

**Flintshire AD Facility
Weighbridge Road
Deeside
CH5 2LL**

Fire Prevention and Mitigation Plan (FPMP)



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FIRE PREVENTION & MITIGATION PLAN (FPMP)

Facility: Flintshire AD Facility, Deeside

Operator: BioConstruct NewEnergy Ltd

Permit Ref: TBC

Date: March 2026

1. INTRODUCTION & OBJECTIVES

This Fire Prevention and Mitigation Plan (FPMP) has been developed in accordance with Natural Resources Wales (NRW) guidance (1) and applies to all activities involving the storage and treatment of combustible materials at the AD facility.

The plan aims to:

- Minimise the likelihood of fire occurrence
- Limit the spread of fire on and off-site
- Reduce environmental and human health impacts
- Ensure effective response and recovery

NRW requires that all measures are equal to or exceed their guidance standards or justified via risk assessment if alternative approaches are adopted.

2. SITE DESCRIPTION

- Location: Flintshire, Deeside Industrial Area
- Facility Type: Anaerobic Digestion (wet AD) with CHP
- Feedstocks:
 - Food waste (packaged/unpackaged)
 - Agricultural residues (slurry, silage)
- Outputs:
 - Biogas (CHP / upgrading)
 - Digestate (liquid/solid)

Key Fire Risk Areas

- Feedstock reception hall
- Pre-treatment area (depackaging)
- Digestate storage
- Gas handling systems (biogas, CHP)
- Electrical/control systems

(1) <https://naturalresources.wales/permits-and-permissions/waste-permitting/fire-prevention-and-mitigation-plans/?lang=en>

3. FIRE RISK ASSESSMENT

3.1 Principal Fire Hazards

- Self-heating of organic waste (especially food waste/silage)
- Mechanical ignition (shredders, conveyors)
- Electrical faults (MCCs, motors)
- Biogas leaks (methane – flammable)
- Hot works / maintenance activities
- Lithium battery contamination in waste streams

3.2 Receptors

- Site personnel
- Adjacent industrial units
- Watercourses (Dee Estuary catchment)
- Air quality receptors (local community)

3.3 Risk Summary

Hazard	Likelihood	Impact	Control
Waste self-combustion	Medium	High	Monitoring & turnover
Gas ignition	Low	High	ATEX + detection
Electrical fire	Medium	Medium	Maintenance
External spread	Low	High	Fire breaks

4. FIRE PREVENTION MEASURES

Fire prevention measures at the facility focus on reducing the likelihood of fire occurring through operational controls, monitoring systems, good housekeeping, and strict waste management procedures. These measures are designed to manage the specific fire risks associated with the storage and handling of organic feedstocks and combustible materials.

The facility adopts a hierarchy of fire prevention controls, including:

- Waste acceptance controls
- Storage management and segregation
- Equipment monitoring and process controls
- Operational procedures and housekeeping
- Permit-to-work systems for higher-risk activities

These controls are integrated into the site's Environmental Management System (EMS) and operational procedures.

4.1 Waste Acceptance and Control

Effective waste acceptance procedures are critical to reducing the risk of fire, particularly in facilities handling organic waste streams that may contain contaminants capable of causing ignition.

4.1.1 Pre-Acceptance Checks

Prior to acceptance of waste materials, the site implements a pre-acceptance assessment process to ensure that only permitted and suitable materials are delivered to the facility.

This includes:

- Supplier approval and contractual controls
- Verification that the waste type matches the site environmental permit
- Documentation review including waste transfer notes and classification
- Communication of waste quality requirements to suppliers

Where new waste suppliers are proposed, the waste material may be subject to trial loads or sampling prior to acceptance.

4.1.2 Delivery Inspection

All incoming waste loads are subject to visual inspection at the point of delivery by trained site personnel.

Inspection checks include:

- Confirmation of waste type and composition
- Identification of non-conforming materials
- Detection of unusual heat, steam, smoke, or odours that may indicate a hot load

Loads that present an unacceptable risk are rejected and removed from the site in accordance with site procedures.

4.1.3 Rejection of Hot Loads

Loads suspected of being hot or undergoing thermal decomposition will not be accepted into the waste reception system.

Indicators of a hot load include:

- Visible steam or smoke
- Elevated temperature detected by personnel
- Strong odours indicating decomposition
- Warm vehicle bodies or waste materials

Where a hot load is identified, the vehicle will be directed to a designated quarantine area where the material can be safely isolated and managed.

4.1.4 Removal of Batteries and Hazardous Materials

Waste streams are inspected to identify and remove potential ignition sources such as:

- Lithium-ion batteries
- Electrical devices
- Aerosol containers

- Chemical containers or hazardous waste

These items represent a known cause of fires in waste facilities and are therefore removed wherever identified and managed appropriately.

4.1.5 Waste Storage Duration

To minimise the risk of self-heating and spontaneous combustion, waste storage durations are strictly controlled.

For food waste and other organic feedstocks:

- Maximum storage duration is typically 24–36 hours prior to processing

This ensures waste remains fresh and stable, reducing microbial heating and decomposition risks.

Waste stock levels are actively managed through the site operational planning system to prevent excessive accumulation.

4.2 Waste Storage and Segregation

Waste storage areas are designed to minimise fire risk and prevent the spread of fire between waste piles or operational areas.

4.2.1 Waste Storage Bays

Feedstock materials are stored in clearly defined concrete bunker bays located within the waste reception building.

The bunker bays:

- Provide physical separation between stored materials
- Prevent uncontrolled spread of fire between storage areas
- Allow mechanical plant access for safe waste management

The bunker walls are constructed from reinforced concrete, which provides a fire-resistant barrier capable of containing waste materials.

4.2.2 Fire Breaks

Fire breaks are maintained between waste storage areas to prevent fire spread.

These fire breaks provide:

- Physical separation between waste piles
- Safe access routes for firefighting activities
- Improved containment of fires should they occur

Fire break distances are maintained in accordance with NRW Fire Prevention and Mitigation Plan guidance.

4.2.3 Storage Volume Control

Waste storage volumes are carefully managed to ensure that individual storage areas remain manageable in the event of a fire.

Controls include:

- Defined maximum volumes per waste bay
- Operational monitoring of waste levels
- Scheduling of waste processing to maintain throughput

This prevents the formation of large waste piles that could sustain deep-seated fires.

4.3 Housekeeping

Maintaining high standards of housekeeping is a key component of fire prevention at the facility.

Operational procedures are in place to ensure that waste residues, dust accumulation, and combustible debris are regularly removed from operational areas.

Cleaning Procedures

Routine cleaning procedures include:

- Daily cleaning of the waste reception hall
- Removal of waste residues from floors and equipment
- Cleaning of processing equipment and conveyor systems

These activities reduce the accumulation of combustible material that could contribute to fire development.

4.3.1 Dust and Residue Management

Dust, organic residues, and loose materials can accumulate in processing areas and increase fire risk.

Regular inspections and cleaning ensure that:

- Dust deposits are removed
- Waste residues are cleared from equipment
- Access routes remain clear

Where necessary, mechanical cleaning equipment or industrial vacuum systems may be used.

4.3.2 Pest Control

Organic waste materials may attract pests such as rodents or insects.

An integrated pest control programme is implemented to:

- Prevent pest infestation
- Reduce waste disturbance and material scattering
- Maintain hygienic site conditions

Pest control measures are implemented by competent pest management contractors and monitored regularly.

4.4 Process Controls

Operational monitoring and automated control systems are used to manage potential fire risks associated with waste processing and plant equipment.

4.4.1 Temperature Monitoring

Temperature monitoring may be undertaken within feedstock storage areas or waste piles to detect early signs of heat build-up.

Monitoring may include:

- Periodic manual temperature checks
- Visual inspection for heat or steam
- Operational monitoring during waste handling

Early identification of elevated temperatures allows operators to take corrective action, such as turning or processing waste material.

4.4.2 Equipment Overheat Protection

Processing equipment such as depackaging systems, conveyors, and pumps are fitted with automatic overload and temperature protection systems.

These systems monitor:

- Motor temperatures
- Equipment load levels
- Electrical current draw

If abnormal conditions occur, the system will initiate an automatic shutdown to prevent overheating and reduce fire risk.

4.4.3 SCADA Control System

The facility is operated using a Supervisory Control and Data Acquisition (SCADA) system, which provides real-time monitoring and control of plant operations.

The SCADA system monitors critical parameters including:

- Equipment operating temperatures
- Gas production and pressure
- Digester process conditions
- Alarm systems

The system provides operators with early warning alarms if abnormal operating conditions occur.

This allows operators to take immediate corrective action before conditions escalate into a fire or safety incident.

4.5 Hot Works Control

Hot works activities such as welding, cutting, or grinding present a potential ignition source and are therefore strictly controlled.

The facility operates a permit-to-work system for all hot works conducted on site.

Permit-to-Work System

Hot works may only be undertaken when:

- A formal permit-to-work has been issued
- The work area has been inspected
- Fire risks have been assessed

The permit process ensures that appropriate control measures are in place before work begins.

4.5.1 Control Measures for Hot Works

Prior to commencing hot works, the following precautions are implemented:

- Removal or protection of combustible materials
- Isolation of nearby equipment or processes
- Availability of suitable firefighting equipment
- Establishment of fire watch personnel

These controls minimise the likelihood of sparks or heat sources igniting nearby materials.

4.5.2 Fire Watch

A designated fire watch person is assigned during hot works activities.

The fire watch is responsible for:

- Monitoring the work area during hot works
- Identifying potential ignition sources
- Ensuring that sparks or hot debris do not ignite materials

Following completion of hot works, the area continues to be monitored for a minimum observation period to ensure that no smouldering materials remain.

