester spillage or puncture due to impact and release of biogas and digesting material	Low	Potential contamination of the soil and groundwater through leaching. Release of biogas to atmosphere	Release of biogas – risk to personnel. Release of digesting material from tanks, then risk to surface water and / or groundwater.	Operate in accordance with Environmental Management System in particular: Carry out planned preventative inspection and maintenance on primary containment systems. All tanks benefit from secondary containment to capture any potential spillages. Daily visual check for signs of leaks around tanks Daily Inspection (MUR-MM-03) Ensure correct training of staff in operating upon equipment on site.	In the event of a spillage follow the Spillage Procedure (Section 9)

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
Failure of below ground pipework or infrastructure carrying or holding potentially polluting liquids	Low	As above	Potential contamination of the soil, surface water and groundwater.	Operate in accordance with Environmental Management System in particular: All new pipework is above ground as part of site redesign. All below ground pipework will be pressure tested as a minimum every 3 years	In the event of a spillage follow the Spillage Procedure (Section 9.4 Suspected Leaching to Ground)
Failure of above ground pipework	Low	As above	Potential contamination of the soil, surface water and groundwater.	Operate in accordance with Environmental Management System in particular: Above ground pipework is checked daily and recorded within the Daily Inspection (MUR-MM-03)	In the event of a spillage follow the Spillage Procedure (Section 9)

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
Failure of pipework carrying biogas	Low	Release of biogas to atmosphere	Release of biogas. Risk to personnel.	All gas pipes pressure tested upon commissioning. Any pressure drop in system would be detected via the Control Panel. Refer to separate management system for gas pressurisation into NTS. LDAR carried out on a 6 monthly basis.	In the event of a release of biogas plan follow biogas leak response procedure (Section 10)
Failure of dirty water and clamp containment infrastructure	Low	Potential contamination of the soil, surface water and groundwater through leaching.	Potential contamination of the soil, surface water and groundwater.	Operate in accordance with Environmental Management System. Containment is inspected as part of daily checks and recorded in the Daily Inspection (MUR-MM-03) Clamp area constructed in accordance with SSAFO requirements with perimeter drain, liquor collection system, and suitable engineering design for weight bearing structures. Schedule of	In the event of a spillage follow the Spillage Procedure (Section 9)

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
				maintenance and inspection in place for concrete surfaces and drainage and containment systems.	
Wrong connections made in drains or drainage systems	Low	As above	Low risk as currently all water from site is treated within the digesters.	Drainage system are fully surveyed to ensure correct connections before use.	Treat all contaminated water as dirty until drainage routes rectified
Over-Pressure Scenario					
Failure of pressure vacuum relief valves (PVRVs) leading to explosion	Low – gas pressure is managed through process monitoring and	Potential contamination of the soil and water through leaching.	Digestate spillage has the potential to contaminate water and soil.	There is a daily check to ensure that the PRVs are seated correctly and operational. Recorded in the Daily Inspection (MUR-MM-03).	In the event of a spillage follow the spillage procedure (Section 9).

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
	management. Flare used to manage excess gas.	Release of biogas to atmosphere.	Biogas release – risk to human health and greenhouse gas emissions		In the event of a release of biogas plan follow biogas leak response procedure (Section 10).
Fire					
Fire	Low – feedstocks are not readily combustible	Emissions to air from fire. Run off from firefighting water may soak in ground and contaminate groundwater	Harm to human health from smoke. Potential contamination of the soil, surface waters and groundwater.	Ensure that there is no smoking on site and that all electricals are regularly inspected.	In the event of a fire carry out fire and explosion response procedure (Section 8) Available easily accessible fire water tank on site.
Lightning strike causing gas domes to catch fire	Low – Lightening protection is fitted to site.	Emissions to air from fire. Run off from firefighting water may soak in	Harm to human health from smoke. Potential contamination of the soil, surface water and groundwater.	Lightning protection system compliant with BS EN 62305 installed and maintained.	In the event of a fire carry out fire and explosion response procedure (Section 8).

