



## Appendix 3.15

### Major Accidents and Disasters Technical Note (July, 2022)

# Major Accidents and Disasters Technical Note

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## 1.1 Introduction

- 1.1.1 This Note, prepared by Quod with input from the Project Team, considers the potential for the Development (Barry Biomass Plant, off Woodham Road, Barry) to be affected, by the risk of major accidents or disasters, and consequently whether it has the potential to impact the environment.
- 1.1.2 This Note should be read in conjunction with technical chapters of the July 2022 Environmental Statement (ES) and Appendices which provides a broader environmental context on the risks associated with these major event types.
- 1.1.3 The Note is accompanied by:
- **Annex 1:** Accident Management Plan
  - **Annex 2:** Fire Prevention and Mitigation Plan
  - **Annex 3:** Emergency Plan (and Emergency Response)

## 1.2 Relevant Legislation and Guidance

### Legislation

- 1.2.1 Schedule 4 of The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (as amended) require that the ES should include the following information:

*“5. A description of the likely significant effects of the development, resulting from, inter alia – .....d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)”.*

*“8. A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to European Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of the Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.”*

### Guidance

- 1.2.2 EU Guidance Notes<sup>1</sup> to the EIA Directive indicate that such assessments should have regard to major events which are of man-made origin and are naturally occurring. Also, the EU guidance indicates that when scoping major events, the assessments should apply

professional judgement in classifying specific definitions of major events and shall identify such events which are relevant to the project. The EU guidance identifies that not all events warrant assessment, and as such, evidence should be provided to support the view that they are classified as 'major' events. Evidence supporting the methodology and approach to assessing major events shall be provided.

1.2.3 A guidance document on the assessment of major accidents and disasters in the context of EIA was published by IEMA in September 2020<sup>2</sup>. The document offers an assessment methodology based on known current practice to date and identifies key terminology that can be used in the assessment. As this is an emerging topic, the IEMA document is intended as a primer to introduce the concept of the topic and offer an initial appreciation of methodology that could be adopted.

1.2.4 The IEMA guidance provides the below terminology to describe 'major accidents' and 'disasters':

- **Major Accidents:** Events that threaten immediate or delayed serious environmental effects to human health, welfare and/or the environment and require the use of resources beyond those of the client or its appointed representatives to manage. Whilst malicious intent is not accidental, the outcome may be the same and therefore many mitigation measures will apply to both deliberate and accidental events; and
- **Disaster:** May be a natural hazard (e.g. earthquake) or a man-made/external hazard (e.g. act of terrorism) with the potential to cause an event or situation that meets the definition of a major accident.

1.2.5 This assessment is based primarily on a review of the accident and disaster risk assessment (Environmental Risk Assessment, ERA) that was undertaken to support the Environmental Permit application to NRW. The ERA presents a high-level assessment of accident risks, that has then informed an Accident Management Plan (AMP) for the operational site. An AMP is a regulatory requirement for the Environmental Permit and will be updated throughout the operational lifetime of the Development.

### 1.3 Hazard and Accident Design and Management

1.3.1 The design of the Development was subject to a number of detailed design review processes including Hazard and Operability Analysis (HAZOP). HAZOP is a structured and systematic technique for system examination and risk management. The findings of the HAZOP assessment have all been incorporated into the design of the Facility.

1.3.2 The Applicant submitted an AMP with the Permit Application (Annex 1). The AMP was produced in accordance with the Natural Resources Wales guidance Document 'How to comply with your Environmental Permit' and addresses the following requirements:

- Identifies events or failures that could damage the environment;
- Assesses how likely they are to happen and the potential environmental consequences;
- Actions to minimise the potential causes and consequences of accidents; and

- The actions that are required to be carried out if an accident happens.

1.3.3 Table 2.2 of the AMP presents a detailed assessment of the following accidents and associated risks:

- Spills and leaks, loss of containment, transfer of substances, overfilling of vessels;
- Vandalism;
- Flooding;
- Fire in gasification plant;
- Incompatible feedstock;
- Failure of mains services; and
- Operator error/ equipment failure.

1.3.4 NRW were satisfied that appropriate measures will be in place to ensure that accidents that have the potential to cause pollution are prevented, but that if they should occur their consequences are sufficiently minimised.

1.3.5 To ensure that the management system in place at the Development sufficiently manages the residual risk of accidents, Permit condition 1.1.1a requires the implementation of a written management system which addresses the pollution risks associated with, amongst other things, accidents.

1.3.6 The AMP has been implemented and is maintained at the Site as part of the Environmental Management System (EMS) and will ensure the site and all operatives within are fully prepared for such incidents.

1.3.7 Under the EMS, the AMP and all associated procedures will be reviewed at least every four years or as soon as practicable after an incident, with changes made accordingly to minimise the risk of occurrence / recurrence.

### **Fire Prevention and Management**

1.3.8 The storage and processing of mixed waste wood feedstock is a regulated activity which presents a risk of fire unless controlled and managed appropriately. Accordingly, the Appellant is required to manage the Site in accordance with an approved Fire Prevention and Mitigation Plan (FPMP) which forms part of the operational requirements and specified Risk Management Controls within the Environmental Permit.

1.3.9 NRW were satisfied that the FPMP submitted by the Appellant is of a satisfactory standard and was compliant with the guidance in place at the time (2016). The FPMP has subsequently been updated in line with the latest NRW guidance (published August 2017).

## **1.4 Conclusion**

1.4.1 The Biomass Facility will operate under an Environmental Permit supplied by NRW. The Environmental Permit application that was prepared by the operator describes in detail the potential accident and emergency scenarios that could occur at the Site and provides both a risk assessment and an accompanying AMP for how such incidents will be controlled.

- 1.4.2 In determining that the decision for granting the Facility an Environmental Permit by the NRW, the application and associated decision documents were subject to three rounds of public consultation and all accident, emergency and fire management documents and risk assessments were deemed competent and sufficient.
- 1.4.3 With the maintenance of the relevant management protocols and practices required under health and safety legislation and the Permit, is considered that residual environmental effects from accidents and disasters associated with stages of the lifecycle of the Development would not be significant.

## References

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<sup>1</sup> European Commission - Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report (2017).

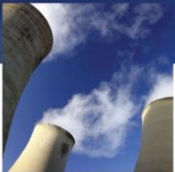
<sup>2</sup> IEMA – Major Accidents and Disasters in EIA Guide (September 2020)



## Annex 1

### Accident Management Plan

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**ACCIDENT MANAGEMENT PLAN**  
**Biomass UK No.2 Ltd**

**DOC REF: BUK-E09**

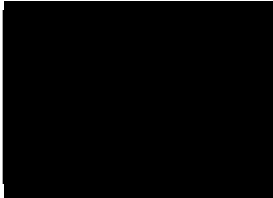
Prepared by:  
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#### VERSION CONTROL RECORD

Issue	Description of Status	Date	Reviewer Initials	Authors Initials
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# 1 INTRODUCTION

This document has been prepared for Biomass UK No.2 Ltd and forms an Accident Management Plan in support of a New Bespoke Installation Permit Application for a renewable energy generation facility that incorporates Advanced Thermal Treatment (ATT, gasification) at their site on Woodham Road, Barry.

The Advanced Thermal Treatment (ATT) plant is designed to process shredded mixed waste wood feedstocks to produce heat to raise steam in a conventional tube boiler for utilisation in a steam turbine for the production of renewable electricity with an export capacity up to 10MWe.

The Installation has been designed to process approximately 86,400 tonnes of non-hazardous mixed waste wood per annum.

This Accident Management Plan has been produced in accordance with the Natural Resources Wales guidance Document *'How to comply with your Environmental Permit'*.

It is stipulated under this guidance document that the Accident Management Plan fulfils the following four key requirements:

- Identifies events or failures that could damage the environment
- Assesses how likely they are to happen and the potential environmental consequences
- Actions to minimise the potential causes and consequences of accidents
- The actions that are required to be carried out if an accident happens.

This Accident Management Plan has been implemented and maintained at the site as part of the company's Environmental Management System and will ensure the site and all operatives within are fully prepared for such incidents.

A number of the control measures cited within this document refer the operators established suite of Environmental Procedures and new procedures which have been drafted in response to the proposed new operations at site (BUK-E01 to BUK-E08).

These documents should be referred to for detailed actions in relation to emergency response and control.

- BUK-SWP
- BUK-E01 Pre-Acceptance;
- BUK-E02 Waste Acceptance;
- BUK-E03 Waste Rejection;
- BUK-E04 Off Site Waste Transfer;
- BUK-E05 Waste Reception and Storage;
- BUK-E06 Environmental Records;

- BUK-E07 Environmental Management and Monitoring;
- BUK-E08 Infrastructure Management and Monitoring; and
- BUK-E10 Fire Prevention Plan.

The Accident Management Plan and all associated procedures will be reviewed at least every four years or as soon as practicable after an incident, with changes made accordingly to minimise the risk of occurrence / recurrence.

All of the necessary actions that are required to be taken in the event of an accident will be detailed within the detailed Site Emergency Procedures.

## 2 RISK MAGNITUDE ESTIMATIONS

The Accident Management Plan (Table 2.2 overleaf) has adopted a risk assessment approach to each potential hazard by combining the probability and magnitude of the potential risk to give an estimation of the risk prior to any mitigation measures. The risk management measures, which are designed to reduce the likelihood of occurrence, are then detailed followed by an estimation of the actual risk post-mitigation (Residual Risk Rating).

The DEFRA guide to risk assessment<sup>1</sup> indicates the approach of subjectively classifying the magnitude of potential consequences into four categories depending upon the degree of the impact that the potential risk could have and the context in which the risk is being assessed. The classification is used as a guide in this Risk Assessment.

The four categories are as follows:

- **Severe:** Possible irreparable damage to environmental resources;
- **Moderate:** Possible damage to environmental resources which are limited within a regional context;
- **Mild:** Possible effects might be transient damage to environmental resources which are commonplace on a regional basis and alternative sources are readily available;
- **Negligible:** The effects are negligible or might cause very slight temporary deterioration in the current environmental resource quality.

The matrix shown below considers the probability of the potential risk against the magnitude of the potential impact, thereby giving an estimation of the resulting likelihood of the risk occurring.

Probability of potential Risk	Magnitude of Potential Impact			
	Severe	Moderate	Mild	Negligible
High	High	High	Medium/Low	Near Zero
Medium	High	Medium	Low	Near Zero
Low	Medium	Medium	Low	Near Zero
Negligible	Medium	Medium/Low	Low	Near Zero

The qualitative risk assessment for the Accident Management Plan has been based on the matrix outlined above.

The final stage of the risk assessment is the judgement of the severity of the residual risk following implementation of the mitigation measures.

The entire plant has been subject to HAZOP and has been designed to fail safe.

<sup>1</sup> A Guide to Risk Assessment and the Risk Management for Environmental Protection, 1995.

**Table 2.2: Accident Management Plan**

Accident Scenario	Probability of Accident Occurring	Magnitude of Potential Impact	Risk Rating before mitigation	Risk Management	Residual Risk Rating (following Mitigation)
1 - Spills and Leaks / Loss of Containment / Transfer of Substances / Overfilling of Vessels	Medium	<p>Moderate to Severe</p> <p>Spillage and leakage could occur during fuel deliveries, vehicle refuelling, vehicle breakdowns/ accidents and or damage to tanks or bunds;</p> <p>Loss of containment could result in potentially polluting liquids (including oils) being discharged in surface water drainage systems and to controlled waters;</p>	Low	<ul style="list-style-type: none"> <li>The site is entirely sealed hardstanding with fully contained and sealed drainage and therefore considered to have a low potential for impacts to ground water;</li> <li>A sealed drainage and containment system for tanks containing potentially polluting liquids has been constructed so that any leaks / spills are contained;</li> <li>Electronic monitoring (i.e. level gauges, feedback loops etc) shall be installed on all vessels;</li> <li>All delivery areas are contained within a sealed drainage and containment system that incorporates bund walls, appropriate falls and drains;</li> <li>All storage vessels have been constructed to the appropriate British Standard;</li> <li>Tanks are inspected visually on a daily basis by site staff to ensure continued integrity of tanks, and identify any necessary remedial action;</li> <li>Minor spills to be cleaned up immediately, using sand or proprietary absorbent. Resultant materials to be placed in container for off-site disposal to appropriate facility, if necessary;</li> <li>Immediate action to be taken in event of major spill which is likely to cause polluting emissions to the environment to prevent liquid from entering surface water drains or any adjacent unsurfaced ground. Spillage to be cleared immediately and placed in containers for offsite disposal. NRW to be informed;</li> <li>The plant has been designed in order to include an automated shutdown facility; and</li> </ul>	Low

				<ul style="list-style-type: none"> <li>The company has established accident and emergency procedures.</li> </ul>	
2 - Vandalism	Medium	Moderate  The site could be subject to intentional vandalism and damage by intruders/ trespassers who could cause damage or harm to the plant and equipments, spills and leaks to tanks.	Medium	<ul style="list-style-type: none"> <li>On-site security measures:</li> <li>Security lighting 24 hours a day;</li> <li>Security cameras are installed at key areas of the site;</li> <li>Security fencing extends around the site perimeter;</li> <li>2m palisade or equivalent;</li> <li>Lockable gates are located at the site entrance;</li> <li>Gates will be locked whenever the site is closed;</li> <li>Gates and fencing are inspected daily by operations staff to identify deterioration and damage and the need for repair;</li> <li>Fencing and gates are maintained and repaired to ensure their continued integrity. If damage is sustained, repair will be made within the same working day. If this is not possible, suitable measures will be taken to prevent unauthorised access to the site and permanent repairs will be affected as soon as is practicable;</li> <li>All visitors to the site are required to register in the visitor's book and sign out again on exit, thereby minimising the risk of unauthorised visitors on the site; and</li> <li>Operational procedures have been implemented including regular inspections, ensuring continual monitoring of security provision at the site.</li> </ul>	Low
3 - Flooding	Low: The site lies within an area no	Moderate	Medium	<ul style="list-style-type: none"> <li>The site is equipped with a sealed drainage and bunding systems which will prevent the inflow of offsite flood water into critical areas (bunds, tanks, storage etc.); and</li> <li>In cases of extreme rainfall, only the sites SUDS measures will control and release all water falling on site such that off site flooding is minimise.</li> </ul>	Low
4 - Fire in gasification plant:  Plant malfunction;  Electrical equipment that could provide an ignition source;	Medium	Severe	Medium	<ul style="list-style-type: none"> <li>All plant is subject to a planned preventative maintenance schedule;</li> <li>The plant has significant control and safety systems all of which are interlocked to ensure a very controlled shutdown in the event that the plant undergoes operational difficulties;</li> <li>All plant has been specified to be intrinsically safe and earthed in accordance to best practice;</li> <li>All aspects of the plant and buildings are constructed of non</li> </ul>	Low

<p>Waste products / raw materials that may support combustion.</p>				<p>combustible materials;</p> <ul style="list-style-type: none"> <li>• The plant has been designed to shut down (fail safe) in the event of an emergency (all gases will be directed to Emergency Flare);</li> <li>• Containment system: all tanks and vessels containing flammable and potentially polluting liquids are constructed so that any leaks/spillages are contained and responded to in accordance with established emergency procedures;</li> <li>• Fire suppression, detecting and monitoring systems have been installed;</li> <li>• Separation of combustible materials from the source prior to processing: <ul style="list-style-type: none"> <li>– All waste feedstock is stored within the reception area of the wood storage building.</li> <li>– All flammable process consumables shall be stored in bunded tanks.</li> </ul> </li> <li>• In the event of a fire, the following actions will be taken: <ul style="list-style-type: none"> <li>– The fire brigade will be notified immediately and the NRW as soon as practicable.</li> <li>– All containment valves and systems will be closed.</li> <li>– The site will be immediately evacuated.</li> </ul> </li> <li>• Records of fire incidences will be kept on site together with a summary of remedial action taken;</li> <li>• The NRW will be advised of all incidents of fire as soon as is practicable;</li> <li>• Smoking will not be permitted in the operations areas of the site;</li> <li>• Automated fire detection and control systems have been installed.</li> </ul>	
<p>5 - Incompatible Feedstock/ Unwanted Reactions: Some of the raw materials and waste inputs at the site could contain impurities that impede / prevent the gasification process.</p>	<p>Low</p>	<p>Moderate / Severe</p>	<p>Low</p>	<p>The following methods will be implemented to ensure that incompatible feedstocks do not compromise the safe operation of the plant:</p> <ul style="list-style-type: none"> <li>• All wastes accepted onto site have been subject to 'pre-acceptance' in accordance to established procedure BUK-E01;</li> <li>• All incoming wastes are inspected in accordance with established procedure BUK-E02;</li> <li>• When in the waste reception area, any non conforming waste</li> </ul>	<p>Low</p>