5. FIRE DETECTION SYSTEMS

Natural Resources Wales guidance requires facilities handling combustible waste to implement early fire detection systems capable of identifying fires or hotspots at the earliest possible stage. Early detection is critical in preventing fires from escalating and allowing rapid intervention.

The site has therefore implemented a combination of automatic fire detection systems, gas monitoring systems, and operational inspection procedures to identify abnormal conditions such as heat build-up, gas release, or smoke generation.

These systems are integrated with the site alarm and emergency response procedures, ensuring that personnel are alerted immediately when a potential fire or hazardous condition is detected.

5.1 Automatic Fire Detection in Enclosed Areas

Automatic fire detection systems are installed in enclosed areas where combustible materials, plant equipment, or electrical systems are present.

The system consists of a network of heat detectors and smoke detectors connected to a central fire alarm control panel.

Areas Covered

Fire detection systems are installed in the following areas:

- Waste reception hall
- Feedstock pre-treatment and depackaging area
- Electrical switchgear and Motor Control Centre (MCC) rooms
- Control rooms and offices
- CHP generator enclosure
- Workshop and maintenance areas
- Enclosed conveyor systems and processing equipment areas

These areas represent locations where the risk of fire initiation is greatest due to combustible materials, mechanical equipment, or electrical systems.

5.1.1 Heat Detection

Heat detectors are installed in operational areas where smoke detection may be less reliable due to dust, steam, or airborne particulates.

These detectors monitor for rapid increases in temperature or sustained elevated temperatures, which may indicate the early stages of a fire or overheating equipment.

Heat detectors are particularly suitable for:

- Waste reception buildings
- Processing areas
- Industrial environments where dust may trigger false smoke alarms

If a temperature threshold is exceeded, the system automatically:

1. Activates the fire alarm
2. Alerts site personnel
3. Initiates emergency response procedures

5.1.2 Smoke Detection

Smoke detectors are installed in areas where smoke generation is likely to occur during the early stages of combustion.

These detectors continuously monitor air quality for combustion particles associated with developing fires.

Smoke detectors are installed in:

- Electrical rooms
- Control rooms
- Office areas
- Enclosed plant spaces

Smoke detection allows for very early warning before significant heat develops, enabling rapid intervention.

5.2 Gas Detection Systems

Given the nature of anaerobic digestion processes, gas monitoring systems are installed to detect potentially hazardous gases associated with biogas production.

Gas detection systems continuously monitor for the presence of:

- Methane (CH₄) – a highly flammable gas
- Hydrogen sulphide (H₂S) – a toxic and potentially hazardous gas

Gas detectors are positioned strategically across the site to provide early warning of gas leaks or abnormal process conditions.

5.2.1 Methane (CH₄) Detection

Methane is the primary component of biogas and presents a flammability risk if concentrations accumulate within enclosed areas.

Methane detectors are installed in areas including:

- Biogas handling systems
- CHP generator buildings
- Gas compressor or upgrading equipment
- Digester service areas
- Enclosed pipework chambers
- Gas storage or gas holder areas

Methane sensors continuously measure gas concentrations relative to the Lower Explosive Limit (LEL).

If methane levels exceed predetermined thresholds:

- An alarm is triggered at the site control panel
- Visual and audible alarms activate
- Operators are alerted to investigate
- Plant shutdown procedures may be initiated if required

This ensures that potential gas ignition hazards are identified before dangerous concentrations develop.

5.2.2 Hydrogen Sulphide (H₂S) Detection

Hydrogen sulphide is a toxic gas produced during the anaerobic digestion process.

Although primarily a health and safety hazard, detection is also important because high concentrations may indicate abnormal process conditions or gas system failures.

H₂S detectors are installed in:

- Digester service areas
- Gas handling systems
- CHP plant areas
- Gas treatment or scrubbing systems

If elevated concentrations are detected, alarms are triggered to alert personnel and initiate appropriate response procedures.

5.3 Alarm and Notification Systems

All detection systems are connected to a central fire alarm and monitoring system, which provides immediate notification of any abnormal conditions.

The alarm system includes:

- Audible alarms across operational areas
- Visual warning signals
- Central monitoring at the control room
- Remote notification where applicable

When a fire or gas alarm is triggered:

1. Personnel are alerted immediately.
2. Emergency response procedures are initiated.
3. Site management is notified.
4. Fire and Rescue Service may be contacted where necessary.

This ensures a rapid and coordinated response to potential fire incidents.

5.4 Integration with Emergency Systems

The fire detection system is integrated with other safety systems on site to improve overall fire prevention capability.

Integration may include:

- Automatic shutdown of equipment
- Isolation of gas systems
- Activation of fire suppression systems
- Ventilation system control

These automated responses help prevent fires from escalating and reduce the risk of explosion or gas ignition.

5.5 Inspection and Maintenance

All fire detection and gas monitoring systems are subject to routine inspection and maintenance to ensure reliability.

Maintenance activities include:

- Weekly visual checks of alarm panels
- Monthly testing of detection systems
- Calibration of gas detection sensors
- Annual inspection by competent fire safety contractors

Testing ensures that systems remain fully operational and capable of providing early warning of fire or hazardous gas conditions.

Maintenance records are retained and made available for inspection by regulators.

5.6 Staff Awareness and Monitoring

In addition to automated detection systems, site personnel play an important role in identifying early signs of fire or abnormal operating conditions.

Staff are trained to recognise indicators such as:

- Unusual heat or odours
- Visible smoke
- Equipment overheating
- Gas alarms or warning signals

Regular site inspections are conducted to identify potential fire risks and ensure that detection systems remain unobstructed and functional.

6. FIRE SUPPRESSION SYSTEMS

Fire suppression systems at the facility are designed to rapidly control or extinguish fires at an early stage, preventing escalation and limiting environmental impacts. The suppression strategy combines fixed suppression infrastructure and portable firefighting equipment, ensuring both automated and manual intervention capability.

The systems have been selected to address the specific fire risks associated with anaerobic digestion operations, including organic waste storage, electrical equipment, and gas handling systems.

6.1 Fixed Fire Suppression Systems

6.1.1 Reception Hall Suppression System

The primary fire suppression system is installed within the waste reception and pre-treatment building, where the highest risk of fire exists due to the presence of combustible feedstocks.

A water spray / deluge suppression system is installed to provide rapid suppression in the event of a fire.

System Description

The system consists of:

- Overhead deluge water spray nozzles installed across the reception hall
- Dedicated fire water supply connected to the site fire water storage tank
- Activation via:
 - Automatic fire detection systems (heat/smoke detectors)
 - Manual activation points
 - Fire service intervention if required

When activated, the system delivers high-volume water spray across the affected area to:

- Rapidly cool burning materials
- Prevent fire spread

- Suppress flames and reduce smoke generation

Coverage Area

The system provides coverage for:

- Waste reception hall
- Feedstock storage bays
- Depackaging equipment
- Waste handling areas
- Conveyor feed systems

The system is designed so that all combustible materials stored within the building are covered by the spray pattern.

Operational Objectives

The deluge system is intended to:

- Control fires during the early stages of development
- Prevent fire spread between waste storage bays
- Protect structural elements of the building
- Provide initial suppression until Fire and Rescue Service arrive

The system does not replace the need for active firefighting by emergency services but significantly reduces fire escalation risk.

System Maintenance

The suppression system is inspected and maintained in accordance with relevant fire safety standards and manufacturer guidance.

Routine maintenance includes:

- Monthly inspection of valves and pipework
- Quarterly functional testing
- Annual full system inspection
- Verification of water pressure and flow rates

All inspection and maintenance activities are recorded within the site fire safety management system.

6.2 Portable Fire Extinguishers

Portable firefighting equipment is distributed across the site to allow trained personnel to tackle small fires during the initial stages, provided it is safe to do so.

Extinguishers are positioned:

- At building entrances and exits
- Adjacent to high-risk plant and electrical equipment
- Within control rooms and welfare areas
- Near fuel storage and CHP plant areas

Locations are clearly marked and included within the site fire safety plan.

All extinguishers are maintained and inspected in accordance with BS 5306 fire extinguisher standards.

6.2.1 CO₂ Extinguishers (Electrical Fires)

Carbon dioxide (CO₂) extinguishers are installed in areas where electrical equipment presents a fire risk.

These areas include:

- Motor Control Centres (MCC rooms)
- Electrical switchgear rooms
- Control panels
- CHP generator enclosures
- Control rooms

CO₂ extinguishers are suitable for electrical fires because they:

- Do not conduct electricity
- Do not damage sensitive electrical equipment
- Leave no residue

Personnel are trained to use these extinguishers only where safe to do so, ensuring electrical isolation where possible.

6.2.2 Foam / Water Extinguishers (Solid Waste Fires)

Foam and water extinguishers are provided for fires involving combustible solid materials, including:

- Organic feedstock
- Packaging materials
- Wood or plastic components

These extinguishers are positioned in:

- Waste reception areas
- Workshop areas
- External operational zones

Foam extinguishers are particularly effective in:

- Cooling burning materials
- Smothering flames
- Preventing re-ignition

Water extinguishers provide rapid cooling and are suitable for Class A fires involving organic waste.

6.3 Foam and Wetting Agents

In addition to water-based firefighting systems, the site maintains the capability to use firefighting foam or wetting agents where required.

Foam and wetting agents may be used to:

- Improve water penetration into compacted waste piles
- Suppress deep-seated fires
- Reduce surface tension of water to improve cooling effectiveness

These agents are particularly useful when dealing with organic waste fires, which can burn internally and resist standard water suppression.

Fire Service Coordination

The selection and use of foam agents will be agreed with North Wales Fire and Rescue Service.