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
		ground and contaminate groundwater.			
Unexpected reactions or runaway reactions					
Unexpected change to biological process because of a change in feedstock properties or critical controls e.g. temperature or pH	Low – the feedstocks are relatively consistent in their properties.	Requirement to restart process would result in emissions to air (release of low-quality biogas).	There could be a variety of consequences from foaming to the anaerobes performing the process being killed off.	Operate in accordance with Environmental Management System in particular: Process Monitoring is carried out in accordance with Section 12.2 of the EMS Manual (MUR-OD-01) and recorded within Daily Inspection (MUR-MM-03) Daily checks made on surface of digesters for foam. These are recorded within Daily Inspection (MUR-MM-03)	Increase process monitoring to try to identify issue. Take advice from a biologist In the event of foam being detected then follow the Foam Response Procedure (Section 11).

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
Flood					
Failure to contain fire water (the site is located within an area at medium-high risk of flooding (Flood zone 3).	Low	Potential contamination of the soil, surface water and groundwater through leaching.	Run off from firefighting water may soak in ground and contaminate groundwater.	The site benefits from secondary containment which can be used to contain fire water until arrangements for removal of water can be made. Follow the Flood response procedure. Site is in area of drained fenland with system of field drains and sluice pumping systems in operation to maintain drained land.	Fire water to be contained in accordance with Section 8 Fire & Explosion Response Procedure.
Vandalism					
Unauthorised entry and tampering or malicious damage to property, plant and equipment	Low	Potential contamination of the soil, surface water and groundwater through leaching. Emissions to air from fire.	Contamination of ground by fuel and or hydraulic oil Fire – fire water As above	Site security measures in place as per Section 9 of EMS Manual MUR-OD-01).	In the event of a fire carry out fire and explosion response procedure (Section 8) In the event of a spillage follow the spill response

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
					procedure (Section 9).
Power failure					
Mains power failure leading to shut down of CHP. Failure of the CHP Loss of power to AD plant, essential functions not maintained.	Low	Release of biogas to atmosphere. Release of digestate may cause contamination of ground and groundwater.	Harm to individuals on or around site. Potential for release of biogas and or digestate.	Planned preventative inspection and maintenance programme for CHPs in accordance with the CHP service contract. There is back-up generator on site which is sized appropriately to maintain all essential functions. Site switch to mains electricity input if CHPs not available. Battery backup for PLC.	In the event of a power failure initiate main power outage response procedure (Section 12)
Control Panel system failure					

Possible Accident/incident	Likelihood of occurrence	Pathways & receptors	What would the environmental harm be?	How do we reduce the chances of it happening?	What to do if it happens
Failure of telemetry between pumps and alarms	Low (connection hardwired)	As above	Contamination of land, drains, groundwater. Release of biogas - Health and safety risk.	There is back-up generator on site which is sized appropriately to maintain all essential functions including maintaining electricity to SCADA controls.	In the event of a spillage follow the spillage procedure (Section 9). In the event of a release of biogas follow the Biogas Leak Response Procedure (Section 10)

6 Reporting of Accidents & Incidents

6.1 Key Emergency Contacts

To aid reporting of accidents and incidents a list of Key Emergency Contacts will be clearly displayed in the Control Room (see Appendix B).

6.2 Incident Reporting & Recording Procedure

In the event of an incident, the **TCM** or **NCP** is responsible for:

1. **Reporting** the incident to the Environment Agency incident hotline (0800 807060) as soon as practicably possible and in all cases within 12 hours of the incident or breach of permit to include:
   a) Damage or danger to the natural environment;
   b) Pollution to water or land;
   c) Any incident which is causing **or may cause** significant pollution including breakdowns or failure of equipment or techniques and accidents.

2. **Recording the incident** with the Accident and Incident Report Form (**MUR-FT-02**)

   To include: the consequences (injury/ pollution/ damage/ breaches etc.), people involved and immediate response activities that were carried out.

3. Reviewing post incident:

a) Investigation of the incident using the **Accident and Incident Report Form (MUR-FT-02)** for incidents with an impact (or potential impact) on the environment finding the root cause(s) of the incident and identifying corrective action(s).
b) Ensuring that a regular review of outstanding actions is undertaken, to ensure that the corrective actions are followed through to completion.
c) On completion of the corrective actions (where identified), updating the form with completion dates and filing the form for future reference.

7 Control Panel Alarm Response

The **Site Manager** or **TCM** is responsible for carrying out the following actions on receiving a critical alarm on mobile phone.

1. Investigate conditions on the SCADA either in the Control Room or remotely.
2. Assess if the situation can be solved immediately.
3. If so, deal with the situation and record the incident in Site Diary **(MUR-MM-07).** No further action required.
4. If not (i.e. is a genuine alarm indicating an emergency), emergency procedures apply including the notification of the Emergency Services and / or Environment Agency as appropriate and Site Manager / Technically Competent Manager.
5. Incident reporting in **Accident and Incident Report Form (MUR-FT-02)** which will be reviewed post incident.