				<p>will be removed prior to acceptance in accordance with established procedure BUK-E03; and</p> <ul style="list-style-type: none"> <li>Records of incidents involving incompatible compatible will be kept on site together with a summary of the remedial action taken.</li> </ul>	
<p>6 - Failure of Mains Services: Failure in the mains services, water or electricity.</p>	Medium	Low	Low	<p>In the event that mains services of water and electricity supplied to the site are unavailable, the following actions will occur:</p> <ul style="list-style-type: none"> <li>In the event of sudden disconnection of the grid the ID fan will cease to operate, thus no emissions will be released to atmosphere;</li> <li>All conveyors will cease operating so no further transfer of material can occur;</li> <li>The software control systems are all backed up with an Unlimited Power Supply system that will ensure that a controlled shutdown takes place; and</li> <li>The boiler plant shall shutdown, thus rendering the plant inoperable.</li> </ul>	Negligible
<p>7 - Operator Error / Failure of Equipment:</p> <p>The unexpected breakdown of any part of the plant could result in short term build up of waste in the reception area or the incomplete treatment of waste.</p> <p>The result of operator error could result in the plant not functioning efficiently.</p>	Medium	Low	Low	<p>The plant has been designed with a number of fail safe and automatic shutdown systems, where appropriate.</p> <ul style="list-style-type: none"> <li>The design of the plant only includes sufficient storage capacity for approximately 3 days' production and waste storage;</li> <li>Should the above storage capacity be exceeded, incoming waste will be diverted to landfill as per current/historical practice.</li> </ul> <p><i>The above capacity measures allow waste to be received while equipment repairs are affected.</i></p> <ul style="list-style-type: none"> <li>All equipment is subject to a Planned and Preventative Maintenance Programme (PPM), to minimise unplanned failures (BUK-E08 Infrastructure Monitoring and Management Programme)</li> <li>The plant also has in place a number of Emergency Shutdown Controls to ensure safe shut down in emergency.</li> </ul>	Negligible

### 3 SUMMARY & CONCLUSION

This document has been prepared to meet the requirements pertaining to Accident Management Plans within the Natural Resources Wales (NRW) guidance document *'How to Comply with your Permit'*.

It is concluded that despite the Installation having the potential for a low-moderate environmental impact to the environment, the mitigation measures incorporated into the design of the plant and the site infrastructure are sufficient to mitigate the risks.

The design of the site has been subject to a number of detailed design review processes including HAZOP. The findings of the HAZOP assessment have all been incorporated into the design of the plant.

The company will operate using a suite of procedures for the control and management of all materials and plant in use at the facility.

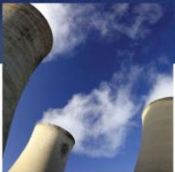
These procedures will detail the required actions to be taken in the event of an emergency and should be used in the first instance for any accident and emergency at site.



## Annex 2

### Fire Prevention and Mitigation Plan

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## FIRE PREVENTION AND MITIGATION PLAN

**DOC REF: BUK-E10**

**Biomass UK No.2 Ltd**

**Prepared By:**  
Sol Environment Ltd

**Date:**  
May 2021

**Project Ref:**  
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1	Initial Submission to Natural Resources Wales	October 2016	SMB
2	Second Submission to Natural Resources Wales	July 2017	SMB
3	Updated to reflect NRW updated FPMP Guidance	August 2018	SMB
4	Updated to reflect recommissioning of Water tank	May 2021	SMB

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# 1 Introduction

## 1.1 Introduction

This document has been prepared by Sol Environment Ltd on the behalf of Biomass UK No.2 Ltd for the operation of a renewable energy generation facility that incorporates Advanced Thermal Treatment (ATT, gasification) at their site on Woodham Road, Barry.

The document provides a structured framework and approach in effectively preventing potential fires associated with the processing and storage operations at the site.

This Fire Prevention and Mitigation Plan document (referred hereafter as the 'FPMP') has been produced in accordance with the Natural Resources Wales Fire Prevention and Mitigation Plan Guidance – Waste Management (Guidance Note 16) (published August 2017).

This Fire Prevention and Mitigation Plan meets the fundamental objective of the FPMP Guidance as it demonstrates that the site can:

- Minimise the likelihood of a fire happening;
- Aim for fire to be extinguished within 4 hours; and
- Minimise the spread of fire within the site and to neighbouring sites.

All staff and contractors working on-site will be aware and understand the contents of this FPMP and what they must do to prevent a fire occurring and during a fire if one breaks out.

## 1.2 Structure of the Fire Prevention and Mitigation Plan

This FPMP has been structured in accordance with the NRW Fire Prevention and Mitigation Plan Guidance and considers the following relevant aspects of the facility:

- Common Causes of Fire and Preventative Measures;
- Storage Times and Self-Combustion Factors;
- Managing Waste Material Stacks and Separation Distances;
- Seasonality and Waste Stack Management;
- Monitoring and Turning of Stacks;
- Detecting Fires;
- Suppressing Fires;
- Firefighting Strategy;
- Water Supplies;
- Managing Water Run-off;
- Quarantine Area;
- During and after an Incident; and

- Reviewing and Monitoring your Fire Prevention and Mitigation Plan.

### **1.3 Status of the Fire Prevention and Mitigation Plan**

The FPMP is a “live” document and will form part of the key environmental management document for the facility. All monitoring procedures, responsibilities and compliance actions will updated as and when required.

This version is the current issue (Issue 4) and has been updated to reflect conditions at site as of May 2021.



## 2 SITE BACKGROUND

### 2.1 Site Setting

Biomass UK No.2 Ltd (Biomass UK hereafter) intend to operate a renewable energy generation facility at Woodham Road, Barry, CF63 4JE. The facility will be regulated in accordance with the requirements of the Environmental Permitting Regulations, under the conditions of an Environmental Permit.

The Advanced Thermal Treatment (ATT) plant processes shredded mixed waste wood feedstocks to produce heat to raise steam in a convention tube boiler for utilisation in a steam turbine for the production of renewable electricity with an export capacity up to 10MWe.

The Installation is designed to process approximately 86,400 tonnes of non-hazardous mixed waste wood per annum. The site was originally commenced construction in 2016 and was completed in 2018. As of May 2021, the site has been recommissioned awaiting the commencement of operations from June 2021 onwards. At the time of re-commencement of operations, as aspects of the FPMP are considered to be installed, operational and as per the original safety design.

The location of the subject Site is shown on Figure A1, Annex A, centred at approximate National Grid Reference OS X (Eastings) 312610 OS Y (Northings) 167683 (NGR ST 12610 67683). The site layout is shown in Figure A2.

The site is located within Barry Port at the centre of an industrial and commercial area. The site extends in area to 0.77ha (1.86 acres).

Table 2.1 provides further information in relation to the site.

Table 2.1 Site Setting	
Direction	Description
North	Immediate Vicinity: Unused Land Within 500m: Unused Land, Ffordd Y Mileniwn, Railway Line, Residential Area (Barry) Beyond 500m: Residential Area, A4055, Barry Road, Gibbons Down
North East	Immediate Vicinity: Truck Paring Within 500m: Industrial Buildings, Scrap Metal Yard, Haulage Depot, Unused Land, Entrance Channel (Dock) Beyond 500m: Unused Land, Industrial Works, Residential Areas (Palmerstown, Dinas Powys)
East	Immediate Vicinity: Truck Parking, David Davies Road Within 500m: Entrance Channel (Dock), Industrial Buildings, Unused Land Beyond 500m: Industrial Buildings, Unused Land, the Coast
South East	Immediate Vicinity: David Davies Road, Grassed Area, Railway Within 500m: Entrance Channel (Dock), Industrial Buildings, Unused Land Beyond 500m: Unused Land, the Coast, Bristol Channel
South	Immediate Vicinity: David Davies Road, Grassed Area, Railway

	Within 500m: Entrance Channel (Dock), Industrial Buildings, Atlantic Way Beyond 500m: Unused Land, the Coast, Bristol Channel
South West	Immediate Vicinity: Woodham Road, Nissen Industrial Buildings Within 500m: Entrance Channel (Docks) Beyond 500m: Barry Island, Jackson Bay, Whitmore Bay, Bristol Channel
West	Immediate Vicinity: Woodham Road, Nissen Industrial Buildings Within 500m: Unused Land, Railway, Cory Way, The Vale Glamorgan Council, Residential Buildings Beyond 500m: Residential Properties, Waterfront Retail Park, Docks, Barry
North West	Immediate Vicinity: Woodham Road, Nissen Industrial Buildings Within 500m: Unused Land, Ffordd Y Mileniwn, Railway Line, Residential Area (Barry) Beyond 500m: Barry

The Natural Resources Wales flood risk map indicates that the site does not lie within an area where there is a risk of flooding from rivers and the sea. The southern boundary of the site lies immediately adjacent to land which has a low risk of flooding. This is land assessed as having a chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%).

According to TAN 15: Development and Flood Risk Development Advice Map the site is located in Zone B which is defined as areas known to have been flooded in the past. The site lies just outside of Zone C2 which is defined as land without significant flood.

Barry Dock is located approximately 40m to the south of the site.

There are no main rivers located within 500m to the site.

The facility has been designed to prevent and mitigate the offsite impacts associated with fire as far as practically possible.

The wind direction is pre-dominantly from the south west.

### 3 FIRE PREVENTION AND MITIGATION PLAN

This Fire Prevention and Mitigation Plan has been developed to include an assessment of fire risk on site and the measures in place to prevent, detect, suppress, mitigate and contain fires.

This plan forms part of Biomass UK’s management system and sets out the fire prevention measures and procedures that will be put in place and used on site.

All staff and contractors working on site will be trained on the contents of the Fire Prevention and Mitigation Plan and what they must do during a fire.

A hard copy of the Fire Prevention and Mitigation Plan will be kept in the Site Office and all staff will be aware of where it is kept. The FPMP is also available electronically.

Regular exercises will be carried out to test how well the plan works and that staff understand what to do. These exercises will take place every quarter.

At the site entrance there is an emergency services box where a copy of the FPMP will be kept so that the fire service can access the plan out of hours in an emergency.

#### 3.1 Common Causes of Fire and Preventative Measures

The following table identifies common causes of fire and the measures that Biomass UK take to reduce the risk of a fire taking place:

Table 3.1 Control of Potential Causes of Fire		
Source of Fire	Applicability to Site and Proposed Management Controls	Residual Risk
Arson	Arson by intruders is controlled via 24/7 security, CCTV and an electrical gate with an emergency code. The site is well lit and secured.  Any fire would be immediately identified by the sites fire detection equipment.	<b>VERY LOW</b>
Visitors and Contractors	All visitors and contractors will follow the correct safety and fire prevention procedures.  All visitors will undergo a site induction where they will be made aware of what to do in the event of a fire.  All contractors will understand the contents of the Fire Prevention and Mitigation Plan and what they must do during a fire.	<b>VERY LOW</b>
Ignition Sources	Any ignition sources on site will be kept at least 6 metres away from the stored waste on site.	<b>N/A</b>

Self-Combustion	Any hot spots will be immediately identified by the sites fire detection equipment. This is discussed further in Section 3.2.	<b>VERY LOW</b>
Plant and Equipment	<p>The site has a regular inspection and maintenance programme which identifies any electrical or mechanical machinery faults which could result in a machinery fire.</p> <p>Machinery will always be parked in the dedicated mobile plant storage area. This is located externally which limits the potential for fire spread from machinery to material.</p> <p>All machinery is visually inspected as per FPMP-E01 – Site Walkover Inspection.</p> <p>Machinery is regularly cleaned to remove any dust, wood etc to ensure that this does not accumulate on moving parts. All machinery on site has fire suppression.</p> <p>Site vehicles are fitted with fire extinguishers with the potential for sparks regularly being monitored by site staff.</p>	<b>VERY LOW</b>
Discarded Smoking Materials	<p>Staff and visitors are only permitted to smoke within the designated area, which is located within the car park, outside the operational area.</p> <p>There is no smoking permitted within the operational area where waste is stored or handled.</p>	<b>VERY LOW</b>
Hot Works	No hot works will be carried out on site without a permit to work being issued and site management being made aware of the work. The hot works will be located at a safe distance from combustible materials. The activity will be very closely managed and with the presence of a fire watchmen. A fire watch will take place once the work has ceased and at the end of a working day.	<b>VERY LOW</b>
Industrial Heaters	No industrial heaters will be used on site.	<b>N/A</b>
Hot Exhausts	<p>The site has a regular inspection and maintenance programme which identifies any signs of a fire caused by dust settling on any hot exhausts and engine parts. This is carried via visual checks throughout the day as well as at the end of the working day.</p> <p>All inspections are carried out as per FPMP-E01 – Site Walkover Inspection.</p> <p>Machinery is regularly cleaned to remove any dust, wood waste etc to ensure that this does not accumulate on moving parts.</p>	<b>VERY LOW</b>
Electrical Faults Including Damaged or Exposed Electrical Cables	<p>The risk of damaged or exposed electrical cables is controlled via the regular inspection and maintenance programme.</p> <p>Any electrics on site are fully certified by a qualified electrician.</p>	<b>VERY LOW</b>
Reactions Between Wastes	<p>All waste is accepted on site in accordance with the sites Waste Acceptance Procedures. This ensures that no incompatible or unstable wastes will be accepted on site.</p> <p>All wastes will be inspected as it is unloaded into the Fuel Storage Building. In the unlikely event of incompatible wastes</p>	<b>VERY LOW</b>

	being accepted on site, wastes would be immediately loaded back onto the delivery vehicle and exported off site.	
Hot Loads	<p>Biomass UK do not accept hot loads under normal operation.</p> <p>All wood being received on site will have its temperature monitored using a hand temperature probe as part of the sites acceptance procedures. Any waste recorded over 50°C will be loaded back onto the delivery vehicle and exported off site. This will ensure that all waste wood received on site is appropriate for storage.</p> <p>The temperature monitoring will take place as soon as the delivery lorry has unloaded the waste into the Fuel Storage Building. This allows the waste to be easily loaded back onto the lorry in the unlikely event that the temperature exceeds 50°C.</p>	<b>VERY LOW</b>
Build-up of Loose Combustible Waste and Dust	<p>The site has a regular inspection and maintenance programme which will identify any build-up of wastes and dust.</p> <p>Machinery is regularly cleaned to remove any dust, wood waste etc to ensure that it does not accumulate on moving parts. The site is inspected at least twice a day in accordance with the sites inspection procedure (FPMP-E01). Any build-up of waste and dust would be identified during the inspection.</p> <p>If any dust, wood waste etc was identified then the area would be immediately cleaned (swept, dampened down, blown down etc).</p> <p>Additionally, at the end of every shift the site is cleaned.</p> <p>All inspections are logged on the Site Walkover Inspection Form (Form 1 – Site Walkover Inspection). All forms are stored in the site office.</p>	<b>VERY LOW</b>
Tramp Material	<p>All incoming waste is pre-processed before it arrives on site.</p> <p>Additionally, the conveyor system is equipped with a ferrous and non-ferrous metal separator to remove any metals contained within the feedstock materials.</p> <p>Therefore, tramp material will not be a problem on site.</p>	<b>VERY LOW</b>
Batteries within waste deposits / ELVs	No batteries are accepted on site.	<b>VERY LOW</b>
Cylinders	No cylinders will be stored on site.	<b>VERY LOW</b>
Leaks and Spillages of Oil and Fuels	<p>The prevention of fuels and oil leaking out from site vehicles will be achieved by the regular inspection and maintenance programme. If there are any leaks, the regular inspections allow this to be dealt with straight away.</p> <p>Spill kits will be provided throughout the site. All staff will be trained on how to use the spill kit as well as the procedures to carry out in the event of a spillage.</p>	<b>VERY LOW</b>

## 3.2 Storage Times and Self-Combustion Factors

Under normal operation, all fuel will be rotated through the plant every 2 days. Due to the wood supplier having a depot in close proximity to the site, under normal operation there is no need to store waste on site for longer than this.