Fire services may deploy foam if required to:

- Suppress large waste fires
- Prevent re-ignition of partially extinguished materials
- Improve suppression efficiency

Site personnel will support the Fire and Rescue Service by:

- Providing access to foam application areas
- Operating mechanical plant to separate waste
- Ensuring water supply availability

6.4 Integration with Fire Detection Systems

Fire suppression systems are integrated with the site fire detection and alarm systems to ensure rapid response.

Detection systems include:

- Heat detectors
- Smoke detectors
- Thermal imaging monitoring systems (where installed)

When a fire is detected:

1. The fire alarm system activates.
2. The suppression system may automatically activate where applicable.
3. Personnel are alerted to initiate emergency procedures.

This integration ensures rapid intervention before fires escalate.

6.5 Fire Suppression for Biogas and Process Equipment

The facility also incorporates safety systems to prevent fires associated with biogas systems and process equipment.

These include:

- Automatic gas shutdown systems
- Flame arrestors within gas pipework
- Emergency isolation valves
- Pressure relief systems

These systems minimise the risk of gas ignition and provide additional protection for CHP units and digesters.

6.6 Staff Training and Use of Fire Suppression Equipment

All operational personnel receive training in:

- Fire safety awareness
- Use of portable fire extinguishers
- Emergency response procedures

Training ensures that staff:

- Understand which extinguisher to use for different fire types
- Recognise when a fire is too large to tackle safely
- Prioritise evacuation and emergency response

Fire extinguisher training is refreshed periodically and recorded within the site competence management system.

6.7 System Inspection and Maintenance

All fire suppression equipment is subject to routine inspection and maintenance to ensure continued reliability.

This includes:

- Weekly visual checks of extinguisher locations
- Monthly fire safety inspections
- Annual servicing of extinguishers by certified contractors
- Testing of fire water infrastructure

Maintenance records are retained and made available for inspection by regulators or auditors.

7. FIREFIGHTING STRATEGY

The firefighting strategy for the facility is designed to ensure that any fire can be rapidly identified, contained and controlled, preventing escalation and minimising environmental impacts. The strategy will be developed further and in consultation with North Wales Fire & Rescue Service and aligns with the requirements of Natural Resources Wales Fire Prevention and Mitigation Plan Guidance.

The primary firefighting principle is containment and isolation, ensuring that any fire is restricted to a single waste storage area or process unit.

7.1 Emergency Access for Fire and Rescue Service

Emergency access routes are designed to ensure that fire appliances can reach all areas of the site quickly and safely.

7.1.1 Site Access Arrangements

The site entrance remains accessible 24 hours per day via a gated entrance that can be opened by:

- On-site personnel during operating hours
- Emergency services using pre-agreed access arrangements
- Security or remote monitoring systems where applicable

Clear signage is installed at the entrance identifying:

- Site hazards
- Emergency contact numbers
- Location of fire assembly points
- Site layout plans

7.1.2 Internal Access Roads

Internal site roads are constructed from load-bearing hardstanding (concrete or heavy-duty asphalt) capable of supporting fire appliances.

Roads are designed to:

- Maintain minimum width of 4 metres
- Always remain clear of obstructions
- Provide direct access to:
 - Waste reception building
 - Feedstock storage areas
 - Digesters
 - CHP plant
 - Fire water infrastructure

Access routes are subject to daily operational checks to ensure they remain unobstructed.

7.1.3 Turning Areas

Dedicated turning areas are provided to allow large fire appliances to manoeuvre safely without reversing long distances.

Turning areas:

- Are located adjacent to high-risk areas including the waste reception building
- Allow fire appliances to turn within the site boundary
- Remain clear of parked vehicles or equipment

These areas are clearly marked on the site emergency plan and fire service layout drawings.

7.2 Fire Breaks and Waste Storage Separation

Physical separation between waste storage areas is implemented to prevent the spread of fire between waste piles or operational zones.

Waste Bay Construction

Waste storage bays are constructed using reinforced concrete walls, which:

- Provide a physical barrier between waste materials
- Limit fire spread
- Enable safe isolation of burning material

Bay walls are designed to:

- Extend above the maximum waste pile height
- Resist fire damage
- Allow mechanical plant access for waste removal

7.2.1 Separation Distances

Waste storage areas are separated in accordance with NRW Fire Prevention Guidance, typically involving:

- Defined fire breaks between bays
- Separation between waste storage and buildings
- Controlled maximum pile sizes

These separation distances ensure that a fire occurring in one storage area does not directly ignite adjacent materials.

7.2.2 Storage Limits

Waste storage volumes are strictly controlled to:

- Prevent excessive stockpiling
- Ensure materials remain manageable in the event of a fire

Maximum storage durations are also limited to reduce the potential for self-heating and combustion.

7.3 Tactical Firefighting Approach

In the event of a fire, the operational strategy will focus on containment, isolation and controlled removal of burning materials.

The site will support the Fire and Rescue Service while ensuring the safety of personnel and protection of the environment.

7.3.1 Fire Detection and Initial Response

If a fire is detected by:

- Automatic fire detection systems
- Thermal imaging systems
- Site personnel

the following actions will occur immediately:

1. Raise the site alarm
2. Evacuate personnel to the designated muster point
3. Notify the Fire and Rescue Service
4. Isolate plant and gas systems where safe to do so

5. Inform site management

Site personnel will not attempt to fight large fires unless it is safe to do so and within their training.

7.3.2 Fire Containment

The first operational objective is to prevent the fire from spreading beyond the affected waste bay or process area.

This will be achieved through:

- Using physical bay walls as fire barriers
- Maintaining separation distances
- Removing nearby combustible materials where safe

7.3.3 Mechanical Separation of Waste

Heavy plant such as telehandlers will be used, under direction from the Fire and Rescue Service, to:

- Separate burning waste from unaffected material
- Spread burning waste into smaller piles to reduce heat intensity
- Transfer burning waste to a designated quarantine area

This method reduces the likelihood of deep-seated fires and improves access for firefighting water or foam.

Operators undertaking these tasks will be trained and authorised personnel only.

7.3.4 Removal of Adjacent Materials

If safe to do so, adjacent waste materials will be removed to:

- Increase fire separation distances
- Reduce available fuel
- Prevent fire spread

Material removed from the vicinity of the fire will be transferred to:

- A designated temporary storage area
- The quarantine area

7.3.5 Fire Suppression

The Fire and Rescue Service will lead suppression operations using:

- Water from on-site fire hydrants or storage tanks
- Foam agents where appropriate
- Hose lines directed into waste piles

Site personnel will assist with:

- Providing access to hydrants and water supplies
- Operating plant for waste separation
- Providing information about site hazards

7.4 Roles and Responsibilities

During a fire incident, specific personnel are assigned defined responsibilities to ensure that the response is coordinated and effective.

These responsibilities are clearly communicated to staff through training and emergency response procedures.

Site Manager – Incident Controller

The Site Manager, or nominated deputy, will act as the Incident Controller during a fire emergency until the Fire and Rescue Service assumes operational command.

Responsibilities of the Incident Controller include:

- Coordinating the site emergency response
- Ensuring safe evacuation of personnel
- Liaising with the Fire and Rescue Service upon arrival
- Providing information on site hazards and infrastructure
- Overseeing implementation of fire water containment measures

The Incident Controller will also ensure that drainage isolation measures are activated where required to protect the environment.

Shift Supervisor – Evacuation Lead

The Shift Supervisor is responsible for managing the safe evacuation of personnel from operational areas.

Responsibilities include:

- Ensuring that work activities cease safely
- Directing personnel to evacuation routes
- Confirming that operational areas have been cleared where safe to do so
- Reporting evacuation status to the Incident Controller

This role ensures that evacuation is conducted quickly and safely.

Fire Marshals – Muster Checks

Designated Fire Marshals are responsible for ensuring that all personnel have safely evacuated the affected areas.

Their responsibilities include:

- Directing personnel to muster points
- Conducting headcounts at assembly areas
- Identifying any missing personnel
- Reporting muster results to the Incident Controller

Fire Marshals may also assist emergency services by providing information on the location of operational areas or personnel.

7.4.1 Communication and Regulatory Notification

Clear communication during and after an emergency incident is essential to ensure effective response and regulatory compliance.

The facility has procedures in place to ensure that relevant authorities are notified where required.

7.4.2 Natural Resources Wales (NRW) Notification

If a fire incident has the potential to cause environmental impact, Natural Resources Wales will be notified in accordance with the site environmental permit requirements.

Notification may occur where:

- Fire water containment systems are activated
- Contaminated water has been generated
- There is potential for environmental pollution
- Significant operational disruption has occurred

NRW will be notified via the appropriate incident reporting channels.

7.4.3 Local Authority and Environmental Notifications

Where required, additional notifications may be made to relevant authorities including:

- Local Authority Environmental Health departments
- Environmental regulators
- Emergency planning authorities

These notifications ensure that relevant organisations are informed of incidents that may affect the local environment or community.

7.4.4 Coordination with Fire and Rescue Service

Upon arrival, the Fire and Rescue Service will assume operational control of firefighting activities.

Site personnel will support the Fire and Rescue Service by:

- Providing site layout plans
- Identifying water supply points and hydrants
- Explaining site hazards including gas infrastructure
- Assisting with mechanical plant operations where appropriate

Site management will remain available to provide assistance throughout the incident.

7.4.5 Post-Incident Actions

Following resolution of a fire incident, the facility will undertake a structured recovery process.

This may include:

- Inspection of affected equipment and infrastructure
- Removal of damaged materials and debris
- Environmental monitoring where required
- Investigation of the root cause of the incident

Findings from the investigation will be used to update operational procedures and fire prevention measures where necessary.

8. WATER SUPPLY

An adequate and reliable water supply is essential to support firefighting activities at the facility. The site has been designed to ensure that sufficient water is available to control and extinguish a fire involving stored waste materials or operational equipment.