8 Fire & Explosion Response Procedure

In the event of a fire/ explosion, it is the responsibility of the **Site Manager** or **TCM** to:

1. Call 999 and request the Fire and Rescue Service. Tell the operator:
    a) Where the fire is - give the full postal address including the postcode.
    b) If the access to the fire site will be difficult for the fire engines.
    c) If there will be problems accessing water supplies on the fire site.

2. Raise the onsite fire alarm. Alert neighbouring properties.
3. If possible, without endanger safely operate emergency shut down switches.
4. Make sure everyone on site is aware and tell them to evacuate and assemble at the Emergency Assembly Point located alongside the farm workshop, exit routes are located at the farm entrance.
5. If possible, send someone to the site entrance to direct the Fire and Rescue Service to the fire. They should be wearing high visibility clothing, so they are easy to see and carry a torch if needed.
6. Clear access routes to the fire site for the fire engines.
7. Only fight the fire if it is safe to do so and:
    - The Fire and Rescue Service have been notified
    - The fire is small and is not spreading to other areas
    - You have a good clear escape route
8. Fire extinguishers are located throughout the site. There are fire extinguishers in the AD reception area, pump room and engine room. Use carbon dioxide fire extinguisher for electrical fires and liquid fuels. Use dry powder for all other fires.

9. Switch off power, where possible, before an attempt is made to extinguish an electrical fire. Smoke and gas detection equipment are installed in the CHP rooms and the beacon and e stop are situated outside the large double doors.

10. Advice on the containment of the fire will be taken from the emergency services. Drain covers and temporary bunds (e.g. sand bags) will be used to contain fire water.
11. The fire warden or a nominated person will inform local residents of the short-term impact of smoke and odour.
12. Notify the Environment Agency pollution incident hotline (0800 80 70 60) as soon as reasonably practical and in any case within 12 hours of the incident.

13. It is the responsibility of all staff members and contractor, if notified of a fire or explosion to:

    a) Ensure that, a person in authority, the Site Manager or TCM is aware
    b) Leave the area immediately
    c) Assemble at the nearest and safest Assembly Point
    d) Stay off site until Fire and Rescue Service deem it safe to enter

14. After the fire has been extinguished, and on advice from the fire service, the burnt material would be allowed to cool and kept damp and then removed for appropriate disposal.

15. The site would be cleaned down and all waste water tankered off site for disposal

16. Record incident on **Accident and Incident Report Form (MUR-FT-02)**

9 Spillage Procedure

STOP – CONTAIN – NOTIFY – MANAGE – CLEAN UP - REVIEW

STOP	• What you are doing • Turn off valves/ right drums • If safe, make your colleagues aware
CONTAIN	• Prevent further damage to the environment using spill kits if necessary • Protect drains, watercourses and soil
NOTIFY	• Report the incident to managers and directors.
MANAGE	• Trained staff/ Contractors if major spill
CLEAN UP	• Boom and clean out watercourses • Plug then suck out drainage • Dig out and bag contaminated soils • Dispose of all wastes appropriately
REVIEW	After event by all managers to ensure learning actions are noted and check stock levels

9.1 Oils / Fuels /Chemicals

1. If applicable isolate equipment that is leaking.
2. Use the closest spill kit located within the Control Building or CHP container to control and contain the spill.
3. Contain the spill in as small an area as possible, use absorbent material to make a barrier around the spill to prevent its spread.
4. Using absorbent material contained in the spill kit attempt to absorb as much of the spillage as practical.
5. Once the spill has been absorbed as much as possible, place any contaminated material in bag(s) for disposal kept within the spill kit and then place into an impermeable container to stop any additional leakage. Dispose of via an appropriate waste contractor.
6. Inform the **TCM**.
7. If there is a risk that the pollutant may contaminate the drainage system or the ground, then the Environment Agency's Incident Hotline (0800 807060) must be called as soon as practicably possible and in any case within 12 hours of the incident to report the

incident, the type and amount of liquid and the remedial measures being undertaken at the site.

8. All such incidents and subsequent actions must be recorded in the Site Diary **(MUR-MM-07)** and on an **Accident and Incident Report Form (MUR-FT-02)** (Appendix A).