In order to take account of a 'long bank holiday weekend' scenario, the maximum amount of time waste would be stored on site is 3 days. Therefore, over a weekend or bank holiday, the fuel building will be essentially empty prior to deliveries on the first day of normal working.

This rapid turnover of stock significantly reduces the risk of 'older' material from self-heating and practically eliminates the potential for thermal runaway and self-combustion. 3 days is approximately 1/50<sup>th</sup> of the maximum 'allowable' storage time stipulated by the Fire Prevention and Mitigation Plan Guidance. The risk of self heating and fires is therefore considered to be practically eliminated.

The rapid turnaround of the waste stored on site means that self-combustion is extremely unlikely.

The only other potentially combustible waste stored on site is the 6 yard skip for oversized wood which is part of the waste screening system. This skip will be emptied daily. Oversize wood does not present any risk of self combustion.

Biomass UK track all material flow through the site to ensure that the storage times specified in this plan are adhered to. All material is tracked daily and processed through the site on a 'first in – first out' principle.

For all incoming waste, the location in the building and the first date when the material is added is recorded on the site waste tracking system and uploaded to the company IT system.

A twice daily review of the Fuel Storage Building and process inventory is made by the Site Manager in accordance with procedure *FPMP-E01 – Site Walkover Inspection*.

Waste will be received and accepted in accordance with the established site waste acceptance and rejection procedures which are provided within Annex C of this document. The procedures dictate that all wastes are required to be stable, non-reactive and solid in nature.

## 3.3 Managing Waste Material Stacks and Separation Distances

### 3.3.1 Maximum Pile Sizes

The Fuel Storage Building is a purpose built fuel storage hall with purpose designed fuel storage bunker. Due to this, the pile size stipulations provided within *Table 2 – Summary Tables of Standard Stack Separation Distances and Stack Sizes* of the new Guidance cannot be adhered to. The FPMP guidance is not intended to be applied to purpose built fuel bunkers and therefore the pile size stipulations should

not be applied to this aspect of the plant. As such this aspect of the plant does not accord with the recommended pile sizes stated within the FPMP Guidance.

Under normal operation, all fuel will be rotated through the plant every 2 days. In order to take account of a 'long bank holiday weekend' scenario, the maximum amount of time waste would be stored on site is 3 days. Therefore, over a weekend or bank holiday, the fuel building will be essentially empty prior to deliveries on the first day of normal working. This rapid turnover of stock significantly reduces the risk of 'older' material from self-heating and practically eliminates the potential for thermal runaway and self-combustion. 3 days is approximately 1/50<sup>th</sup> of the maximum 'allowable' storage time stipulated by the Fire Prevention and Mitigation Plan Guidance. The risk of self heating and fires is therefore considered to be practically eliminated.

The rapid turnaround of the waste stored on site means that the risks of self-combustion and thermal runaway conditions are negligible. In the unlikely event that a hot spot did occur, it would be detected via the detection systems (detailed within Section 3.6 and Section 3.7 of this FPMP). This would in turn trigger the sprinkler system resulting in any hotspot being extinguished.

Please refer to the Fuel Storage Building layout provided within Annex A.

### 3.3.2 Separation Distances

The Fuel Storage Building is a purpose built fuel storage hall, therefore, the separation distances stipulated within the FPMP Guidance are not considered appropriate.

However, as previously stated, the rapid turnaround of the waste stored on site means that the risks of self-combustion and thermal runaway conditions are negligible. In the unlikely event that a hot spot did occur, it would be detected via the detection systems (detailed within Section 3.6 and Section 3.7 of this FPMP). This would in turn trigger the sprinkler system resulting in any hotspot being extinguished.

### 3.3.3 Enclosing Stacks Using Bays and Walls

The Fuel Storage Building is a purpose built fuel storage hall. The waste will not be separated by fire walls or stored in bays.

However, the rapid turnaround of the waste stored on site means that the risks of self-combustion and thermal runaway conditions are negligible. In the unlikely event that a hot spot did occur, it would be detected via the detection systems (detailed within Section 3.6 and Section 3.7 of this FPMP). This would in turn trigger the sprinkler system resulting in any hotspot being extinguished.

## 3.4 Seasonality and Waste Stack Management

Biomass UK have a contract with N+P Alternative Fuels to provide site with sufficient fuel for the plant to process 10 tonnes an hour of waste wood (approximately 240 tonnes per day). Due to the waste

type and contract in place, there will be no seasonal variations in demand or supply and all 'peak' periods will be met through off site storage (by others).

The site management track all material flow through the site to ensure that the storage times specified in this plan are adhered to. All material is tracked daily and processed through the site on a 'first in – first out' principle.

For all incoming waste, the location in the building and the first date when the material is added is recorded on the site waste tracking system and uploaded to the company IT system.

A twice daily review of the Fuel Storage Building and process inventory is made by the Site Manager in accordance with procedure *FPMP-E01 – Site Walkover Inspection*.

### **3.5 Monitoring and Turning of Stacks**

All wood being received on site will have its temperature monitored using a hand temperature probe as part of the sites acceptance procedures. Any waste recorded over 50°C will be loaded back onto the delivery vehicle and exported off site. This will ensure that all waste wood received on site is appropriate for storage.

The temperature monitoring will take place as soon as the delivery lorry has unloaded the waste into the Fuel Storage Building. This allows the waste to be easily loaded back onto the lorry in the unlikely event that the temperature exceeds 50°C.

Due to wood being stored on site for a maximum of 3 days, a regular programme of temperature monitoring is not considered necessary.

The detection systems (detailed within Section 3.6 and Section 3.7 of this FPMP) would immediately identify any hotspot / fire which in turn would trigger the sprinkler system resulting in any fire being extinguished.

A trained site operative will carry out a visual inspection on site twice daily in accordance with *Procedure FPMP-E01 – Site Walkover Inspection* to ensure that the Fuel Storage Building is being managed correctly and that all detection and suppression equipment is working.

Due to waste being stored on site for a maximum of 3 days, turning the pile is not considered necessary.

All of the above measures meet the minimum expectations defined with the NRW Fire Prevention and Mitigation Plan Guidance.

### **3.6 Detecting Fires**

The sites fire detection and alarm systems consist of a total of four analogue addressable control panels. These are installed within the Reception Building, Pump House, Main Process Building and the Turbine



and Welfare Building. The main panel for control and monitoring purposes is installed within the Control Room of the Turbine and Welfare Building.

The devices used on the systems consist of manual call points, audible / visual alarms, triple flame detectors and loop sited interface modules for monitoring and controlling third party equipment.

The Fuel Storage Building has the following detection systems:

- IR3 infra-red flame detectors which raise an alarm in the event of a fire. Please refer to Annex D for more information on the flame detectors.
- Quartzoid bulbs will automatically activate the sprinkler system which is ACE and NFPA13 compliant.
- Thermal Imaging Cameras which will identify any rising temperatures within the waste pile. In the event of elevated temperatures within the wood pile an alarm will sound and a loading shovel is used to remove the hotspot within the pile. The waste will be spread within the building allowing the waste to cool. If the temperature is too high for manual intervention, the sprinkler system would be detected. Please refer to Annex D for more information on the thermal imaging cameras.

The design, installation and maintenance of all fire detection systems on site will be covered by an appropriate accredited third party certification scheme.

A trained site operative will carry out a visual inspection on site twice daily in accordance with *Procedure FPMP-E01 – Site Walkover Inspection* to ensure that the Fuel Storage Building is being managed correctly and that all detection and suppression equipment is working.

Any member of site staff and site security will raise the alarm as soon as they become aware of a fire, including contacting emergency services.

The automatic fire detection systems provide 24/7 detection of the Fuel Storage Building. This allows a fire to be detected and suppressed immediately.

### 3.7 Suppressing Fires

The sprinkler / deluge systems are supplied by New Water Supplies and consist of 2 x diesel engine driven fire pumps drawing from the water storage tank.

The sprinkler / deluge systems are located within the:

- Fuel Storage Building;
- Fuel Handling System;
- Turbine Hall; and

- Process Building.

Please refer to the Table 3.2 below which provides the proposed sprinkler performance specification within the Fuel Storage Building:

Table 3.2: Fuel Storage Building – Sprinkler Performance Specification	
Item	Description
Location	Fuel Storage Building
Design Standards	NFPA densities as stated by ACE
System Design	Property Protection
System Type	Wet Sprinkler System
Hazard Classification	ACE Technical Specification
Roof Density – ACE Technical specification	10.2 mm/min/m <sup>2</sup> minimum
Assumed Maximum Area of Operation for roof system	279 +30% m <sup>2</sup>
Maximum Area Per Sprinkler at main roof	12m <sup>2</sup>
Maximum Area/Control Valve	N/A
Number of Installation Control Valves	Deluge System
Detection Type for Suppression	Sprinklers Quartzoid Bulb (QB)
Alarm & Detection	Infra-red flame detection not linked sprinklers Manual Call Points Audio/Visual Alarms
Pipe work Grade	BS EN 10255 Medium Quality Galv.
Pipe work Finish	Self-Colour

Please refer to the Table 3.3 below which provides the proposed sprinkler performance specification within the Fuel Feeding System:

Table 3.3: Fuel Feeding System – Sprinkler Performance Specification		
Item	Description	
Location	Feedstock Feed System Area Conveyor & Screening Tower	
Design Standards	NFPA densities as stated by ACE	
System Design	Property Protection	
System Type	Conveyors	Transfer System
	Deluge System	Deluge System
Hazard Classification	ACE Technical Specification	
Roof Density – ACE Technical specification	10.2 mm/min/m <sup>2</sup> minimum	
Number of Installation Control Valves	Conveyors	Screening Tower
	2 No Deluge	1 No Deluge
Detection Type for Suppression	Conveyors	Screening Tower

	Thermal Detection Cameras	QB Detector on air lines
Alarm & Detection	Infra-red flame detection Manual Call Points Triple IR Detection Audio/Visual Alarms	
Pipe work Grade	BS EN 10255 Medium Quality Galv	
Pipe work Finish	Self-Colour	

Additionally, in the HV Room, LV Room and ICA Room are protected by an IG-541 gaseous suppression system. Each system is designed to be stand alone and dedicated to each particular risk area. Each system is independently managed by an extinguishant control panel located within the protected area.

The extinguishing medium used for the protection of the HV Room, LV Room and ICA Room is IG-541. IG-541 is a mixture of three naturally occurring gases, Nitrogen, Argon and CO2. IG-541 is environmentally friendly as it is made up of naturally occurring gases and therefore has no ozone depleting or global warming potential.

Please note that the design, installation and maintenance of all automated suppression system equipment will be covered by an appropriate UKAS-accredited third party certification scheme.

Please refer to the information provided within Annex D.

### 3.8 Firefighting Strategy

The site has been designed in order to allow active firefighting.

Upon identifying or being made aware of a fire, the site manager will raise the alarm, alert all present on site to the fire and its location and alert emergency services.

The site will be evacuated in accordance with the site evacuation plan with exception of those staff involved in active fire fighting.

All staff, contractors and visitors will follow the Fire Evacuation procedure as included in Section 3.8.1 below.

Staff will only tackle the fire using the fire extinguishers if it is safe to do so.

In the unlikely event of a fire which has unsuccessfully been extinguished by the sites extensive suppression system, staff are to await the Fire and rescue Service (FRS), who would then take the appropriate actions.

### 3.8.1 Fire Evacuation

Fire evacuation points are located at the main office and are clearly signposted.

Sites rules are reinforced via use of fire drills and planned response scenarios.

All personnel to follow the instructions of the Fire Wardens and the Site Manager.

A list of trained Fire Wardens is maintained and displayed on the site, together with a list of on call staff to attend the site in the event of a fire outside of normal operation hours.

The Fire Evacuation Procedure is provided to staff, contractors and visitors which states:

- On discovery of a fire, immediately operate the fire alarm by pressing the nearest break glass call point and / or contact the Site Manager via a radio to ensure the alarm is raised;
- Fire Wardens and staff must only tackle the fire if they are trained to do so, the equipment is appropriate and if their safety or that of others is not compromised.
- Leave the building / work area by the nearest available exit / safe route and report directly to the assembly point located at the main office.
- Leave quickly but in a calm, controlled and orderly manner. Do not detour to collect personal items;
- Do not re-enter the building / work area for any reason until authorisation has been given by the Site Manager / Fire Brigade.
- The Site Manager will assess the situation and call the Fire and Rescue Service if required.

### 3.9 Water Supplies

The table overleaf provides a summary of the on-site firefighting water supplies:

Description	Rate	Volume	Location
Fire Water Tank	1,860 l/min	Capacity 840,000 litres. Accessed via fire water pump station. Connected to mains water supply. Therefore, the supply is unlimited.	To the south of the site.
5 x Fire Hydrants	1,860 l/min	The hydrants are connected to the mains water supply. Therefore, the supply of water is unlimited.	Please refer to FPP Plan.

Please note, the detection and suppression system will rapidly extinguish any fire in the Fuel Storage Building.

The site wide underground Ø300NB fire main is fed from the Pumphouse with local connections from underground sub-mains to feed the systems within buildings along with hydrants.

Please refer to the Surface and Foul Drainage P&ID provided within Annex B for more information on the water supply system.

The provision of the above water supplies as well as the automatic detection and suppression systems is considered BAT for site.

### **3.10 Managing Water Run-off**

A site drainage plan is provided within Annex B.

In the event of a fire, all firewater will drain into the surface water drainage system which will discharge to the underground attenuation storage tank. The volume of the attenuation tank is designed for fire water run-off.

The attenuation tank storage volume is 652.8m<sup>3</sup>. The Fuel Storage Building also has a drainage pit with a volume of 54m<sup>3</sup>. Therefore, the total attenuation on site is 706.8m<sup>3</sup>.

The attenuation tank will be regularly monitored. If nearing capacity, Biomass UK will arrange for a tanker service to come and remove the water within the tank.

In the event of a fire there is an interlock which will stop the surface water pumps from operating, resulting in all potentially contaminated fire water being contained on site.

The firewater within the attenuation tank will then be tankered off site for removal.

### **3.11 Quarantine Area**

Due to the design of the Fuel Storage Building and the detection and suppression equipment provided throughout the building, a quarantine area sized in accordance with the FPMP Guidance requirements (namely 50% of the largest single pile) is not considered appropriate.

All incidents will be dealt with within the Fuel Storage Building, resulting in there being no need for an external quarantine area on site.

In the unlikely event that a hot spot did occur, it would be immediately detected via the thermal imaging cameras which would identify any rising temperatures within the waste pile. In the event that rising temperatures are identified, a loading shovel would be used to remove the hotspot within the pile and

spread the waste within the building allowing the waste to cool. Any damaged waste within the Fuel Storage Building would be kept within the building and immediate transfer off site would be organised.

There would be no requirement for fire damaged waste to be stored externally.

In the event of a fire, the whole plant would be shut down and the fire suppression system operated. During such an emergency, no further deliveries will be accepted on site until the incident was fully under control, extinguished and all affected fuel material removed.

The Fuel Storage Building will be managed to ensure that there is enough space to allow a day's capacity (600m<sup>3</sup>) should an incident occur.

An external quarantine area is provided on site to store any non-conforming waste removed from the incoming waste before it is exported off site. The quarantine area is also capable of storing the 6 yard skip used to store oversized wood from the waste screening system, should it ever need to be isolated. The quarantine area is identified in the Site Layout Plan provided within Annex A. Any waste placed within the quarantine area will be stored for a maximum of 1 day.

### **3.12 During and After an Incident**

#### *During*

During any fire fighting or subsequent clear up operations, any incoming wastes will be diverted to an alternative waste processing site.

All nearby residents, businesses and Natural Resources Wales will be notified during any fire fighting taking place on site. Telephone numbers will be stored on site.

Trained site operatives will knock on residents' / business doors surrounding the site to ensure that they are aware of the fire. The site operatives will start at the nearest receptors on Woodham Road.

#### *After*

The site will be thoroughly cleaned after an incident. Any charred / partially combusted / combustion products will be disposed of an appropriate facility. It is anticipated that the clearing of combusted material will not take long, as the company are confident that any fires will be appropriately controlled and therefore will not result in significant volumes of burnt waste.

All fire water will be captured by the drainage system and tankered off site for removal.

All equipment will be checked for any fire damage. In the event that any equipment has been damaged, it will be removed from site and fixed / replaced as soon as possible.