The fire water supply system has been designed in accordance with relevant fire safety guidance and incorporates:

- Dedicated on-site fire water storage
- Fire hydrant connections accessible to emergency services
- Backup supply arrangements to ensure continuity of supply

These measures ensure that firefighting operations can be supported for the duration of a fire incident without reliance on external water supplies.

8.1 On-Site Fire Water Storage

The facility is equipped with a dedicated on-site fire water storage tank that provides the primary source of water for firefighting operations.

The storage tank has a design capacity in the range of 500–1,000 cubic metres, depending on the final design requirements and fire water demand calculations.

The tank provides sufficient storage to support firefighting operations in the event of a worst-case fire scenario, such as a fire involving the waste reception and storage area.

Tank Design

The fire water storage tank is designed to:

- Provide reliable water supply for firefighting systems
- Maintain sufficient pressure and flow rates for fire suppression
- Allow rapid connection to fire service equipment

The tank may be constructed from:

- Reinforced concrete
- Steel with protective lining
- Purpose-built fire water storage systems

The tank is maintained at operational capacity and inspected regularly to ensure that it remains available for emergency use.

8.2 Fire Hydrant Connections

The site is equipped with fire hydrant connections positioned strategically across the facility to allow rapid access to firefighting water.

Hydrants are designed and installed in accordance with relevant British Standards (BS) for fire hydrant systems.

Hydrant infrastructure typically complies with:

- BS 9990 – Non-automatic fire-fighting systems in buildings
- BS 750 – Underground fire hydrants and surface box frames

Hydrants are located to ensure coverage of key operational areas, including:

- Waste reception and storage areas
- Processing equipment zones
- CHP plant and gas infrastructure
- External operational yards

The positioning of hydrants ensures that fire appliances can connect to water supplies without obstructing emergency access routes or operational areas.

Hydrant locations are clearly marked and identified on the site fire emergency layout plan.

8.3 Access for Fire and Rescue Service

Fire hydrants and water supply points are accessible to the Fire and Rescue Service at all times.

Access arrangements include:

- Clear signage identifying hydrant locations
- Unobstructed access routes maintained at all times
- Adequate space for fire appliances to connect hoses and operate equipment

Hydrant positions and fire water storage locations are included within the site emergency information pack provided to the Fire and Rescue Service.

8.4 Backup Water Supply Arrangements

To ensure reliability during emergency situations, the facility has arrangements in place to provide backup water supply options if required.

These arrangements may include:

- Connection to the local mains water supply where available
- Access to nearby hydrants within the public water network
- Capability for fire appliances to bring additional water resources if required

These backup options ensure that firefighting operations can continue even if the primary fire water storage tank becomes depleted during a prolonged incident.

8.5 Water Supply Monitoring and Maintenance

The fire water supply system is subject to regular inspection and maintenance to ensure it remains operational and capable of supporting firefighting activities.

Inspection and maintenance activities include:

- Routine inspection of fire water storage tanks
- Verification of tank water levels
- Inspection and testing of hydrant infrastructure
- Maintenance of associated pumps and pipework

Hydrants are inspected periodically to ensure they remain:

- Clearly accessible
- Free from obstruction
- Fully operational

Maintenance records are retained as part of the facility's fire safety management system.

8.6 Integration with Firefighting Strategy

The fire water supply system is integrated with the facility's wider fire prevention and mitigation strategy, ensuring that sufficient water is available for:

- Fixed fire suppression systems
- Manual firefighting operations
- Cooling of waste materials and infrastructure
- Fire service hose line operations

This ensures that firefighting activities can be conducted effectively and safely during any fire incident.

8.7 Liaison with Fire and Rescue Service

The facility will engage with North Wales Fire and Rescue Service to ensure that they are familiar with the site's water supply arrangements.

This may include:

- Providing site layout drawings showing hydrant locations
- Site familiarisation visits
- Discussion of firefighting tactics and water supply infrastructure

This engagement helps ensure that emergency responders can rapidly access and utilise available water supplies during an incident.

9. FIRE WATER MANAGEMENT

Fire water management is a critical component of the facility's fire prevention and mitigation strategy. During firefighting operations, large volumes of water may be applied to suppress burning materials. If uncontrolled, this water can become contaminated with organic waste, ash, or process residues and pose a significant risk to the environment.

The facility has therefore been designed to ensure that all firefighting water and contaminated runoff can be safely contained on site, preventing discharge to surrounding land, surface waters, or groundwater.

The fire water management system comprises:

- Impermeable operational surfaces
- A sealed drainage network

- Drainage isolation controls
- Dedicated fire water containment storage

These systems ensure that contaminated firefighting water can be captured, stored, and managed appropriately following a fire incident.

9.1 Containment of Fire Water Runoff

Operational areas where waste is handled or processed are constructed using impermeable hardstanding surfaces, typically reinforced concrete.

These surfaces prevent contaminated liquids from infiltrating the ground and ensure that runoff is directed into the site drainage system.

Areas constructed with impermeable surfaces include:

- Waste reception and storage areas
- Feedstock handling areas
- Processing equipment zones
- Loading and unloading areas
- External operational yards

The use of impermeable surfaces ensures that any fire water applied during firefighting activities remains contained within the site drainage infrastructure.

9.1.1 Sealed Drainage System

The facility is equipped with a sealed surface water drainage system designed to capture and manage runoff generated during normal operations and emergency incidents.

The drainage system includes:

- Enclosed drainage channels and pipework
- Interceptor chambers where required
- Flow control structures directing runoff to containment storage

The drainage network is designed to prevent uncontrolled discharge of contaminated water to the surrounding environment.

Under normal operating conditions, clean surface water may be directed to approved drainage systems where permitted. However, in the event of a fire incident, drainage can be isolated to retain all runoff on site.

9.1.2 Drainage Isolation Valves

The site drainage system incorporates manual or automated isolation valves (penstocks) that allow drainage flows to be rapidly stopped during a fire incident.

These valves are located at strategic points within the drainage network and are clearly identified within the site drainage plan.

When activated, the isolation valves:

- Prevent discharge of contaminated water from the site

- Redirect runoff into the fire water containment system
- Ensure that contaminated water is retained for subsequent treatment or disposal

Isolation valves are accessible to trained site personnel and emergency responders. Procedures are in place to ensure that drainage isolation is implemented immediately during a fire incident.

9.2 Fire Water Storage and Containment Capacity

The facility provides dedicated storage for contaminated fire water to ensure that firefighting runoff can be safely retained.

This storage is typically provided in the form of:

- A fire water containment lagoon, or
- A dedicated fire water storage tank

The containment structure is constructed with impermeable lining materials to prevent leakage to the surrounding environment.

The containment system is designed to collect:

- Firefighting water applied during suppression activities
- Runoff from waste storage areas
- Contaminated debris or washdown water generated during incident response

9.2.2 Containment Capacity

The capacity of the fire water containment system has been designed based on a worst-case fire scenario, consistent with NRW guidance.

The worst-case scenario considers factors including:

- The maximum waste storage volume on site
- The potential duration of firefighting operations
- The estimated water flow rate required for suppression
- Rainfall contribution during the incident

This approach ensures that sufficient storage capacity exists to retain all contaminated water generated during a significant fire event.

The containment system is therefore sized to ensure that no contaminated firefighting water leaves the site boundary during an incident.

9.3 Operation During a Fire Incident

In the event of a fire incident, the following procedures will be implemented to manage fire water runoff:

1. Drainage isolation valves will be activated to prevent off-site discharge.
2. Surface water runoff will be directed into the fire water containment system.
3. Firefighting water applied during suppression activities will be captured within the sealed drainage network.

4. Site personnel will monitor containment capacity during the incident.

The Fire and Rescue Service will be informed of the fire water containment arrangements to ensure that firefighting tactics are consistent with environmental protection requirements.

9.4 Environmental Protection Measures

The containment of fire water is essential to protect the surrounding environment from contamination.

The system has therefore been designed to ensure that:

- Fire water cannot infiltrate soil or groundwater
- Contaminated water cannot enter nearby surface water bodies
- All runoff is captured within the controlled drainage network

These measures minimise the potential environmental impact of firefighting operations.

9.5 Post-Incident Management of Fire Water

Following a fire incident, any water retained within the containment system will be managed in accordance with environmental regulations.

This may include:

- Sampling and analysis of the contained water
- Removal of contaminated water by licensed waste contractors
- Treatment or disposal at an authorised facility

The containment structure will be inspected and cleaned as necessary to restore full operational capacity.

9.6 Inspection and Maintenance

The fire water containment and drainage systems are subject to routine inspection and maintenance to ensure reliability.

Inspection activities include:

- Regular inspection of drainage channels and pipework
- Verification of penstock valve operation
- Inspection of containment lagoon integrity
- Monitoring of containment storage levels

Maintenance records are retained within the site environmental management system.

These procedures ensure that the fire water management system remains fully functional and capable of containing contaminated runoff during an emergency.

10. QUARANTINE AREA

A designated quarantine area is provided on site to allow the safe isolation and management of materials that present a potential fire risk, including hot loads, smouldering waste, or materials removed during firefighting operations.

The quarantine area is an important element of the fire prevention strategy, as it allows potentially hazardous waste to be segregated from operational areas and other stored materials, thereby reducing the risk of fire escalation.

The quarantine area is designed to ensure that:

- Potentially burning or unstable materials can be safely isolated
- Fire spread to other materials is prevented
- Contaminated runoff generated during cooling or firefighting can be contained

The location of the quarantine area is identified within the site fire prevention plan and emergency layout drawings.

10.1 Design and Construction

The quarantine area is constructed using impermeable hardstanding, typically reinforced concrete, to prevent liquids from infiltrating the ground and to allow effective management of contaminated runoff.