9.2 Dry Feedstocks / Fibre Digestate

In the case of spillage of solid feedstocks or spillages of fibre digestate:

1. Use a loading shovel or yard brush and shovel to collect any escaped feedstocks or fibre digestate.
2. Check for cross contamination and if appropriate move spilled material into the correct storage area as soon as practicably possible.

9.3 Digestate / Digester / Dirty Water Spillage Procedure

Notify the **TCM**.

1. Check all sumps from the secondary containment area are shut off.

2. Where safe to do so, identify the source of the leak.

3. If possible, make immediate temporary repairs to prevent further leakage.

4. For smaller leaks, use the nearest appropriate spill kit as per site plan to contain the spillage.

5. Contain the leak in as small an area as possible, use absorbent material to make a barrier around the spill to prevent its spread.

6. In the event of potential impact on groundwater or surface water from the spillage of digestate or dirty water contact the Environment Agency on 0800 80 70 60 as soon as practicably possible and in any case within 12 hours.

7. In the event of a larger spill use a vacuum tanker and/or a tractor driven pump to remove any large quantities of liquid back to any primary containment that has capacity i.e. dirty water lagoon, digestate lagoon and / or digesters.

8. Follow Environment Agency advice regarding clean-up of spillage.

9. Following clean-up of the spillage, complete an **Accident and Incident Report Form (MUR-FT-02).**

10. Ensure that a thorough investigation into the causes of the spillage is carried out to assess the requirement for any changes to infrastructure (e.g. crash barriers) or management system to reduce chance of it happening again.

9.4 Suspected Leaching to Ground

If suspected groundwater pollution i.e. leak detected on underground pipe or containment breach is detected then:

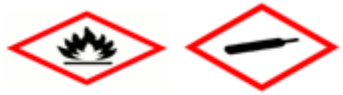
1. Notify the **TCM**.

2. Notify Environment Agency on 0800 80 70 60 as soon as practicably possible and in any case within 12 hours.

3. Work with Environment Agency to agree a programme of monitoring and remediation as appropriate.

10 Biogas Leak Response Procedure

10.1 Biogas Hazard Statements

Bio Gas Composition						
Gas	LEL %	UEL %	Specific Gravity	Auto Ignition Temp	Hazard Statements	CLP Symbol
Methane	5	15	0.5537	580°c	**H220** - EXTREMELY FLAMMABLE GAS **H280** - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED	
Hydrogen Sulphide	4.3	46	1.1763	232 °C	**H220** - EXTREMELY FLAMMABLE GAS **H280** - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED **HG04** - MAY FORM EXPLOSIVE MIXTURES WITH AIR	
Ammonia	15	28	0.596	651 °C	**H221** - FLAMMABLE GAS **H280** - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED	
Carbon Monoxide	12	75	0.9667	609 °C	**H220** - EXTREMELY FLAMMABLE GAS **H280** - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED	

10.2 Biogas Leak Procedure

In the event of a suspected major biogas leak:

1. Remove yourself from the immediate area of the leak to avoid personal injury. Ensure the correct PPE is being worn including full face respirator.
2. Do not operate any electrical equipment, including mobile phones, unless Ex-rated, and do not start any vehicles. Be aware of any equipment that may switch on and off automatically.
3. Evacuate all persons from the affected area and assemble at the nearest and safest Emergency Assembly, unless this is downwind of the suspected leak.
4. Follow the fire evacuation procedure.
5. Keep upwind of any gas leak.
6. Inform the TCM or NCP for further instructions.
7. It is the responsibility of the TCM or NCP to notify the Environment Agency pollution incident on 0800 80 70 60 as soon as reasonably practical.
8. **If there is a fire, always contact the Fire and Rescue Service**.

11 Foam Response Procedure

If foam is observed in the Digester through the daily check then:

1. Stop feeding immediately
2. Speak to biologist for advice.
3. Lower substrate level in the tank by pumping out to the digestate lagoon if possible
4. Start all mixers
5. Monitor tank inside closely
6. If foaming level keeps on rising, it might be necessary to open the PVRVs as a last measure to prevent damages at the roof.

   Attention: This procedure will release gas and needs to be coordinated carefully considering potential explosion zones!