This ensures that the impact to the community, infrastructure and the environment is minimal.

---

### 3.13 Reviewing and Monitoring your Fire Prevention and Mitigation Plan

The FPMP will be treated as a live working document and be reviewed regularly to reflect any changes that may happen on site. These changes will include, but not limited to:

- A fire incident;
- Changes to the amount of combustible waste streams accepted on site;
- Increase in waste volumes accepted;
- Development of new infrastructure; or
- Installation of new equipment.

All staff and contractors working on site will be trained on the contents of the Fire Prevention and Mitigation Plan and what they must do during a fire. This will be achieved by the following:

- The FPMP training will be provided to all new starters and temporary employees working at the site;
- FPMP refresher training will be carried out to all personnel at least annually;
- Quarterly exercises to test how well the plan works and that staff understand what to do; and
- The need for training being monitored and training records kept on site.

## ANNEX A: SITE PLANS



## ANNEX B: DRAINAGE PLANS

## ANNEX C: PROCEDURES

## ANNEX D: DETECTION AND SUPPRESSION EQUIPMENT SPECIFICATION

## ANNEX E: FIRE STRATEGY REPORT




## Annex 3

### Emergency Plan (and Emergency Response)

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Local Form

# Emergency Plan

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Rev	Name	Date	Name	Date	Name	Date	Revision Text
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						Document Title: Local Form Emergency Plan	

Global / Local ID:	Org Code:	Local Code: BAR	Document Type: LF	Running No: 274	Revision: 00	Sheet of Sheets: 1 / 2
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Emergency Situation

```
graph TD; A[Emergency Situation] --> B[Control Room ensures alarm is sounded and Emergency Services contacted]; B --> C[Field Operator establishes contact with Control Room to confirm alarm is not a test.]; C --> D[Security to stop all non essential vehicles from entering site and establish communication with the Control Room]; D --> E[Field Operator proceeds to muster point. Roll call to be conducted to ensure all contractors and staff are present.]; E --> F[Contractors and staff to return to work once advised that it is safe to do so by the Control Room.]; F --> G[Conduct Debrief and record on system.];
```

Control Room ensures alarm is sounded and Emergency Services contacted

Field Operator establishes contact with Control Room to confirm alarm is not a test.

Security to stop all non essential vehicles from entering site and establish communication with the Control Room


Field Operator proceeds to muster point.  
Roll call to be conducted to ensure all contractors and staff are present.

Contractors and staff to return to work once advised that it is safe to do so by the Control Room.

Conduct Debrief and record on system.

Local Form

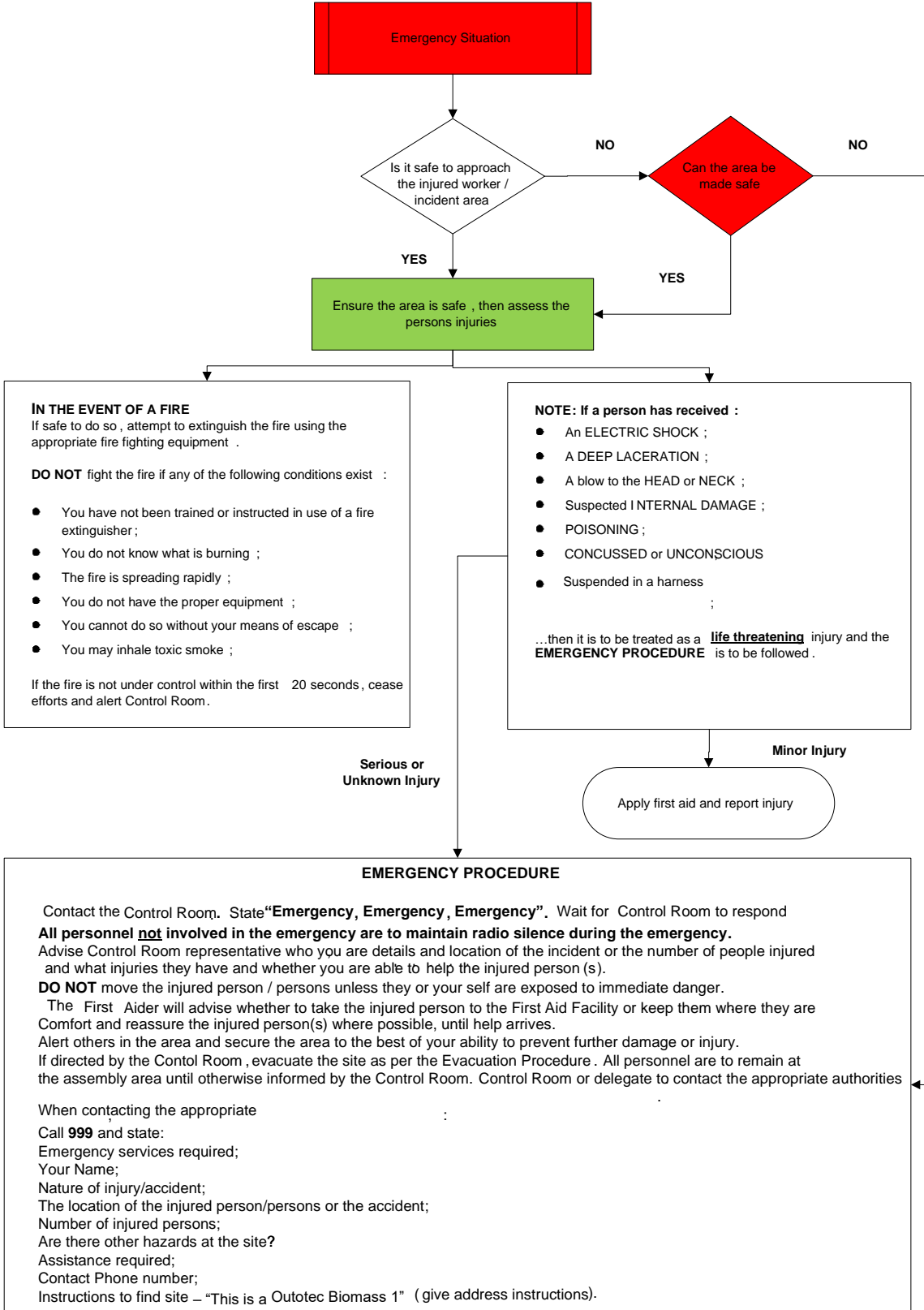
# Fire / Medical Emergency Flow Chart

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					Document Title: Local Form Fire / Medical Emergency Flow Chart		

Global / Local ID:	Org Code:	Local Code: BAR	Document Type: LF	Running No: 350	Revision: 00	Sheet of Sheets: 1 / 3
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Local form  
Fire / Medical Emergency Flow Chart




Local form  
Fire / Medical Emergency Report

Time of Fire/Explosion	Time:
Person raising alarm	Location:
Automatic fire alarm identification	
Manual call point identification	
Person investigating fire	
Evacuation alarm sounded	Time:
Fire Brigade called	Time:
Fire Brigade on site	Time:
Ambulance called	Time:
Police called	Time:
Muster completed by Incident Controller	Time: Persons not accounted for:
Actions taken to find missing persons	
Plant Manager informed (If not on Site)	Time:
Owner informed	Time:

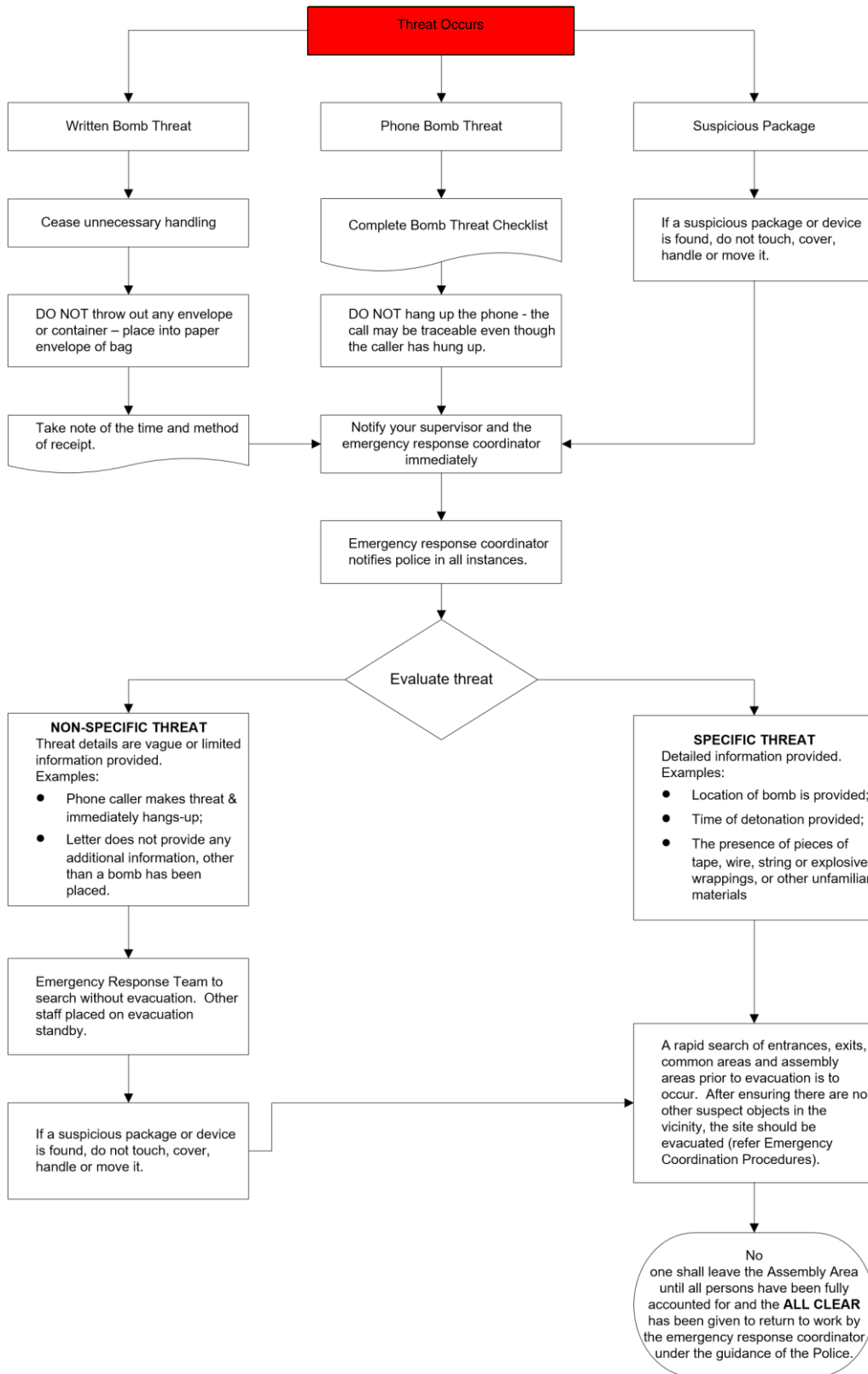
# Local Work Instruction

## Bomb Threat / Suspicious Package

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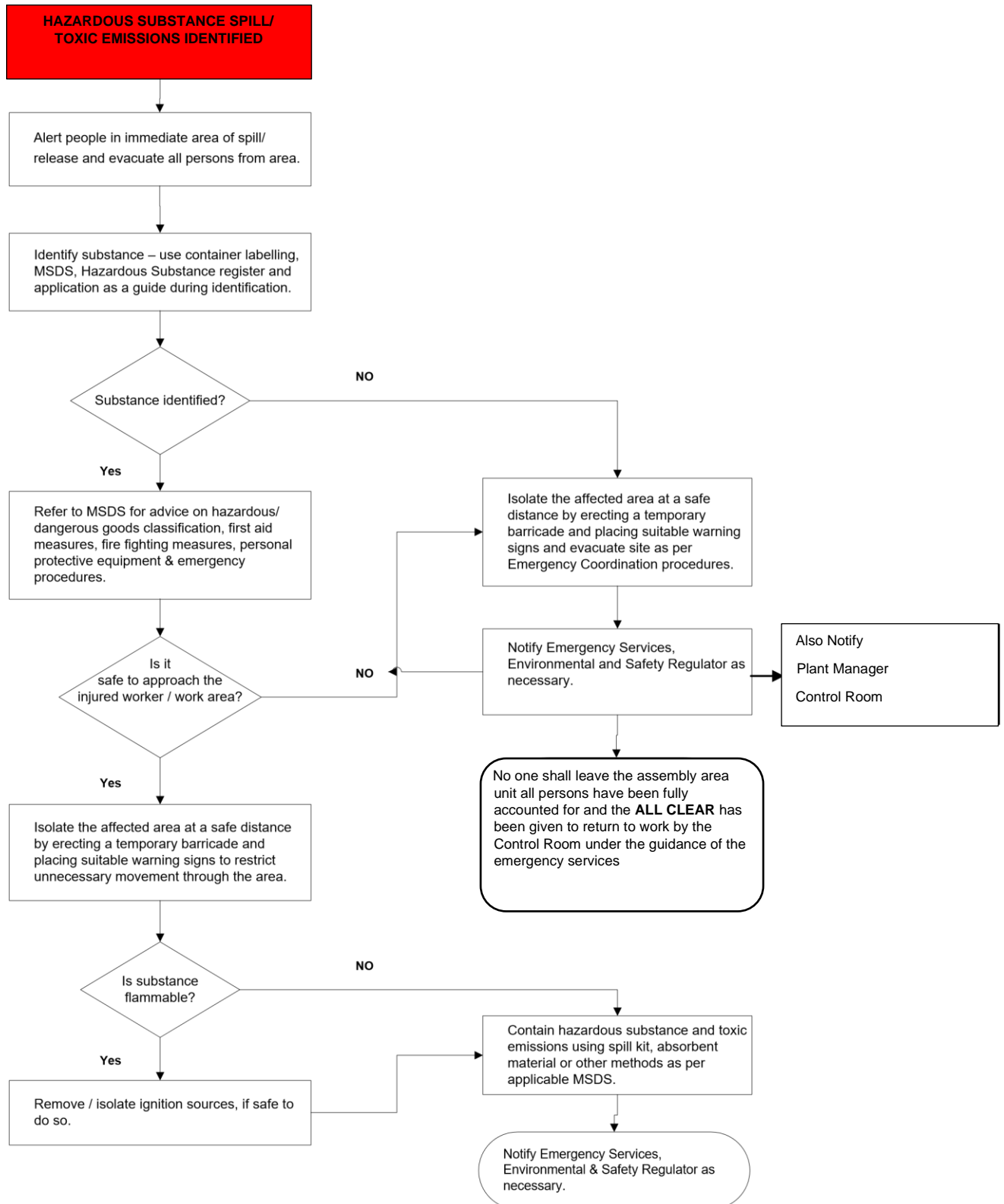
	<p>Document Title: Local Work Instruction</p> <p style="text-align: right;"><b>Bomb Threat / Suspicious Package</b></p>
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	GBR	BAR	LW	0351	02	6 (22)
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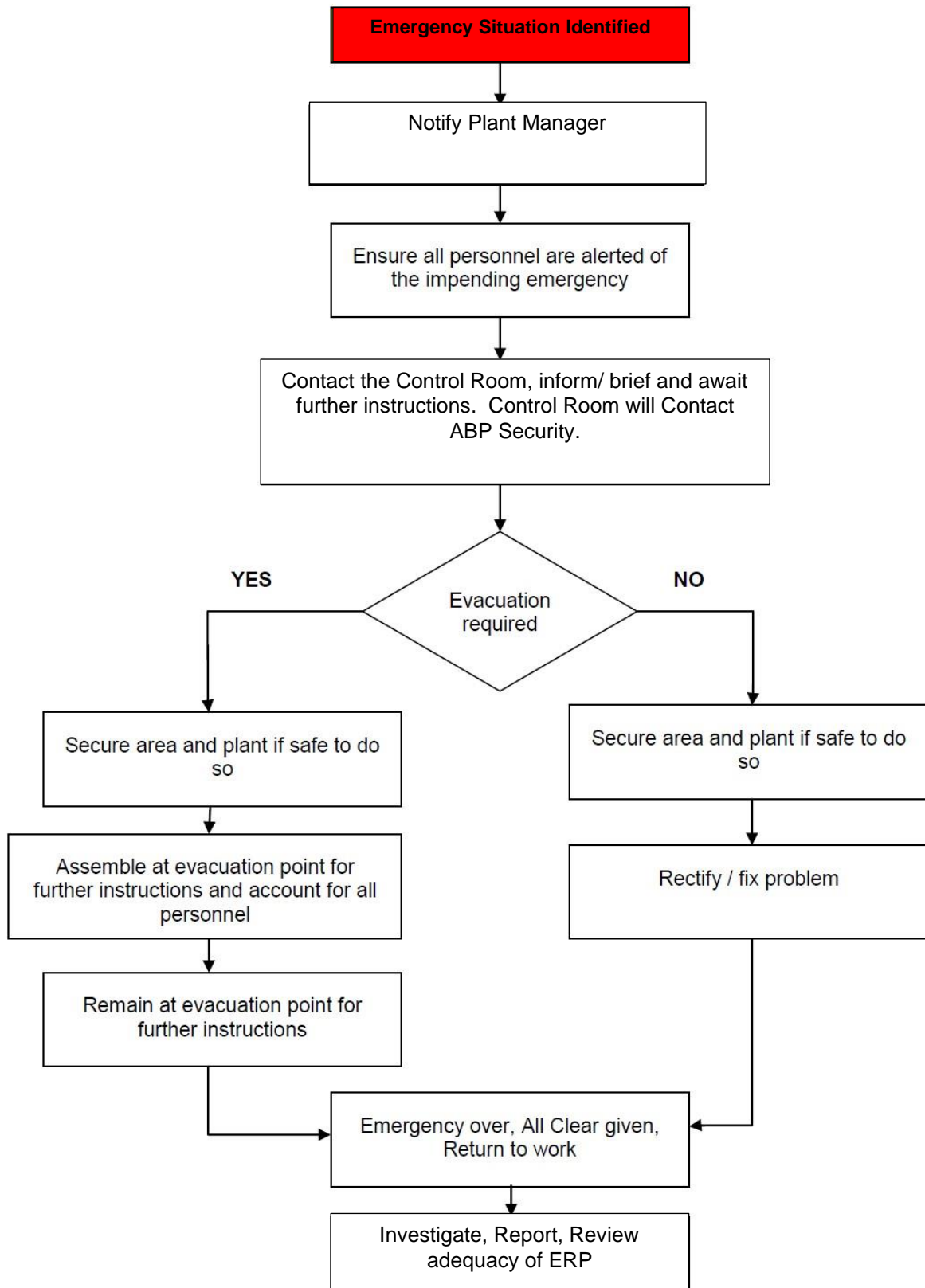