The design of the quarantine area includes:

- Reinforced concrete hardstanding surface
- Physical separation from operational waste storage areas
- Adequate space for mechanical handling equipment
- Access routes suitable for fire service vehicles and site plant

The hardstanding surface ensures that any materials placed in the quarantine area can be safely managed, cooled, or removed without causing environmental contamination.

10.1.1 Drainage and Environmental Protection

The quarantine area is connected to the sealed site drainage system, allowing any runoff generated during firefighting or cooling operations to be captured and managed.

Drainage arrangements include:

- Contained drainage channels directing runoff to the fire water containment system
- Isolation from clean surface water drainage
- Capability to retain contaminated liquids within the site containment infrastructure

These measures ensure that any contaminated water generated during cooling or firefighting operations does not enter surrounding soil, groundwater, or surface water systems.

10.2 Operational Use of the Quarantine Area

The quarantine area is used for the temporary isolation of materials that may pose a fire risk.

The area may be used for:

- Isolation of suspected hot loads delivered to the site
- Storage of smouldering or burning waste removed during firefighting operations
- Temporary storage of unstable materials awaiting inspection or removal

The area is kept clear of other waste materials during normal operations to ensure that it remains available for emergency use.

10.2.1 Management of Hot Loads

If a vehicle delivering waste is suspected of carrying a hot load, the following procedure is implemented:

1. The vehicle is directed to the quarantine area.
2. The load is deposited in the designated quarantine zone.
3. Site personnel inspect the material for signs of heat, smoke, or combustion.
4. Cooling measures may be applied where required.
5. The material is either processed safely or removed from site as appropriate.

This procedure ensures that potentially unstable waste is isolated from the main waste storage areas, preventing fire spread.

10.2.2 Removal of Burning or Smouldering Waste

During firefighting operations, site plant such as loading shovels or telehandlers may be used to remove burning or smouldering waste from storage areas.

This material may then be transferred to the quarantine area where it can be:

- Spread out to reduce heat build-up
- Cooled using firefighting water
- Monitored for re-ignition

This process helps to break down deep-seated fires and prevent further spread.

10.3 Monitoring of Quarantined Materials

Materials placed within the quarantine area are monitored to ensure that they no longer present a fire risk.

Monitoring may include:

- Visual inspection for smoke or heat
- Temperature monitoring where appropriate
- Observation for signs of re-ignition

Materials will remain in quarantine until they are confirmed to be safe for processing, disposal, or removal from site.

10.4 Accessibility and Fire Service Use

The quarantine area is accessible to both site personnel and emergency services.

Access arrangements allow:

- Mechanical plant to move materials safely
- Fire appliances to access the area if required
- Firefighters to apply cooling water or foam where necessary

The location and access routes to the quarantine area are identified within the site emergency response plan and fire service layout drawings.

10.5 Inspection and Maintenance

The quarantine area is subject to routine inspection to ensure it remains suitable for emergency use.

Inspections ensure that:

- The area remains clear of operational waste
- The surface integrity of the hardstanding is maintained
- Drainage connections remain functional
- Access routes remain unobstructed

These inspections form part of the facility's routine fire prevention and housekeeping procedures.

11. MANAGEMENT OF COMMON FIRE CAUSES

Waste treatment and anaerobic digestion facilities can be vulnerable to fires due to the presence of combustible materials, mechanical processing equipment, and potential ignition sources within incoming waste streams. In accordance with Natural Resources Wales Fire Prevention and Mitigation Plan Guidance, the facility has implemented a range of operational and engineering controls to manage the most common causes of fires.

The site's fire prevention strategy focuses on:

- Early identification of abnormal heat or combustion
- Monitoring of waste and plant conditions
- Preventative maintenance of equipment
- Removal of ignition sources from incoming waste streams

These controls are incorporated into routine site operations and form part of the facility's Environmental Management System and operational procedures.

11.1 Routine Inspection for Hotspots

Routine inspections are undertaken by trained site personnel to identify early indicators of fire risk, including hotspots within waste storage areas or processing equipment.

Operational staff conduct regular inspections of:

- Waste reception and storage areas

- Feedstock handling and processing equipment
- Mechanical plant and conveyors
- Electrical control equipment

During these inspections personnel look for indicators such as:

- Visible smoke or steam
- Unusual heat or odours
- Discolouration of waste material
- Abnormal equipment temperatures

Where any indication of overheating is identified, corrective action will be taken immediately. This may include:

- Isolating the affected material
- Turning or spreading waste to dissipate heat
- Removing material to the designated quarantine area
- Investigating potential equipment faults

These routine inspections form an important early detection mechanism for preventing fires before they escalate.

11.2 Temperature Monitoring and Thermal Inspections

Temperature monitoring is used to identify heat build-up within stored waste or processing areas, which can indicate early stages of self-heating or decomposition.

Site personnel utilise hand-held thermographic or infrared temperature monitoring equipment to assess temperatures within:

- Waste reception storage bays
- Feedstock piles
- Processing equipment and motors
- Mechanical plant components

Thermal inspections may be conducted:

- During routine operational inspections
- When waste is stored for extended periods
- When abnormal heat or odours are detected

Temperature monitoring records are maintained within site operational logs, allowing trends to be identified and investigated.

Where elevated temperatures are detected, operators may take preventative actions such as:

- Turning waste material to release trapped heat
- Prioritising processing of affected materials
- Moving material to a quarantine area for cooling

These actions help prevent self-heating from progressing to combustion.

11.3 Maintenance of Plant and Equipment

Mechanical equipment, electrical systems, and process infrastructure can represent potential ignition sources if poorly maintained. To reduce this risk, the facility operates a planned preventative maintenance programme covering all operational plant and equipment.

Maintenance activities include:

- Inspection and servicing of motors, conveyors, pumps and depackaging equipment
- Maintenance of electrical switchgear and control systems
- Inspection of bearings, belts, and moving parts
- Calibration and testing of monitoring and alarm systems
- Inspection of gas handling systems and safety devices

Preventative maintenance schedules are managed through the facility's maintenance management system, ensuring that inspections and servicing are conducted at appropriate intervals.

Any equipment identified as faulty, overheating, or operating abnormally will be isolated and repaired before returning to service.

This proactive maintenance approach significantly reduces the risk of mechanical friction, electrical faults, or overheating equipment leading to ignition.

11.4 Control of Lithium Battery Contamination

Lithium-ion batteries are recognised as a significant cause of fires in waste treatment facilities, as they can become damaged during waste handling and ignite unexpectedly. Although the facility processes primarily organic waste streams, there remains a risk that batteries or small electronic devices may enter the waste stream.

To manage this risk, the following controls are implemented:

11.4.1 Waste Supplier Controls

Waste suppliers are required to comply with waste acceptance criteria that prohibit the inclusion of:

- Batteries
- Electrical devices
- Electronic waste

Supplier agreements and waste specifications clearly communicate these requirements.

11.4.2 Load Inspection Procedures

Incoming waste deliveries are subject to visual inspection at the reception area to identify and remove any potential contaminants.

Where batteries or electrical items are identified within waste loads, they are:

- Removed from the waste stream where possible
- Segregated for appropriate disposal

- Reported to the supplier where necessary

11.4.3 Staff Awareness

Operational staff are trained to recognise potential battery contamination and understand the associated fire risks.

Training includes identification of:

- Lithium battery types
- Electronic devices commonly found in waste
- Signs of damaged or overheating batteries

This awareness ensures that potential ignition sources can be removed before entering the processing system.

11.5 Monitoring and Continuous Improvement

The management of fire risks is subject to continuous monitoring and review.

This includes:

- Recording inspections and temperature monitoring results
- Investigating any incidents or near misses
- Reviewing maintenance records and equipment performance
- Updating operational procedures where necessary

Lessons learned from inspections or incidents are used to improve site procedures and strengthen fire prevention controls.

11.6 Integration with Site Fire Prevention Strategy

The measures described above operate in conjunction with other elements of the site's fire prevention strategy, including:

- Waste storage management and segregation
- Fire detection systems
- Fire suppression infrastructure
- Emergency response procedures

Together, these systems provide a multi-layered approach to fire prevention, ensuring that risks are identified early and managed effectively.

12. EMERGENCY RESPONSE PLAN

The facility operates an Emergency Response Plan designed to ensure that any fire incident is managed safely, efficiently, and in coordination with emergency services. The plan outlines the immediate actions required when a fire is detected, the responsibilities of site personnel, and the communication procedures required to notify relevant authorities.

The primary objectives of the emergency response plan are to:

- Protect the health and safety of site personnel and visitors

- Prevent escalation of the fire and limit environmental impacts
- Ensure rapid notification and support of emergency services
- Maintain clear communication with regulatory authorities

All site personnel are trained in the emergency procedures and participate in periodic emergency drills to ensure that the response plan can be implemented effectively.

12.1 Immediate Actions

If a fire or suspected fire is identified, immediate action is required to ensure the safety of personnel and to initiate emergency response procedures.

Fire incidents may be identified through:

- Automatic fire detection systems
- Gas detection alarms
- Thermal monitoring systems
- Visual observation by site personnel

Upon identification of a fire, the following immediate actions will be implemented.

12.1.1 Raise the Alarm

The individual discovering the fire will immediately activate the site fire alarm system to alert all personnel on site.

Alarm activation may occur through:

- Manual fire alarm call points
- Automatic fire detection systems
- Notification to the site control room

The alarm system provides audible and visual signals across operational areas to ensure that all personnel are aware of the emergency situation.

12.1.2 Evacuate Personnel

Upon activation of the fire alarm, all personnel will evacuate the affected areas in accordance with the site evacuation procedures.

Personnel will:

- Stop work activities where safe to do so
- Shut down equipment if necessary and safe
- Proceed to the designated emergency muster point

Emergency evacuation routes are clearly marked throughout the site and maintained free of obstructions.