12 Main Power Outage Response Procedure

In the event of an on-site power failure:

1. Inform the **TCM** or **NCP.**
2. There is a back-up generator on site which will provide power.
3. Contact the electricity supplier to determine the length of time that the power will be out.
4. Once the power has been restored ensure that the equipment is reset, and that all alarms are connected and fully operational. Follow the start-up procedures.

13 Safe Shutdown Procedure

The **TCM** is responsible for ensuring the requirements of this procedure are followed at all times. All Personnel are responsible for reporting any emergency event (actual and potential) to the **TCM**.

1. In the case of an emergency or a potential emergency, individuals should only attempt to undertake corrective actions in accordance with their level of training. Individuals should not place themselves or others at risk.
2. Sound the fire / emergency alarm.
3. Inform the **TCM.**
4. If it is safe to do so, place the plant in "safe state" by completing the actions listed below. The sequence for completing these actions will be determined on a case by case basis.
    - Ensure the safe evacuation of personnel on site
    - Stop all feeding of the plant on Control Panel system.
    - Switch off the CHP engines, which will automatically result in the biogas being diverted to digester storage (depending on available capacity) or to the flare.
    - Ensure staff, visitors, and members of the public do not enter the site.
5. NOTE: The plant cannot remain in "safe state" indefinitely – biogas will continue to be generated and further measures may be required to ensure conditions are controlled. Frequent reviews of the plant status should be carried out by the **TCM** via remote access to the Control Panel if circumstances permit.
6. The **TCM** must ensure that all details of the event are reported and recorded by following the Incident Reporting and Recording Procedure (Section 6.2).

14 Mechanical Failure Procedure

In the event of any mechanical failure that could have an adverse effect on health and safety or the environment please take the following actions;

1. Establish what system has failed.
2. Shut down / isolate the equipment if safe to do so.
3. Inform the **TCM**.
4. Contact the relevant contractor and arrange repair if required. Ensure that risk assessments and safe systems of work are in place for these repair activities. Consider especially high risk activities, such as work at height, lone working, confined space entry, etc.
5. If required notify the Environment Agency if appropriate in accordance with Section 6.2 Incident Reporting and Recording.

Figures

Site Location Plan - ETL495/ EPR01

Human Receptor Plan (1km) – ETL495/ EPR

Appendix A - Accident & Incident Record Form (MUR-FT-02)

Accident and Incident Report Form		
ROOT	Date and time of the incident	
	Name of site operative Provide names of personal present	
	What happened, Provide the details of the event?	
CAUSE	Why did it happen?	
	What are the steps that should be followed?	
	What was done to fix the problem?	
ANALYSIS	Name of BioCow Investigator	
	EA Officer in attendance	
	EA Incident Number	
	What action did you take to fix the problem?	

What steps were followed in the incident?
What changes are recommended?

Appendix B – Key Emergency Contacts

Key Emergency Contacts

Murrow AD Ltd, Somerset Farm, Cants Drove, Murrow, Wisbech, Cambridgeshire, PE13 4HN

EMERGENCY CONTACTS

Emergency Services	**999 or 112**
Environment Agency	**0800 807060 (24-hour)**
Health and Safety Executive (HSE)	**0345 300 9923 (Monday to Friday 8.30 to 17.00)** **0151 922 9235 (Out of hours)**
National Poisons Information Service	**0344 892 0111**
Local Authority (Fenland DC)	**01354 654 321**
Highways Agency	**030 0123 5000**

Company Contacts (24-hour)

Adapt Biogas Head Office		**01945 402023**
Managing Director	**James Thompson**	**07834565034**
Interim AD Plant Manager	**Ricky Maylin**	**07952568685**
Engineering Manager	**Franck Abaya**	**07943140832**
SHEQ Manager	**Marie Cookson**	**07710054474**
BioCow Environmental Services Ltd	**Stephen Burgoyne**	**07488964628**
Somerset Farm Manager	**Robert Moore**	**07887894681**
Murrow AD **in case of National Grid emergencies**	**Primary contact** **Secondary contact**	**07411194373** **07947960908**

Utility Contacts (24-hour hotlines)

Anglian Water	**0800 771 881 or 08457 145 145**	
Electricity	**EON**	**0345 0550 065**
	UK Power Network	**0800 028 4587**

		or 0800 3162 106
Gas	**Cadent National Grid**	**0800 111 999**
LPG Gas supplier	**Flogas**	**03457 200 100**
Oil and Fuel suppliers	**Anglian Farmers**	**01603 881881**