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<b>Bomb Threat Checklist</b>	
Receipt of bomb threat	Time:
Carefully record the exact wording of the threat. Ask for the message to be repeated if necessary.	Notes:
Inform control room who will initiate the incident control procedure	
Decide whether to evacuate based on risk assessment	Time:
Incident Controller Informs:	
Plant Manager	Time:
Police	Time:
Site Owner	Time:
Muster Completed	Time: Persons not accounted for:
Plant should be maintained on Load with minimum staff until advice to the contrary is given by Police	
If Police advise complete evacuation, reduce load to zero and trip as soon as possible.	
Inform power trading firm, Western Power etc as required	Time:



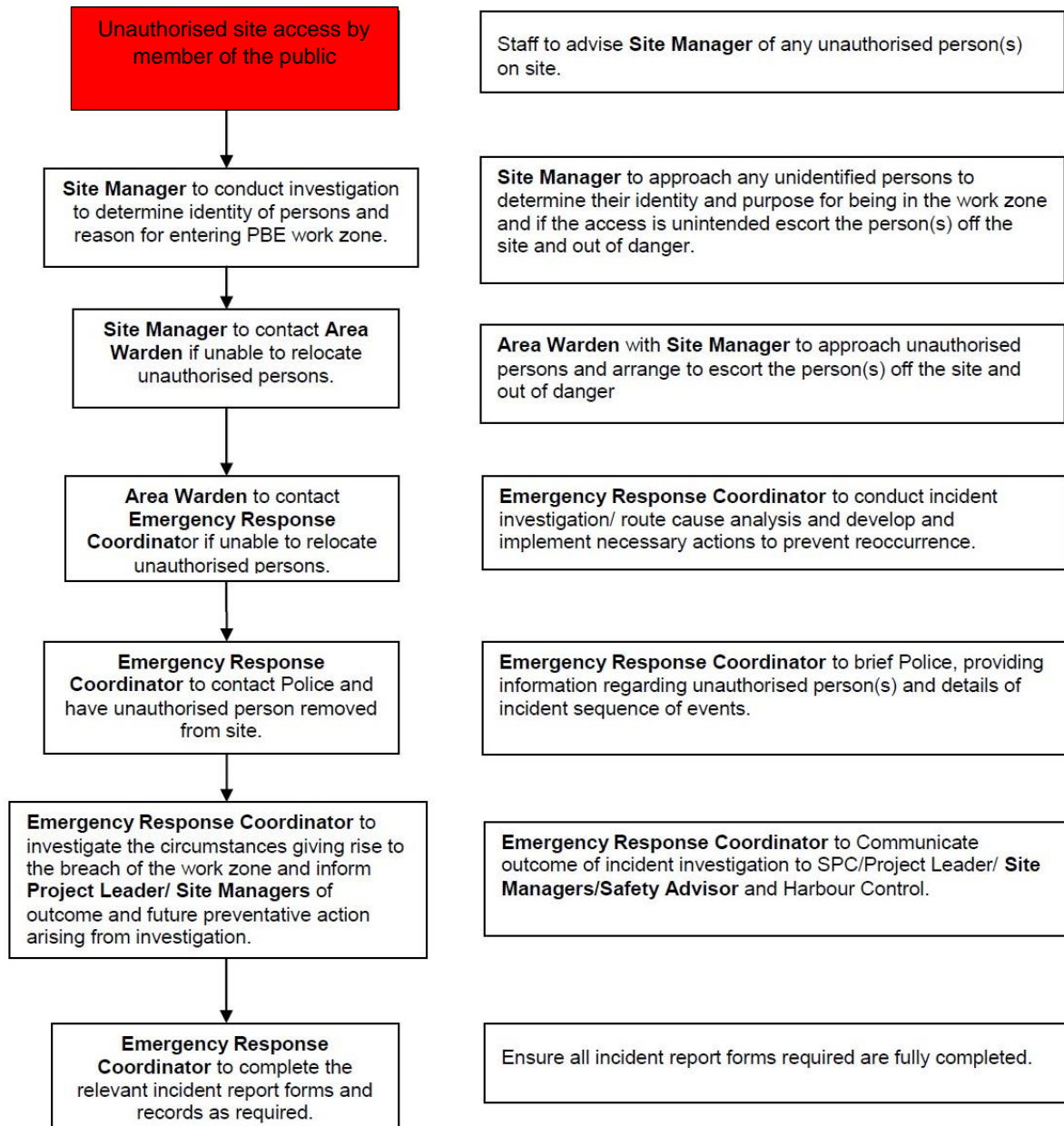
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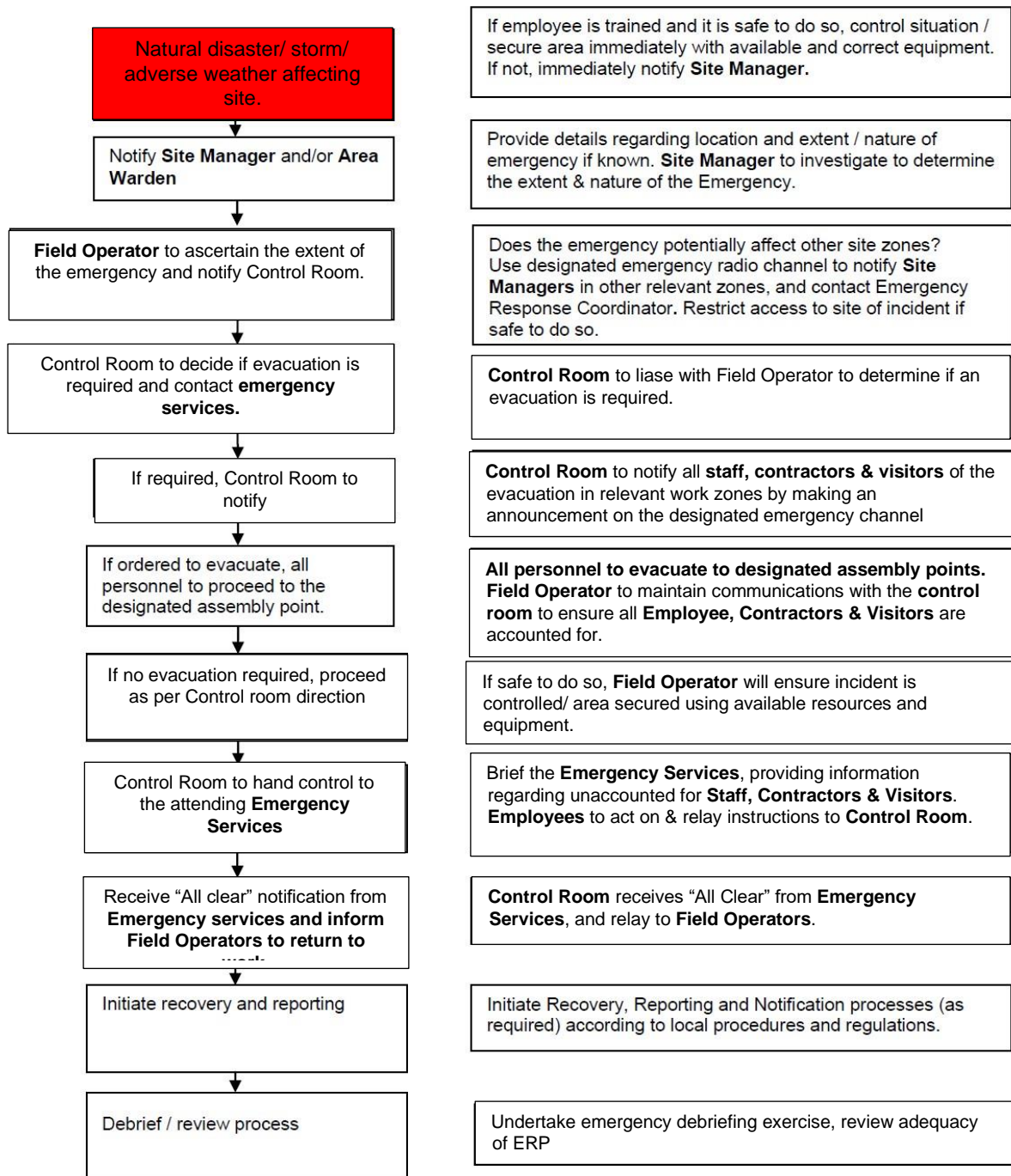
This flow diagram details the actions to be followed in the event that a member of the public gains unauthorised access or an incident occurs in a work zone.

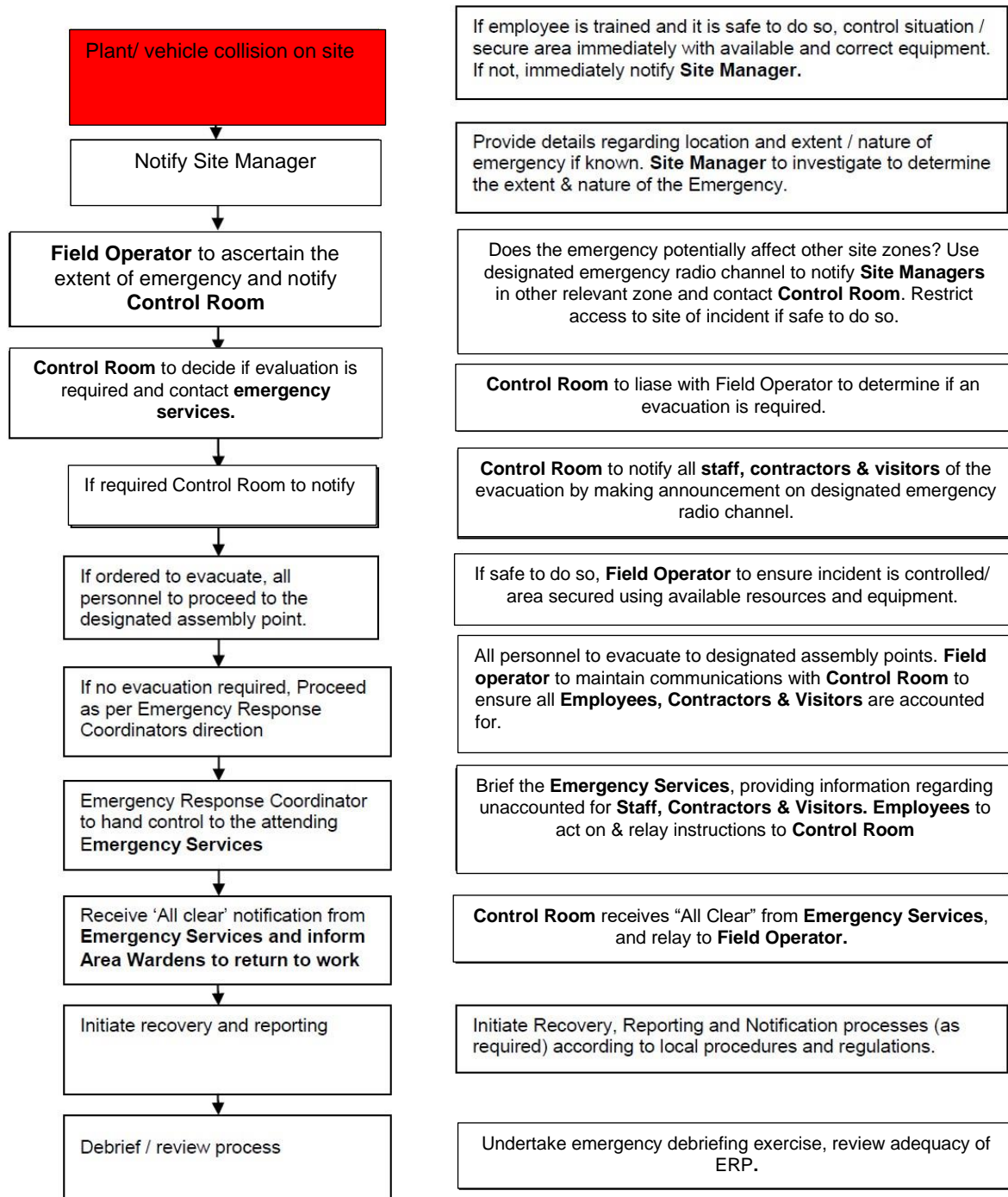
Possible scenarios include:

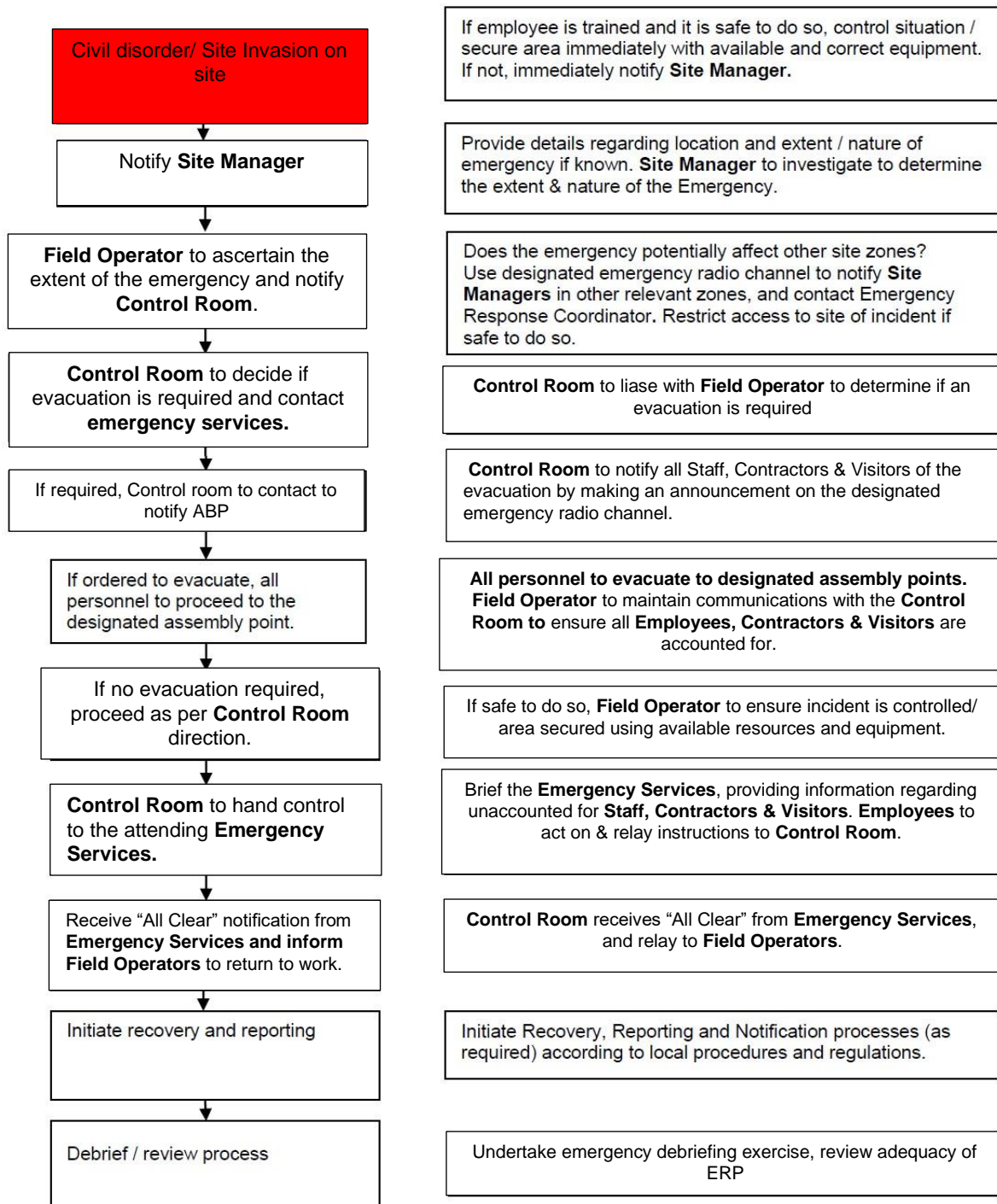
- Unintended or unauthorised access to work zones
- Interaction with mobile plant
- Incident involving public amenities
- Breach of perimeter fence or physical barriers • Motor vehicle/recreational craft incident