Once at the muster point, personnel will remain there until further instructions are provided by the Incident Controller or emergency services.

12.1.3 Notify Fire and Rescue Service

The Fire and Rescue Service will be contacted immediately following confirmation of a fire incident.

The emergency call will provide the following information:

- Site location and address
- Nature of the fire
- Materials involved (e.g. organic waste, equipment)
- Presence of biogas systems or other hazards
- Any known injuries or hazards

Site personnel will ensure that site access gates are opened to allow rapid entry for emergency vehicles.

Where possible, a member of site management will meet the Fire and Rescue Service at the site entrance to provide site information and direct them to the incident location.

12.1.4 Isolate Gas Systems

Given the presence of biogas systems at the facility, isolation of gas infrastructure may be required during a fire incident.

Where safe to do so, trained personnel will:

- Isolate biogas supply systems
- Shut down CHP units and associated equipment
- Activate emergency shutdown systems if required

Gas isolation reduces the risk of gas ignition or explosion during firefighting operations. Isolation procedures are clearly defined within site operating procedures and only carried out by authorised personnel.

12.2 Roles and Responsibilities

During a fire incident, specific personnel are assigned defined responsibilities to ensure that the response is coordinated and effective.

These responsibilities are clearly communicated to staff through training and emergency response procedures.

Site Manager – Incident Controller

The Site Manager, or nominated deputy, will act as the Incident Controller during a fire emergency until the Fire and Rescue Service assumes operational command.

Responsibilities of the Incident Controller include:

- Coordinating the site emergency response
- Ensuring safe evacuation of personnel
- Liaising with the Fire and Rescue Service upon arrival
- Providing information on site hazards and infrastructure
- Overseeing implementation of fire water containment measures

The Incident Controller will also ensure that drainage isolation measures are activated where required to protect the environment.

Shift Supervisor – Evacuation Lead

The Shift Supervisor is responsible for managing the safe evacuation of personnel from operational areas.

Responsibilities include:

- Ensuring that work activities cease safely
- Directing personnel to evacuation routes
- Confirming that operational areas have been cleared where safe to do so
- Reporting evacuation status to the Incident Controller

This role ensures that evacuation is conducted quickly and safely.

Fire Marshals – Muster Checks

Designated Fire Marshals are responsible for ensuring that all personnel have safely evacuated the affected areas.

Their responsibilities include:

- Directing personnel to muster points
- Conducting headcounts at assembly areas
- Identifying any missing personnel
- Reporting muster results to the Incident Controller

Fire Marshals may also assist emergency services by providing information on the location of operational areas or personnel.

12.3 Communication and Regulatory Notification

Clear communication during and after an emergency incident is essential to ensure effective response and regulatory compliance.

The facility has procedures in place to ensure that relevant authorities are notified where required.

12.3.1 Natural Resources Wales (NRW) Notification

If a fire incident has the potential to cause environmental impact, Natural Resources Wales will be notified in accordance with the site environmental permit requirements.

Notification may occur where:

- Fire water containment systems are activated
- Contaminated water has been generated
- There is potential for environmental pollution
- Significant operational disruption has occurred

NRW will be notified via the appropriate incident reporting channels.

12.3.2 Local Authority and Environmental Notifications

Where required, additional notifications may be made to relevant authorities including:

- Local Authority Environmental Health departments
- Environmental regulators
- Emergency planning authorities

These notifications ensure that relevant organisations are informed of incidents that may affect the local environment or community.

12.4 Coordination with Fire and Rescue Service

Upon arrival, the Fire and Rescue Service will assume operational control of firefighting activities.

Site personnel will support the Fire and Rescue Service by:

- Providing site layout plans
- Identifying water supply points and hydrants
- Explaining site hazards including gas infrastructure
- Assisting with mechanical plant operations where appropriate

Site management will remain available to provide assistance throughout the incident.

12.5 Post-Incident Actions

Following resolution of a fire incident, the facility will undertake a structured recovery process.

This may include:

- Inspection of affected equipment and infrastructure
- Removal of damaged materials and debris
- Environmental monitoring where required
- Investigation of the root cause of the incident

Findings from the investigation will be used to update operational procedures and fire prevention measures where necessary.

13. DURING A FIRE

In the event of a fire, the facility will implement emergency response procedures to ensure that the incident is managed safely and effectively. The primary objectives during a fire incident are to:

- Protect the safety of personnel and visitors
- Support the Fire and Rescue Service in controlling the fire
- Prevent escalation of the incident
- Minimise environmental impacts from firefighting activities

Once a fire is identified and emergency procedures have been activated, the response will be coordinated by the Site Manager or designated Incident Controller until the Fire and Rescue Service assumes operational command.

13.1 Activation of Emergency Procedures

When a fire is detected, the site emergency response procedures will be immediately activated.

This may occur through:

- Automatic fire detection systems
- Activation of manual alarm call points
- Observation of smoke, flames, or overheating by site personnel

Once a fire is confirmed, the following actions will be taken:

1. The site fire alarm system will be activated.
2. All personnel will evacuate operational areas and proceed to the designated muster point.
3. The Fire and Rescue Service will be contacted immediately.
4. The Incident Controller will coordinate the site response and ensure that emergency procedures are followed.

During this stage, personnel will prioritise safe evacuation and communication and will not attempt to tackle large fires unless it is safe and within their training.

13.2 Coordination with the Fire and Rescue Service

Upon arrival, the Fire and Rescue Service will assume control of firefighting operations. Site management will provide the Fire and Rescue Service with relevant information to support firefighting activities. This may include:

- Site layout plans and emergency drawings
- Location of waste storage areas
- Identification of hazardous materials or equipment
- Locations of fire hydrants and water supply infrastructure
- Location of gas systems, digesters, and CHP units

Providing this information allows emergency responders to quickly assess the risks associated with the site and determine appropriate firefighting tactics.

Where required, site personnel may assist by operating mechanical plant such as loading shovels or telehandlers to separate waste materials or create fire breaks, under the direction of the Fire and Rescue Service.

13.3 Monitoring Environmental Impacts

During firefighting operations, the facility will monitor potential environmental impacts associated with the fire and firefighting activities.

Key environmental risks include:

- Contaminated firefighting water runoff
- Smoke emissions and air quality impacts
- Contamination of nearby land or drainage systems

Site management will monitor these risks throughout the incident and ensure that appropriate containment measures are implemented.

Where necessary, site personnel will coordinate with the Fire and Rescue Service to ensure that firefighting tactics are consistent with environmental protection measures.

13.4 Prevention of Runoff Escape

Firefighting activities may generate large volumes of water that can become contaminated with organic waste residues, ash, and other materials.

To prevent contaminated runoff from leaving the site, the following measures will be implemented during a fire incident:

- Activation of drainage isolation valves or penstocks to prevent discharge to surface water systems
- Direction of firefighting water into the site fire water containment system
- Monitoring of containment capacity during the incident

These measures ensure that contaminated fire water is retained within the site infrastructure and can be managed safely following the incident.

13.5 Gas System Isolation

Where biogas infrastructure is present, gas systems may be isolated during firefighting operations to reduce the risk of ignition or explosion.

Where safe to do so, authorised personnel will initiate gas isolation procedures, which may include:

- Shutdown of CHP units
- Closure of gas isolation valves
- Activation of emergency shutdown systems

These measures reduce the risk of gas release during firefighting operations and support the safe management of the incident.

13.6 Site Support for Firefighting Operations

Throughout the incident, site personnel will support the Fire and Rescue Service by providing:

- Access to firefighting water supplies
- Information on plant operations and hazards
- Mechanical plant assistance for waste handling or fire containment

The Incident Controller will remain available to coordinate communication between site personnel and emergency responders.

13.7 Maintaining Site Safety

During firefighting operations, the safety of personnel remains the highest priority.

Access to affected areas will be restricted and only authorised personnel will be permitted to enter operational zones where necessary.

Site personnel will remain at the designated muster point unless instructed otherwise by the Incident Controller or emergency services.

13.8 Transition to Recovery Phase

Once the Fire and Rescue Service has confirmed that the fire has been extinguished and the incident is under control, the site will transition to the post-incident recovery procedures described in Section 14.

This will include assessment of damage, environmental monitoring, and safe removal of affected materials.

14. AFTER A FIRE (Post Incident)

Following the control and extinguishment of a fire, the facility will implement a structured post-incident recovery process to ensure that the site is returned to a safe operational condition and that any environmental impacts are properly assessed and managed.

Natural Resources Wales requires Fire Prevention and Mitigation Plans to include procedures covering both the management of a fire incident and the recovery actions that take place after the incident. These procedures ensure that environmental risks are minimised and that lessons learned from the incident are incorporated into site management practices.

The post-incident response will focus on:

- Ensuring the site is safe for personnel and emergency responders
- Managing and removing damaged or contaminated materials
- Assessing any environmental impact resulting from the incident
- Conducting a thorough investigation to determine the cause
- Reporting the incident to regulatory authorities where required

14.1 Site Safety and Initial Assessment

Once the fire has been extinguished and the Fire and Rescue Service has declared the incident under control, a controlled assessment of the affected area will be undertaken. This assessment will typically be conducted by site management in consultation with emergency responders and will focus on identifying any ongoing hazards, including:

- Residual heat or smouldering waste
- Structural damage to buildings or infrastructure
- Damage to process equipment or gas systems
- Presence of contaminated fire water or debris

Access to the affected area will be restricted until it has been confirmed that the area is safe for personnel to enter.

Where necessary, temporary safety controls such as barriers or exclusion zones will be established.

14.2 Safe Removal of Damaged Waste and Debris

Waste materials affected by the fire may include partially burned waste, contaminated residues, and debris from damaged infrastructure.

These materials will be managed carefully to prevent environmental contamination and minimise the risk of re-ignition.

Mechanical plant such as loading shovels or telehandlers may be used to:

- Remove burned or damaged waste materials
- Separate partially burned materials from unaffected waste
- Transfer materials to the designated quarantine area for further cooling and monitoring

Where waste cannot be safely processed on site, it will be removed by licensed waste contractors and transferred to an appropriately permitted facility for treatment or disposal. All waste removal activities will comply with relevant waste management regulations and site permit conditions.

14.3 Environmental Monitoring

A fire incident has the potential to create environmental impacts through the release of smoke, contaminated runoff, or residues from burned materials.

Following an incident, environmental monitoring may be undertaken to assess any potential impact on the surrounding environment.

Monitoring activities may include:

- Inspection of nearby surface water bodies or drainage systems
- Assessment of soil or ground contamination within affected areas

- Monitoring of air quality where significant smoke generation occurred
- Sampling of retained fire water within containment systems

Where environmental contamination is identified, appropriate remediation measures will be implemented to prevent further impact.

This may include removal of contaminated materials, treatment of contaminated water, or cleaning of affected surfaces.

14.4 Management of Fire Water and Contaminated Runoff

Any fire water retained within the site containment system will be managed following the incident.

This may involve:

- Sampling and analysis of the contained water
- Pumping the water into suitable storage tanks
- Removal by licensed contractors for treatment or disposal at an authorised facility

The fire water containment infrastructure will also be inspected to ensure that it remains structurally sound and capable of functioning during future incidents.

Where necessary, the containment system will be cleaned or repaired before normal site operations resume.

14.5 Incident Investigation

A formal investigation will be undertaken following any fire incident to determine the root cause and identify opportunities to improve fire prevention measures.

The investigation will typically include:

- Review of operational records and monitoring systems
- Examination of equipment and infrastructure involved in the incident
- Interviews with personnel who witnessed or responded to the incident
- Review of maintenance records and operational procedures

The purpose of the investigation is to determine the factors that contributed to the incident and to identify corrective actions to prevent recurrence.

Findings from the investigation will be documented and incorporated into the site's continuous improvement and risk management processes.

14.6 Reporting to Natural Resources Wales

Where a fire incident has occurred that may have caused environmental impact or resulted in operational disruption, the facility will notify Natural Resources Wales (NRW) in accordance with the requirements of the site environmental permit.

The notification will typically include:

- Details of the incident and time of occurrence
- Description of the materials involved in the fire

- Information on firefighting activities and containment measures
- Assessment of potential environmental impacts
- Actions taken to manage the incident and prevent recurrence

Where required, a more detailed **incident investigation report** may be submitted to NRW outlining the findings of the internal investigation and the corrective actions implemented.

14.7 Review of Fire Prevention Measures

Following a fire incident, the site's fire prevention and mitigation measures will be reviewed to ensure that lessons learned are incorporated into operational practices.

This review may include:

- Updates to operational procedures
- Improvements to waste handling or storage practices
- Modifications to fire detection or suppression systems
- Additional staff training or emergency exercises

Any changes to site procedures will be communicated to staff and incorporated into the site fire prevention and emergency response documentation.

14.8 Return to Normal Operations

Normal operations will only resume once the following conditions have been satisfied:

- The affected area has been declared safe
- Damaged equipment has been repaired or replaced
- Environmental risks have been addressed
- Fire prevention measures have been reviewed and confirmed effective

These steps ensure that the facility can return to operation safely and without increased risk of further incidents.

15. TRAINING AND COMPETENCE

Effective fire prevention and emergency response rely on competent personnel who understand the fire risks associated with site operations and know how to respond safely during an incident. The facility therefore implements a structured training and competence programme to ensure that all employees are aware of fire risks and are capable of responding appropriately in the event of an emergency.

Training requirements are incorporated into the facility's Health, Safety and Environmental Management System, ensuring that competence is maintained and regularly reviewed.

The training programme is designed to ensure that personnel:

- Understand the causes and risks of fires associated with waste and anaerobic digestion processes

- Are familiar with site fire prevention measures and operational procedures
- Can respond effectively to fire alarms and emergency situations
- Are competent in their specific roles within the emergency response plan

15.1 Fire Safety Training for All Staff

All employees working at the facility receive basic fire safety training as part of their site induction and ongoing competency programme.

Fire safety training ensures that staff understand:

- The main causes of fires in waste treatment facilities
- Fire prevention measures implemented on site
- The location of fire alarms and emergency equipment
- Emergency evacuation procedures and muster point locations
- The safe use of portable fire extinguishers where appropriate

Personnel are also trained to recognise early indicators of fire risk, such as:

- Unusual heat or smoke
- Hot loads in incoming waste
- Overheating equipment or electrical faults

This awareness helps ensure that potential fire hazards are identified and reported quickly. Refresher training is provided periodically to maintain awareness and ensure that employees remain familiar with emergency procedures.

15.2 Fire Marshal Training

Designated Fire Marshals are appointed to support the implementation of fire safety procedures during emergency situations.

Fire Marshals receive additional training to enable them to perform their duties effectively.

Fire Marshal responsibilities include:

- Assisting with evacuation procedures during emergencies
- Directing personnel to safe evacuation routes
- Ensuring that operational areas are cleared where safe to do so
- Conducting headcounts at muster points
- Reporting evacuation status to the Incident Controller

Fire Marshals are also trained to identify fire hazards during routine operations and may assist with fire safety inspections.

The number and distribution of Fire Marshals across the site is determined based on operational staffing levels to ensure adequate coverage during working hours.

15.3 Emergency Drills and Exercises

To ensure that emergency procedures remain effective, the facility conducts periodic emergency drills simulating fire incidents.

Emergency drills are conducted at least annually, although additional drills may be undertaken where operational changes occur or where improvements to procedures are required.

Emergency exercises typically include:

- Activation of the site fire alarm system
- Evacuation of operational areas
- Muster point headcounts and personnel accountability
- Coordination between operational staff and management
- Review of emergency communication procedures

These drills allow personnel to practise their roles within the emergency response plan and ensure that evacuation procedures can be carried out efficiently.

Following each drill, a review and debrief process is undertaken to identify any lessons learned or improvements required.

15.4 Competence Records and Training Management

All training activities and competence assessments are recorded within the facility's training and competence management system.

Training records typically include:

- Employee training history
- Dates of training and refresher sessions
- Competence assessments
- Certification where applicable

Maintaining accurate records ensures that:

- Staff remain competent to perform their roles safely
- Training requirements are monitored and updated
- Regulatory inspections can verify staff competence

Training records are retained and made available for inspection by regulatory authorities where required.

15.5 Continuous Improvement and Review

The training programme is reviewed periodically to ensure that it remains effective and reflects current operational requirements.

This review may consider:

- Changes to site operations or infrastructure
- Findings from fire drills or incident investigations

- Updates to fire safety legislation or regulatory guidance

Where improvements are identified, training materials and procedures are updated accordingly.

This ensures that the workforce remains competent, informed, and prepared to respond effectively to fire incidents.

16. BIOGAS FIRE AND EXPLOSION RISK MANAGEMENT (ANAEROBIC DIGESTION SPECIFIC)

Anaerobic digestion processes produce biogas, which typically contains approximately 50–65% methane (CH₄) along with carbon dioxide and trace gases such as hydrogen sulphide (H₂S). Methane is a flammable gas and may present both fire and explosion hazards if released and allowed to accumulate in confined or poorly ventilated areas.

The facility has therefore implemented a comprehensive system of engineering controls, monitoring systems, and operational procedures to manage the risks associated with biogas production, storage, and utilisation.

The primary objectives of the biogas safety management system are to:

- Prevent uncontrolled gas releases
- Detect gas leaks at the earliest stage
- Eliminate ignition sources within hazardous areas
- Ensure safe shutdown of gas systems during emergency situations

These controls are implemented in accordance with relevant safety standards and industry guidance.

16.1 Biogas System Design

The anaerobic digestion facility incorporates several systems where biogas is produced, stored, and utilised. These include:

- Primary and secondary digesters
- Gas storage systems (gas holders or membrane roofs)
- Gas pipework and compression systems
- Combined Heat and Power (CHP) units
- Gas flaring systems

All biogas infrastructure is designed to ensure safe containment and controlled handling of biogas throughout the process.

Biogas pipework and associated equipment are designed to:

- Prevent gas leakage
- Withstand operational pressures

- Incorporate pressure relief and safety systems

The gas system is designed with appropriate ventilation and pressure management systems to prevent the build-up of explosive gas mixtures.

16.2 ATEX Hazardous Area Classification

Areas where flammable gas may be present are classified in accordance with ATEX regulations.

A hazardous area assessment has been undertaken to identify locations where explosive atmospheres may occur.

Typical ATEX zones within an AD facility include:

- Gas pipework and gas handling systems
- Digester roof gas spaces
- CHP engine enclosures
- Gas compressors and upgrading equipment
- Areas surrounding pressure relief valves and vents

Within these zones, appropriate measures are implemented to control ignition sources.

These measures include:

- Installation of ATEX-rated electrical equipment
- Control of static electricity and spark generation
- Use of intrinsically safe instrumentation
- Restriction of non-certified equipment in hazardous areas

Hazardous areas are clearly identified and documented within the facility's DSEAR risk assessment and hazardous area classification drawings.

16.3 Gas Detection Systems

Continuous gas monitoring systems are installed to detect the presence of methane and other gases associated with biogas operations.