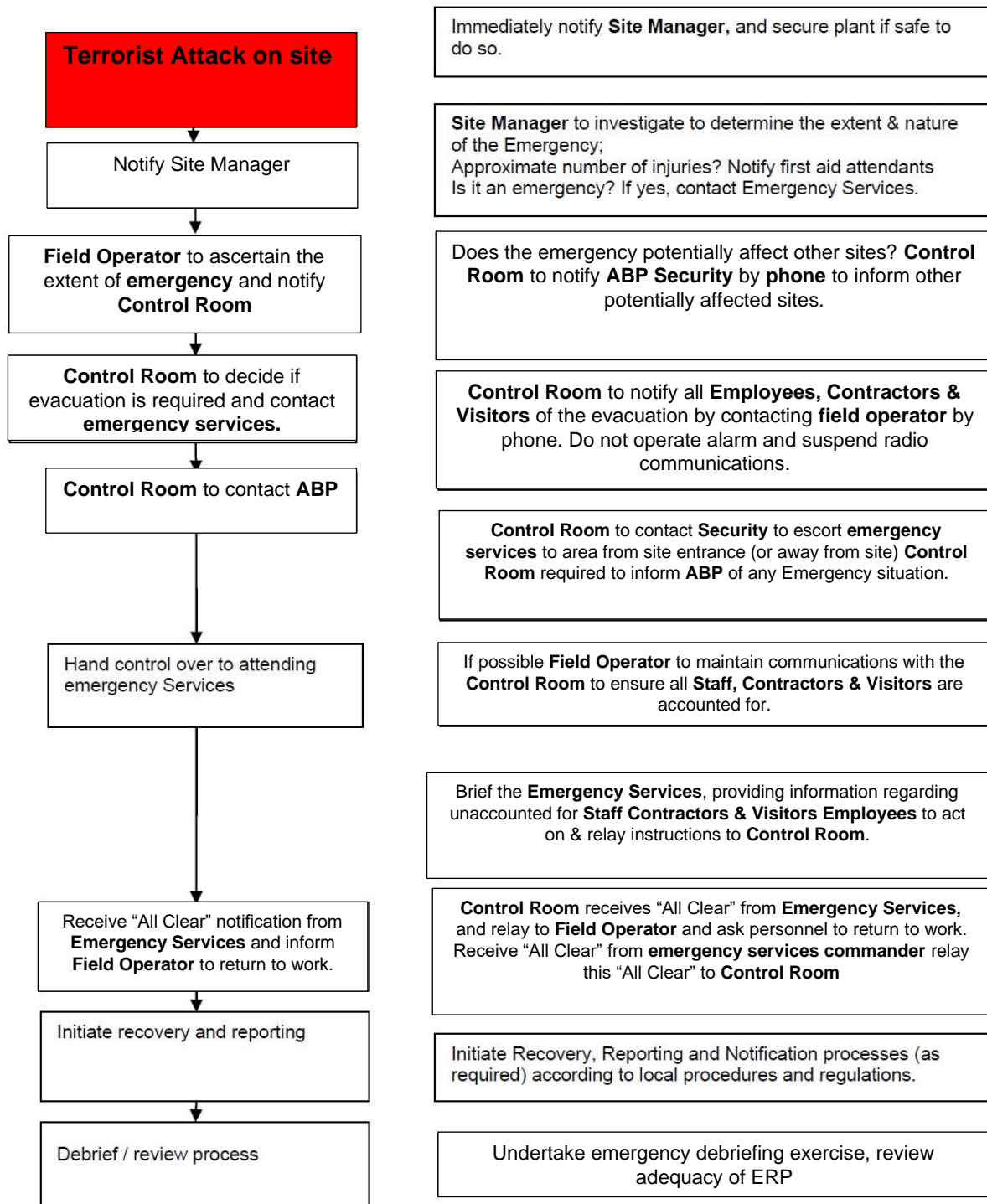


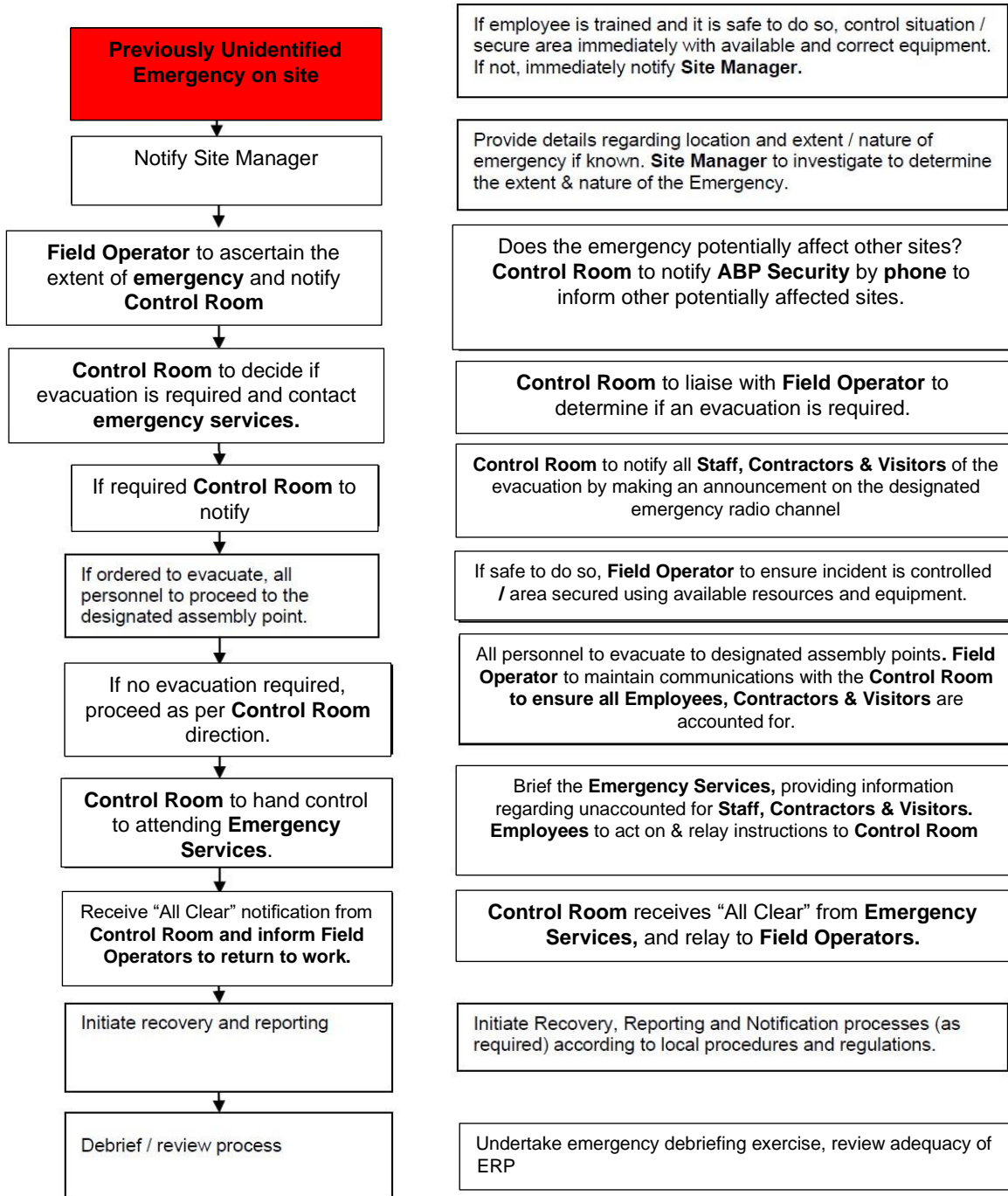




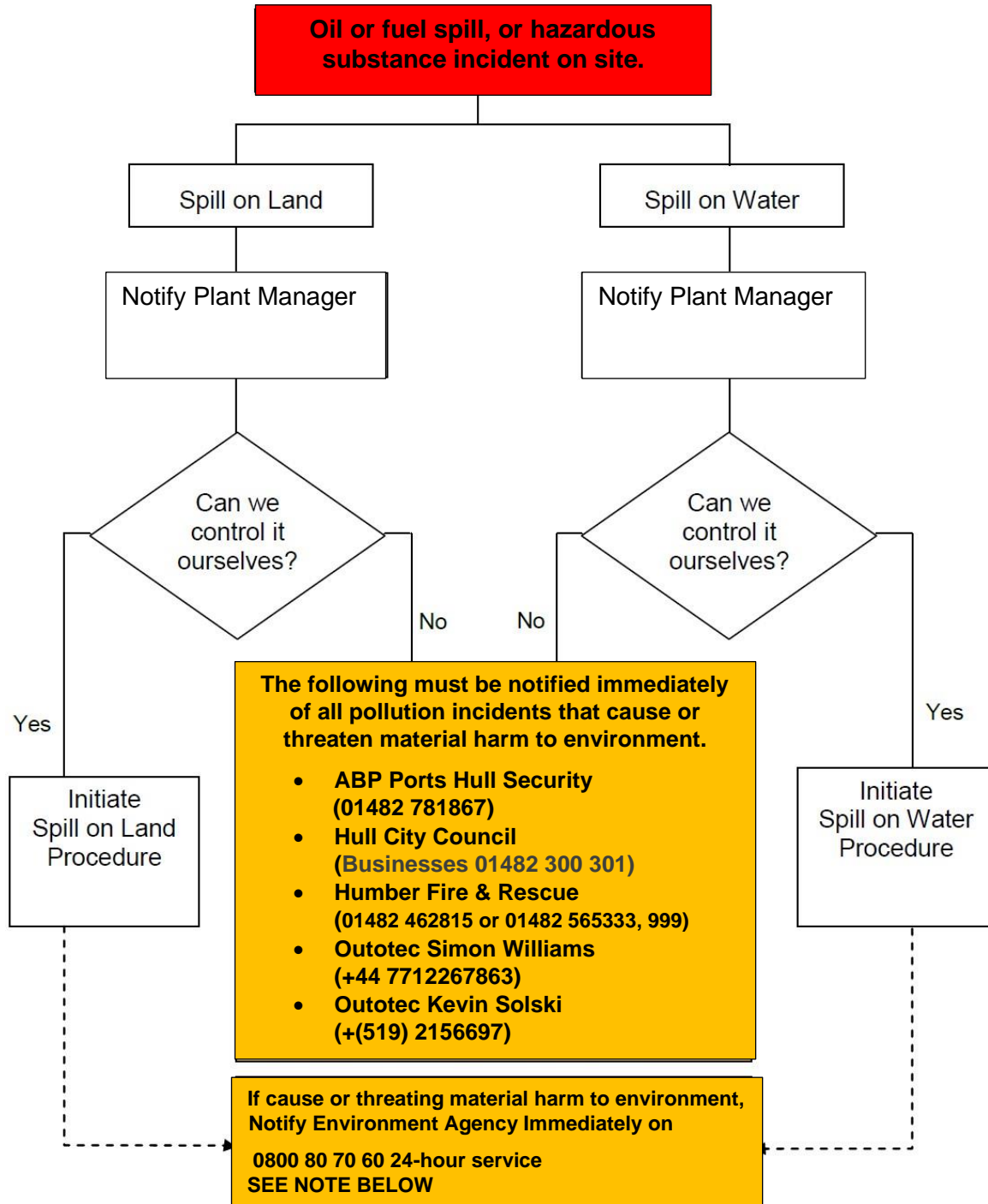




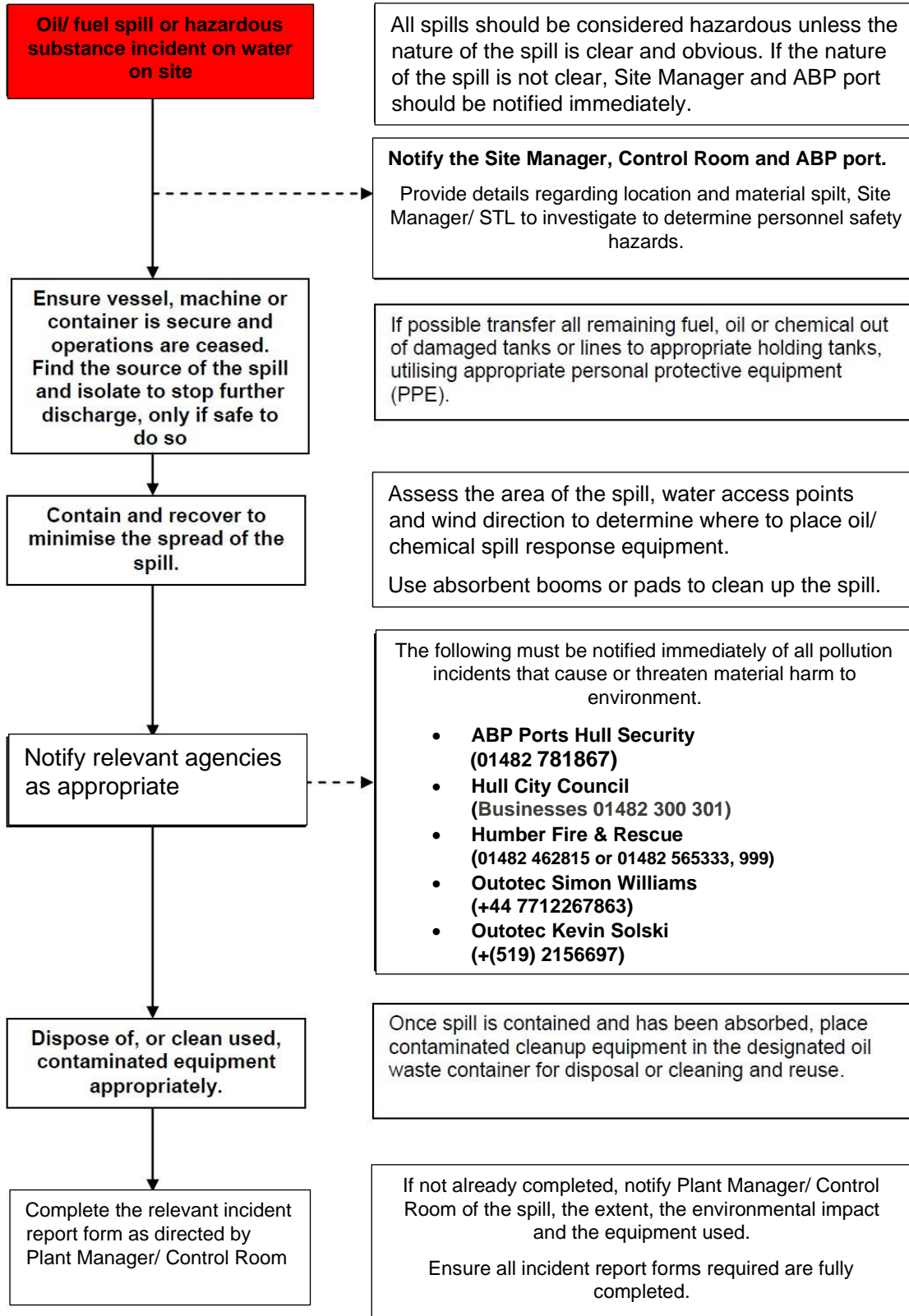


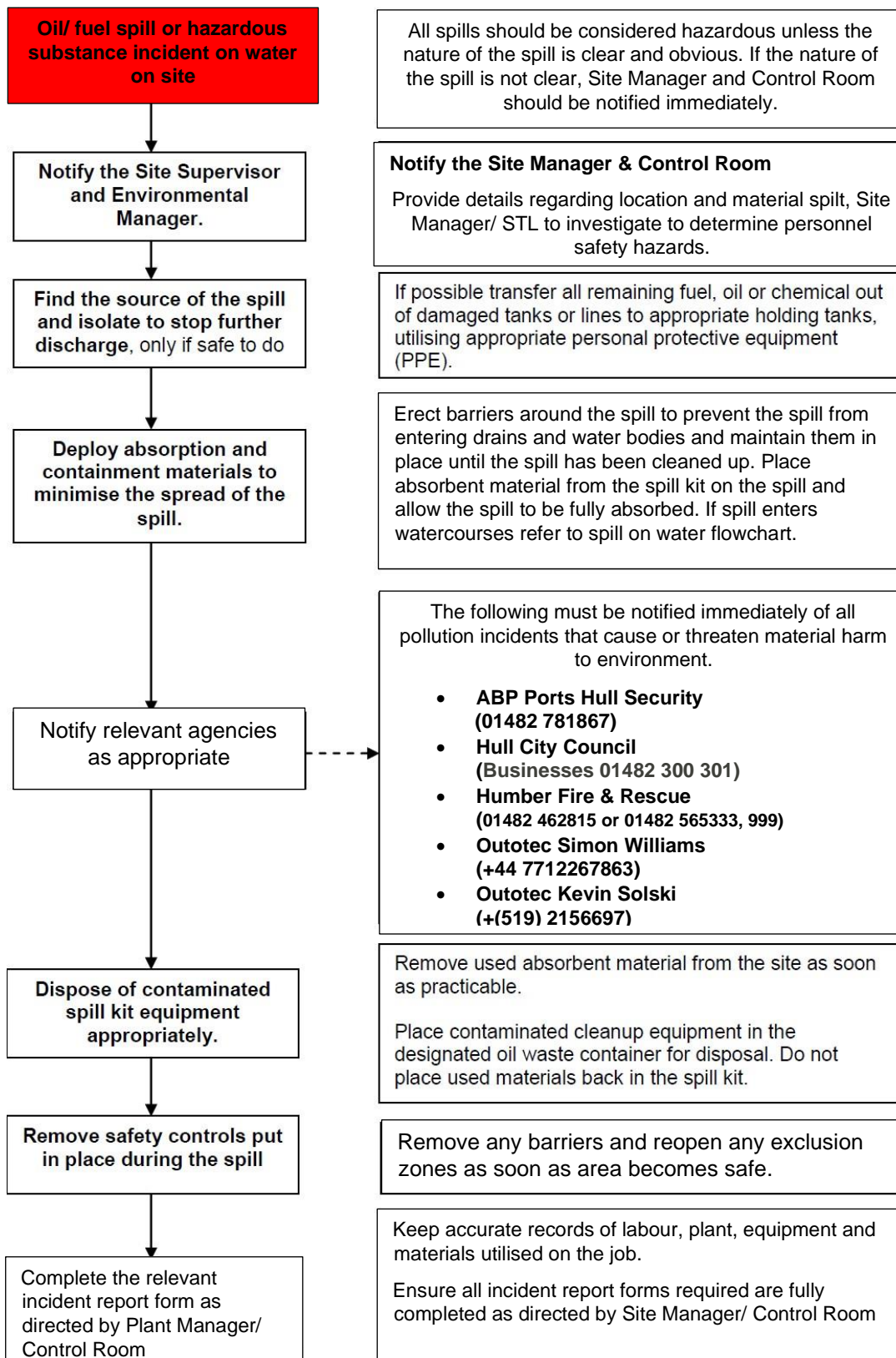


This decision-making flow chart and associated procedures describes how to manage an oil/chemical spill of various sizes both on land and water sources. This flowchart forms part of the Emergency Response Plan and will be followed in the event of a spill. All personnel involved in refuelling and handling of oils and chemicals are to be familiar with this decision-making flow chart and the procedures and are to respond accordingly in the event of a spill.

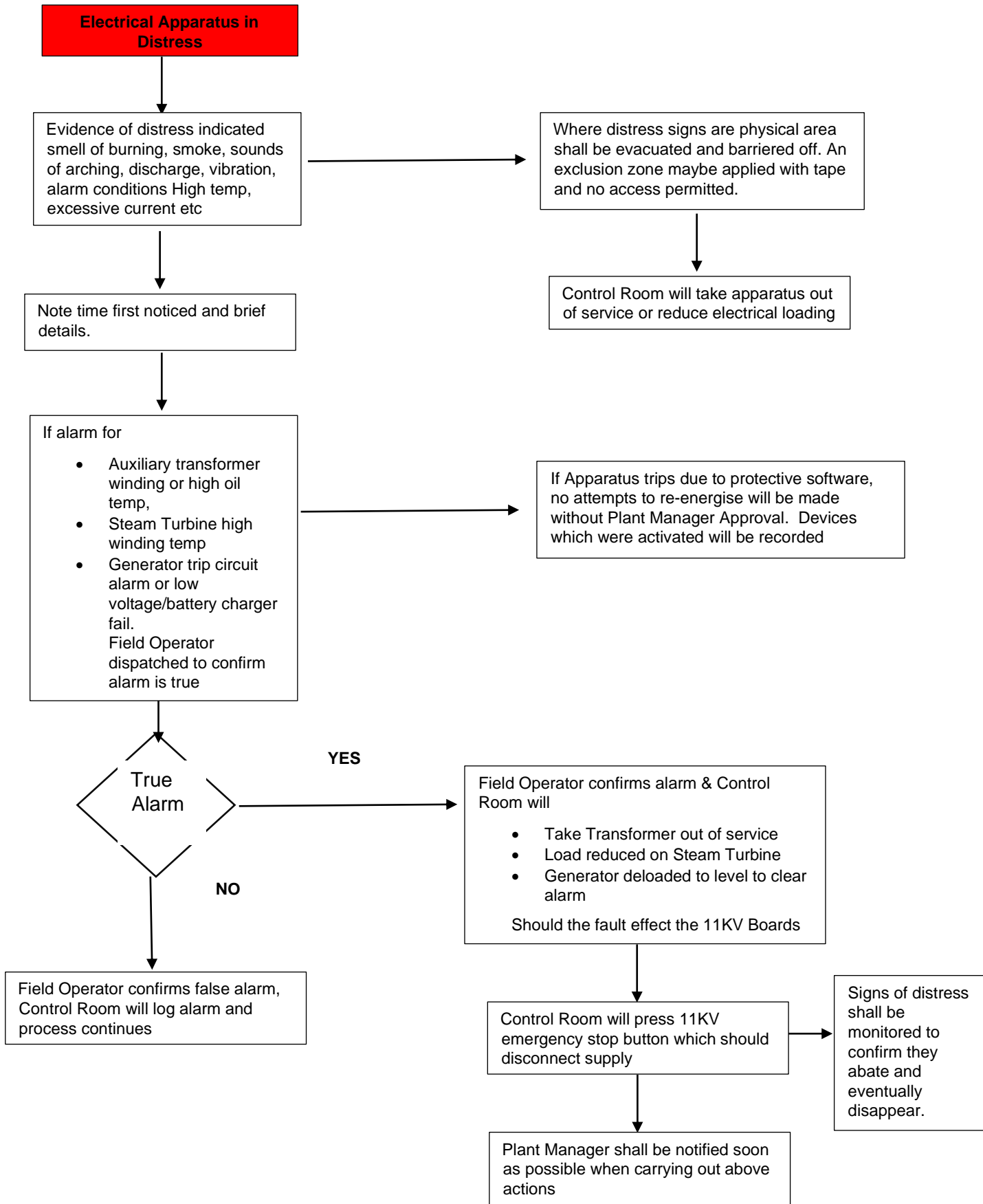


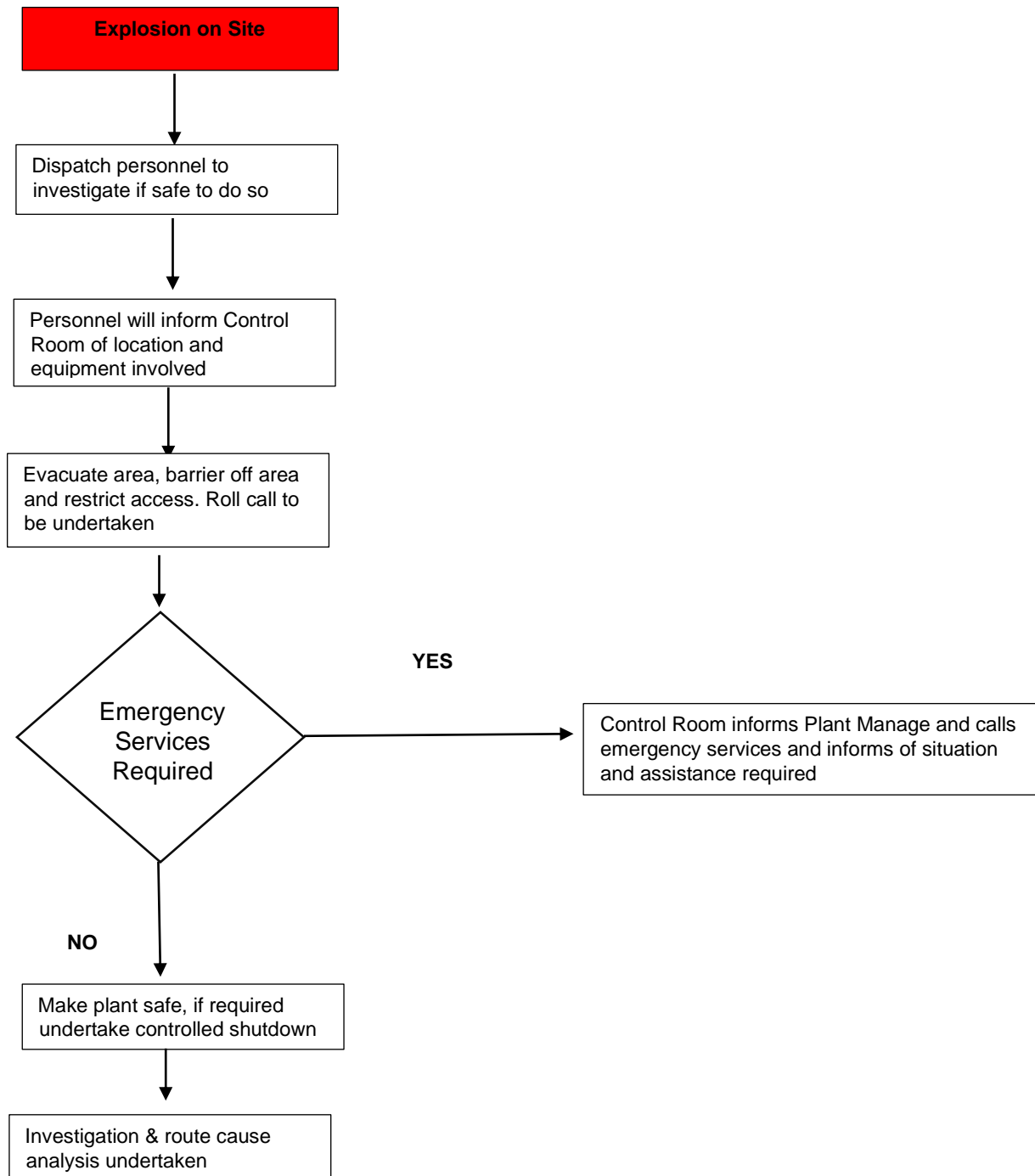
**NOTE:** There is a responsibility to notify incidents causing or threatening material harm to the environment immediately after a person becomes aware of the incident.

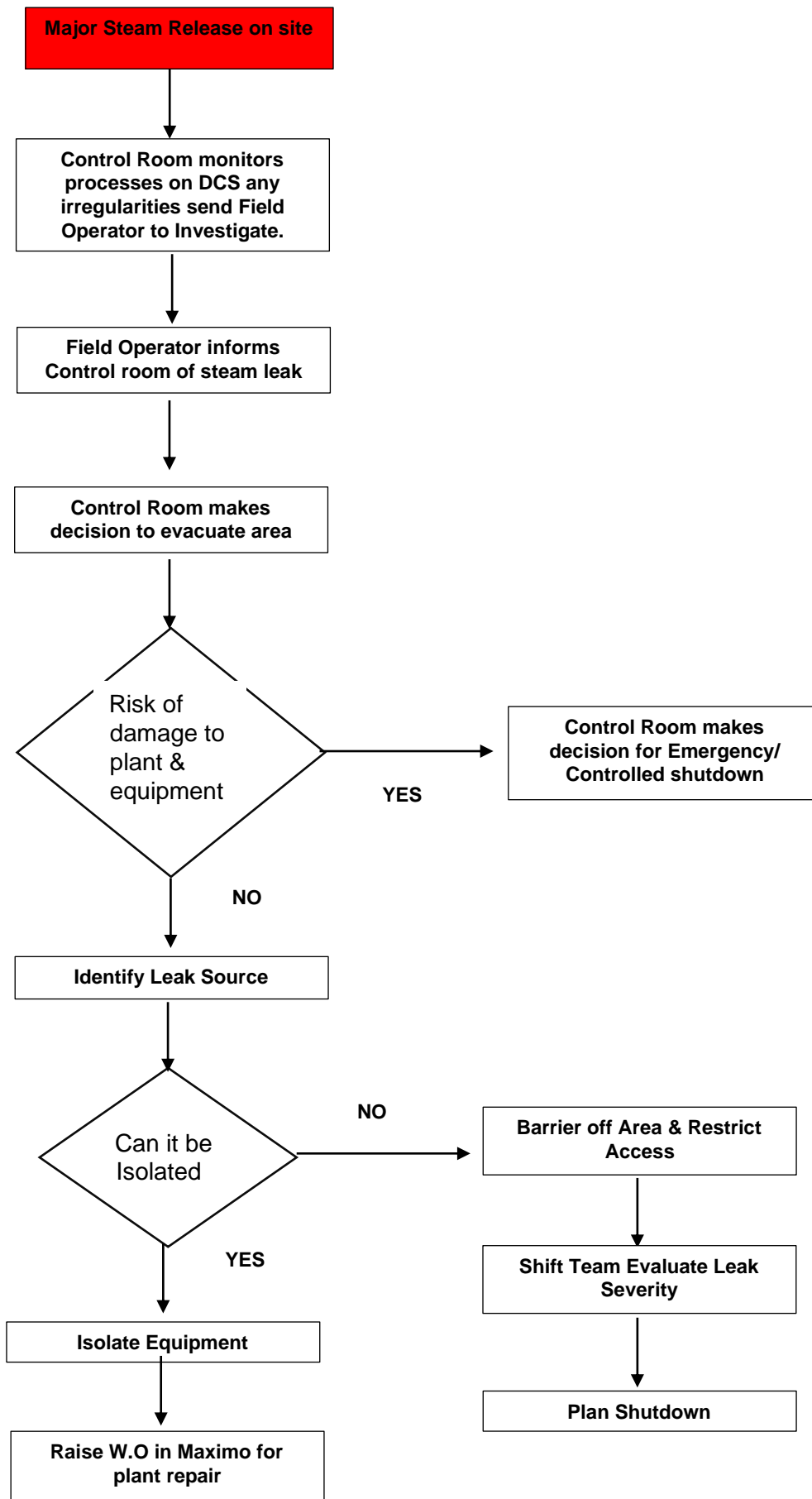













# STANDARD OPERATING PROCEDURE

## Emergency Response

Associated with:-

GBR-BAR-LP0006-0014- Emergency Response Risk Assessment

09							
08							
07							
06							
05							
04							
03							
02							
01	A Winfindale	15/04/21	M Watkin	19-04-21	H Huckson	19-04-21	Reviewed
00	A Winfindale	22/10/18	C LEWIS	22/10/18	H Huckson	03/04/19	Made Site Specific
Rev	Name	Date	Name	Date	Name	Date	Revision Text
	Prepared		Checked		Released		
					Document Title: STANDARD OPERATING PROCEDURE Emergency Response		

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## 1. Purpose, Scope, Objectives, Limitations

### 1.1. Purpose

This document outlines the Emergency Procedure to be adopted in the event of an incident occurring at Barry Biomass Plant.