Gas detectors are strategically positioned within areas where gas accumulation could occur, including:

- Gas compressor rooms
- CHP plant rooms
- Digester service areas
- Gas storage systems
- Enclosed pipework chambers

Methane detectors measure gas concentrations relative to the Lower Explosive Limit (LEL). Alarm thresholds are typically configured at multiple levels, for example:

- Low-level alarm – warning of increasing gas concentration
- High-level alarm – triggering emergency response procedures

When alarm thresholds are exceeded, the system activates audible and visual alarms and alerts operators via the control system.

This allows operators to investigate potential gas leaks and initiate corrective actions before dangerous concentrations develop.

16.4 Emergency Shutdown and Gas Isolation

The facility incorporates automatic and manual emergency shutdown systems designed to isolate biogas infrastructure during abnormal conditions or emergency situations.

Emergency shutdown procedures may include:

- Automatic shutdown of CHP units
- Closure of gas isolation valves
- Isolation of gas compressors or gas upgrading equipment
- Activation of gas flaring systems where appropriate

These systems prevent uncontrolled gas release and reduce the risk of ignition during fire incidents.

Emergency shutdown controls are integrated into the site Supervisory Control and Data Acquisition (SCADA) system, allowing operators to initiate shutdown procedures rapidly if required.

16.5 Pressure Relief and Gas Flaring

To prevent excessive pressure build-up within the biogas system, pressure relief devices and controlled gas flaring systems are installed.

Pressure relief valves allow excess gas to be safely vented if system pressures exceed design limits.

Where necessary, excess biogas may be directed to a dedicated flare system, which safely combusts the gas under controlled conditions.

The flare system provides an important safety mechanism by:

- Preventing over-pressurisation of digesters or gas holders
- Safely disposing of excess biogas during abnormal operating conditions
- Maintaining safe gas system operation during plant shutdown or maintenance

16.6 Ignition Source Control

Strict controls are implemented to eliminate ignition sources within areas where flammable gas may be present.

These controls include:

- Use of ATEX-certified electrical equipment
- Earthing and bonding of metallic infrastructure to prevent static discharge
- Restrictions on the use of portable electrical equipment in hazardous areas
- Permit-to-work controls for hot works activities

Hot works within or near hazardous areas are subject to strict control procedures and may only be undertaken following risk assessment and implementation of appropriate safety measures.

16.7 Maintenance and Inspection of Gas Systems

The safe operation of biogas infrastructure is supported by a planned preventative maintenance programme covering all gas handling systems.

Maintenance activities include:

- Inspection of gas pipework and fittings
- Testing of pressure relief valves and safety devices
- Calibration of gas detection systems
- Inspection of CHP engines and associated gas systems
- Leak detection inspections

Maintenance schedules are managed through the facility's maintenance management system, ensuring that equipment remains safe and reliable.

16.8 Integration with Fire Prevention Strategy

The management of biogas risks is fully integrated with the facility's broader fire prevention and mitigation strategy.

This includes:

- Continuous gas detection and monitoring
- Emergency shutdown and isolation systems
- Fire detection and suppression systems
- Staff training and emergency response procedures

These measures ensure that the risk of biogas fires or explosions is minimised and that any abnormal conditions are identified and managed promptly.

16.9 Staff Training and Awareness

Personnel working on site receive training on the hazards associated with biogas systems.

Training includes:

- Understanding methane and gas hazards
- Recognising gas detection alarms
- Emergency shutdown procedures
- Safe working practices within ATEX areas

This training ensures that staff understand the risks associated with biogas systems and can respond appropriately during abnormal conditions.

17. REVIEW AND AUDIT

The Fire Prevention and Mitigation Plan (FPMP) is subject to regular review and audit to ensure that the measures described within the plan remain effective, operational, and consistent with current site activities and regulatory requirements.

Natural Resources Wales requires operators to demonstrate that fire prevention measures are actively monitored and periodically reviewed, ensuring that the plan continues to reflect the actual operation of the facility.

The review and audit process forms part of the site's Environmental Management System (EMS) and is integrated with the facility's health, safety, and operational management procedures.

The objectives of the review and audit process are to:

- Confirm that fire prevention and mitigation measures remain effective
- Identify opportunities to improve fire risk management
- Ensure compliance with regulatory requirements and permit conditions
- Verify that staff remain trained and competent in emergency procedures

17.1 Annual Review of the Fire Prevention and Mitigation Plan

The Fire Prevention and Mitigation Plan will be formally reviewed at least once every twelve months to ensure that it remains accurate and reflective of site operations.

The annual review will consider:

- Changes to site infrastructure or plant equipment
- Changes to waste types or storage arrangements
- Performance of fire detection and suppression systems
- Findings from internal audits and inspections
- Feedback from emergency drills and training exercises

Where necessary, updates will be made to ensure that the plan continues to provide an accurate description of fire prevention and emergency response arrangements.

The review will be documented and recorded within the site management system.

17.2 Review Following an Incident or Near Miss

In addition to the annual review, the Fire Prevention and Mitigation Plan will be reviewed following any fire incident, near miss, or event that could have led to a fire.

This review will assess:

- The effectiveness of fire prevention measures
- The performance of fire detection and suppression systems
- The effectiveness of emergency response procedures
- Any environmental impacts resulting from the incident

Findings from the incident investigation will be used to identify improvements to site procedures or infrastructure.

Where necessary, updates to the Fire Prevention and Mitigation Plan will be implemented to prevent recurrence of similar incidents.

17.3 Internal Audits and Inspections

Periodic internal audits are undertaken to verify that fire prevention measures described in this plan are being implemented correctly.

These audits may include inspection of:

- Waste storage areas and fire breaks
- Fire detection and suppression equipment
- Fire water containment systems
- Emergency access routes and firefighting infrastructure
- Housekeeping and waste management practices

Audit findings are documented and any corrective actions identified are implemented through the site management system.

17.4 Continuous Improvement

The facility operates a continuous improvement approach to fire risk management.

This involves regularly reviewing operational practices, monitoring performance indicators, and implementing improvements where necessary.

Continuous improvement activities may include:

- Upgrading fire detection or suppression systems
- Improving waste handling and storage procedures
- Enhancing staff training and emergency preparedness
- Implementing lessons learned from industry incidents or regulatory guidance

By adopting this approach, the facility ensures that fire prevention measures remain robust and aligned with industry best practice.

17.5 Record Keeping

Records relating to the review and audit of the Fire Prevention and Mitigation Plan are maintained within the site's Environmental Management System.

These records may include:

- Documentation of annual plan reviews
- Audit reports and inspection records
- Records of corrective actions and improvements
- Reports from emergency drills and exercises

Maintaining these records ensures that the operator can demonstrate ongoing compliance with regulatory requirements and effective management of fire risks.

18. COMPLIANCE STATEMENT

This Fire Prevention and Mitigation Plan (FPMP) has been prepared to demonstrate that the facility has implemented appropriate systems, procedures, and infrastructure to prevent fires, mitigate the impact of fire incidents, and protect human health and the environment. The plan has been developed in accordance with the requirements of Natural Resources Wales Fire Prevention and Mitigation Plan Guidance and reflects current industry best practice for waste management and anaerobic digestion facilities.

18.1 Compliance with NRW Fire Prevention and Mitigation Plan Guidance

This Fire Prevention and Mitigation Plan has been developed to meet or exceed the expectations set out within the Natural Resources Wales Fire Prevention and Mitigation Plan Guidance for waste management facilities.

The plan demonstrates that the facility has considered and addressed key regulatory requirements including:

- Identification and management of fire risks associated with site activities
- Implementation of measures to prevent the occurrence of fires
- Provision of systems to detect fires at an early stage
- Installation of appropriate firefighting infrastructure and water supplies
- Development of effective emergency response procedures
- Protection of the environment from contaminated firefighting runoff

The measures described within this plan ensure that fire risks are minimised and effectively managed throughout the operation of the facility.

18.2 Incorporation of WISH Waste Fire Risk Principles

The fire prevention measures implemented at the facility are aligned with the principles set out in the Waste Industry Safety and Health (WISH) Forum guidance on reducing fire risk at waste management sites.

These principles include:

- Controlling waste acceptance and preventing unsuitable materials from entering the facility
- Limiting waste storage volumes and storage durations
- Maintaining appropriate separation distances and fire breaks
- Implementing effective monitoring and inspection procedures
- Ensuring rapid detection and response to potential fire incidents

By incorporating these principles into site operations, the facility adopts a proactive approach to fire prevention consistent with industry best practice.

18.3 Implementation and Operational Commitment

The measures described within this Fire Prevention and Mitigation Plan are fully implementable and operational at all times.

The operator commits to ensuring that:

- All fire prevention measures are maintained and operational
- Site personnel are trained and competent in fire safety procedures
- Fire detection, suppression, and containment systems are maintained and regularly tested
- Waste storage limits and operational procedures are consistently followed

The plan forms part of the facility's Environmental Management System and will be implemented alongside the site's health, safety, and operational procedures.

18.4 Review and Continuous Improvement

This Fire Prevention and Mitigation Plan will be subject to periodic review to ensure that it remains effective and reflects current operational practices and regulatory expectations.

The plan will be reviewed:

- At least annually
- Following any fire incident or near miss
- Following significant changes to site operations or infrastructure
- If required by Natural Resources Wales

Any updates or improvements identified through these reviews will be incorporated into the plan to ensure continued compliance and effectiveness.

18.5 Commitment to Fire Prevention and Environmental Protection

The operator is committed to maintaining a safe working environment and protecting the surrounding environment from potential fire incidents.

Through the implementation of this Fire Prevention and Mitigation Plan, the facility demonstrates a commitment to:

- Preventing fires wherever reasonably practicable
- Minimising the impact of fire incidents should they occur
- Protecting employees, emergency responders, and the local community
- Preventing environmental pollution resulting from firefighting activities

This plan provides assurance that the facility operates in a manner consistent with Natural Resources Wales regulatory requirements and recognised industry standards for fire risk management.



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