### 1.2. Scope

The incidents covered in this procedure are:

Security threats (including bomb)	Fire
Health and Safety event	Explosion
Adjacent industrial emergencies	Major site spillage

### 1.3. Objectives

The objectives of this document are to enable all staff employed at Barry Biomass Plant to safely and effectively deal with any of the incidents identified in the scope, in such a way as to minimise any impact on staff and the environment. Furthermore, any leakages, spillages, fire, explosions are dealt with in a way that will minimise the impact and limit any damage as much as possible to the affected plant items thus reducing plant down time and the time and cost of any necessary repairs, following the incident.

### 1.4. Limitations of Liability and Competence Requirements

1. All staff should read and be familiar with the contents of this document
2. Personnel taking actions in association with any incident should be properly trained and authorized to perform such actions relating to the specific incident.
3. Supervisors are obliged to train, guide, direct and control their subordinates to ensure correct actions
4. All relevant safety equipment and clothes must be used
5. No activity is to be under taken unless the instructions are clearly understood
6. No personnel are to place themselves in any danger or take any unnecessary risks which could put them in danger whilst dealing with any incident.
7. Where any doubt exists as to the safety of any incident response, all personnel should either stop and re-assess the situation or call for additional assistance
8. Where a Standard Operating Procedure (SOP) exists for a task, the SOP should be followed whenever possible when responding to an incident
9. Any PPE or additional safety equipment should be used whenever required

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## 2. Responsibilities and Authority

### 2.1. Incident Commander

During an Incident or Emergency, the Shift Team Leader or the Shift Operator in the event the Shift Team Leader is incapacitated will act as Incident Commander. The main duty of the Incident Commander / Shift Supervisor is to sound the emergency fire and evacuation alarm to ensure the safety of personnel and visitors, minimise any environmental impact and minimise any damage to the plant as far as practicable. The Incident procedures and flowcharts in the Appendices can be used as guidance.

All personnel (including managers and contractors) will be required to take instructions from the Incident Commander / Shift Team Leader and to undertake any action the Incident Commander/Shift Team Leader considers to be necessary while the Emergency is in progress. Managers (including the Support Manager) and other designated personnel may also assist the Incident Commander /Shift Team Leader in their operations and will provide advice when requested or required.

### 2.2. The Duty Manager

The Designated Duty Manager will be contacted after the incident has started. The main responsibility of the Duty Manager is to assist the Incident Commander / Shift Team Leader during the incident, to assist with notifying the Owner and other designated authorities of the incident and providing follow up information as required.

The Duty Manager may initially work from home whilst initial contact is made to allow continued communications, once at site the Duty Manager shall find a base with good contact with the Incident Commander/Shift Team Leader and where phones and copies of the relevant Incident Control Procedure can be utilised.

The Duty Manager is responsible for notifying regulatory authorities such as the HSE (Health and Safety Executive) or the EA (Environment Agency), the Owners' Representative and for notifying Outotec Headquarters personnel, either by telephone or in writing. The Duty Manager is also responsible to instigate any investigations arising from the emergency or incident. If the Duty Manager cannot be reached in time to ensure notifications within a reasonable time the Incident Commander will make the required notifications.

The Duty Manager, when on site, is the only person who can relieve an Incident Commander / Shift Team Leader. The Support Manager also acts as the Deputy Incident Commander and will take over the duties and responsibilities of the Incident Commander/Shift Team Leader if they are incapacitated or removed.

### 2.3. Employees, Contractors and Visitors

All other personnel will follow any instructions or guidance provided by the Incident Commander / Shift Team Leader in response to any emergency or incident including further actions to take in addition to this procedure.

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### 3. Definitions

#### 3.1. Incident Commander

Shift Team Leader within the Operations Department at the time of the incident. In the event of the Shift Team Leader being indisposed the responsibility shall fall to the Plant Operator who will take responsibility until relieved by the Duty Manager or another Shift Team Leader.

#### 3.2. Duty Manager

The Duty Manager will normally be the Plant Manager of the site, however during periods of holiday or other absence, this may be delegated to another plant manager or a deputy.

#### 3.3. Other Definitions

##### Standard Operating Procedure / SOP

A standard operating procedure is a written procedure detailing the necessary actions required to perform a particular task.

##### Muster Point

The primary site muster point is located by the main entrance gate. This should be used for all evacuations unless directed to a different location by the Duty Manager or Shift Team Leader

##### Duty Shift Team

A shift team will consist of the Shift Team Leader who will act as the Incident commander and an Operations Technician who may deputise for the Shift Team Leader if they become incapacitated

##### Most Senior Person

If the Duty manager is not on site, then the next Most Senior Person will assume the responsibilities and authority of the Duty Manager. This could be either a member of the Admin, Operations or Maintenance team depending on who is the most experienced, knowledgeable or most confident in dealing with any particular emergency situation.

### 4. Site Personnel

#### 4.1. Site Manpower Level

This facility operates 24 hours per day, seven days per week. There are normally two operations personnel on site at any time, one of whom will always be designated as Shift Team Leader. During normal office working hours there will be additional Managerial, Admin and maintenance staff also on site. During periods of shutdown and outage, there may also be a significant increase in the number of people on site such as contractors carrying out engineering work. An automated key card system will control entry to and from the site with an intercom link to the control room to allow visitors access

In the event of an emergency or incident the Duty Manager may be called upon to support the Shift Team Leader / Incident Commander. Depending upon the situation, the Incident Commander/Shift Team Leader will contact the Duty Manager to provide additional support if required.

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## 4.2. Staff Training

Staff will be required to undertake training in emergency response procedures such as First Aid, Spillage Control and Fire-Fighting and will be required to be undertake refresher training as necessary on a periodic basis. As a minimum requirement, all operations and maintenance staff will be trained in the emergency response areas due to the out of hours' nature of 24/7 site operations.

New employees should receive this training as early as possible in their employment

## 4.3. Drills

Practice drills will be held on a regular basis as decided by the Duty Manager and may be instigated without notice by the Duty Manager after consultation with the Shift Team Leader.

Following the practice drill, the relevant procedure relating to the practice drill will be reviewed and any observations or improvements will be made or incorporated as part of the review process.

## 5. Procedure

### 5.1. Off Site Agency Notifications including the Owner

The Duty Manager is responsible for notifying the appropriate off-site agency by telephone and/or in writing in the event of an emergency.

The owners and off-site government bodies will generally be notified in the event of:

- Major Fire
- Explosion
- Any release of gas, vapours, fumes, or other air emissions considered non-routine or of an unknown source or quantity
- Any liquid spill of oil or hazardous material in a quantity which is not easily and safely controllable by the site staff.

### 5.2. Utilities

The utilities provided to and from the site are Electricity via the main site transformer which transforms the generator output voltage from 11kV to 33kV and raw water intake and waste water discharge.

All process water will be discharged to the Welsh water sewerage system. Surface water is directed to an attenuation tank located on the site, before leaving the site to the adjacent river.

### 5.3. Fire / Explosions

Barry Biomass Plant burns woodchip in a Fluidized Bed Gasifier and will hold significant quantities of wood chip biomass fuel at any given time. This fuel stock is stored in the fuel storage building before being transported to the metering bins located in the boiler structure, via the walking floor and conveyor system. There is, therefore, significant potential for a fire hazard in the wood fuel storage building. In addition to the wood fuel, the plant will during start-up, burn Diesel fuel in the start burner and use diesel fuel for operating the emergency back-up generator and diesel fire pump. The diesel storage tank is located on the eastern side of the Process Building, next to the Air Compressor room and between the Ash Silo's and Welfare/Office building. Other sources of fire or explosions may be from an electrical explosion from switchgear or transformers or from an explosive device.

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Fire Extinguishers are located throughout the site area along with fixed fire protection to various plant areas.

A fire valve kiosk is located at the fuel reception building, main process area and at the turbine building. These kiosks will provide the fire water through the automated fire system.

Fire hydrants are located in and around the Process Building. Use of the fire hydrants should be by trained staff only.

On discovery of a fire, the fire alarm call point nearest to the fire exit being used should be activated which will alert the control room via the site fire alarm system before going to the site muster point

**Only fight a fire using a fire extinguisher if you are trained in the use of fire extinguishers, confident the fire can be contained, the fire is small and you do not expose yourself to any unnecessary risk.**

On activation of the site fire alarm, the Shift Team Leader will assess the situation before cancelling the alarm, if false, or undertaking further actions as required.

On hearing the fire alarm, all staff, visitors and contractors will evacuate to the muster point. All staff, visitors and contractors will remain at the muster point until the duty manager or senior person has been informed by the Shift Team Leader that the incident has ceased or has been declared as a false alarm.

## 5.4. Bomb Threat

On receipt of information regarded as a 'Bomb Threat' try to record as much information as possible. Depending on the nature of the threat, available information may be minimal, such as if the threat was received via mail or email. If the threat is received by a phone call, refer to the check list at Appendix ?? and try to complete as much as possible. Try to record any noticeable features from the caller such as:

- Accent
- Quality of the phone line
- Background noise
- Background voices, did you hear any names, locations being mentioned.
- Try to engage the caller in conversation by asking why they would want to set off an explosive device, why have they chosen Barry Biomass plant, where are they calling from, do they understand that people might get hurt, what do they want to achieve?
- Even the smallest detail may help the police in any subsequent investigation.

After gathering as much information as possible, inform the Duty Manager who will then give further instructions, such as to inform the police, conduct an area search or evacuate the site as appropriate.

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## 5.5. Major Site Spillage

Spillage/Control response needs to be fast, safe and efficient if the situation is to be localised and major incidents are to be avoided. There are ten steps for dealing with spillages or emergencies namely:

1. In the event of a spill, all untrained personnel and anyone who does not have the correct PPE to deal with the spill should leave the area immediately.
2. Wherever possible, those working near the spillage should try to identify what they saw i.e. smoke, fumes, foam etc. or perhaps the labels on the containers involved but they should not go back for a second look.
3. The person at the scene should contact the 'Control room' and provide all available information about the incident to the controller, so that the appropriate emergency services can be raised.
4. If it is safe to do so, casualties should be removed from the incident if they are in immediate danger. The person undertaking the rescue must be trained and adequately equipped.
5. Access to the area should be controlled to prevent unauthorised entry.
6. Steps should be taken to identify the hazards using product label and substance risk assessment form. (MSDS and COSHH forms)
7. The most senior person present is responsible for deciding on the method for containing the spillage. If there is any doubt, professional advice and help should be obtained.
8. A plan must be prepared for cleaning up the spillage and dealing with the emergency, this should identify hazards, protection required and availability of trained personnel.
9. The most senior person present will identify both hazards, protection required and the availability of trained personnel.
10. The most senior person present will identify the method of carrying out the clean-up operation and the requirements for the disposal of the waste and clean-up materials. If there is any doubt, professional advice and help should be obtained.

NB Spills should be contained and removed with absorbent materials or by direct collection (e.g. by specialist tanker). Under no circumstances should spills be washed into drains. Drain covers must be used as quickly as possible to prevent contamination entering the storm water or foul drains. Any pumped discharges to storm or foul drains should be stopped until it has been confirmed that there is no risk of contamination leaving the site.

### Clean Up Procedure Materials

Adequate stocks of clean-up materials will be available at accessible points throughout the facility. Also replacement stocks are held in stores for immediate use.

The materials used to control the waste spillage must be disposed of, having regard for the clarification of waste. In addition, all appropriate documentation must be raised to identify and clarify the waste, which must also be properly labelled prior to disposal. At no time, should waste be washed to drain.

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## Potential for Spillage

Materials used onsite which offer a potential for spillage are:

- Ammonia / Urea in aqueous and solid form
- Diesel Fuel
- Lubricating Oils
- Hydraulic Oils
- Fly Ash
- Lime
- Hydrazine (Oxygen Scavenger)

MSDS can be found in: COSHH Log located within the Control Room.

## 5.6. Intruders on site

If Intruders/protestors gain access to site, the following actions shall be taken.

- Shift Team Leader to contact Police on 999 and the Duty Manager.
- Lock all building doors.
- Shift team to monitor intruders using site cameras. If units are shut down do not start up. If units are running do not shut down unless there is immediate danger to the intruders.
- When the police arrive meet them at main gate and give as much information as possible.
- When Duty Manager arrives he will take over control of the incident and:
  - Liaise with Police and inform customer.
  - Set up an Incident Control Centre in the Conference Room.

## 5.7. Natural Disaster or Weather Related Emergency

There is a likelihood of extreme weather including heavy rain, flooding, lightning and high winds at the Barry Biomass Plant location. In the event of any extreme weather events, damage limitation should focus on preparation in advance of the forecasted weather and on ensuring personnel are safe during the bad weather. Actions to take prior and during the weather event are:

- Keep the site tidy and place any waste and rubbish in the appropriate bins / skips.
- Walk round and inspect the site in advance of any forecasted weather and identify any loose equipment or items that could be affected by high winds, heavy rain or flooding. Take appropriate steps to bring those items indoors or cover and tie down.
- Ensure any pits are pumped out to contain as much rainwater as possible and prevent or minimise any overflow
- Close all doors and windows to prevent any rain ingress into buildings
- During the bad weather, keep personnel movements outside to a minimum and only when necessary.

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- Avoid going to the higher levels of the boiler structure during periods of high winds. If this is necessary, consider using a safety harness and ensure you inform the control of the work requirement. Safety controller approval must be obtained before undertaking the task.

## 5.8. Medical Emergency

In the event of an injury or illness requiring first aid and treatment off site, the control room must be informed immediately. The Control Room will coordinate the emergency services as required. As much information as possible must be given to the control room operator for them to pass on to the emergency services.

First Aiders will be called and directed to the casualty location using the site radios.

The Shift Team Leader will direct somebody to meet any emergency service response at the main gate and direct them to the casualty site.

## 5.9. Offsite Emergency with On-site impacts

When any member of staff or other personnel receive an indication of an off-site emergency with potential on-site impacts, the Shift Team Leader (i.e. Incident Commander) must be notified immediately. The Incident Commander/Shift Team Leader will in turn notify all relevant personnel and organisations. The Incident Commander/Shift Team Leader will also be responsible for communications and co-ordination with off-site agencies and services regarding actions or measures to be taken.

## 6. Site Fire and Evacuation Alarm, Evacuation and Muster

### 6.1. Site Fire and Evacuation Alarm

The Site Fire and Evacuation Alarm can be actuated by any of the fire call points throughout the site or on the fire control panel located in the Control Room. In addition, automatic sensors such as smoke detectors or heat detectors or a demand on the fire pump system, will activate the Site Alarm if smoke or fire is detected.

The Site Alarm consists of an alarm siren sounding in all areas of the site and in all buildings.

Once the Site Alarm has sounded then ALL personnel except for the Duty Shift Team shall evacuate the site and report to the muster point where a roll call will be carried out to ensure that all personnel are accounted for.

If the Incident Commander / Shift Team Leader require assistance with the incident they may request personnel to remain on site and not report to the muster point. However, it is the Incident Commander / Shift Team Leader's responsibility to inform the muster point of any persons remaining on site or the possibility of persons working in areas where there is limited radio communication.

In the event of the Site Alarm being set off accidentally it must not be silenced in the Control Room for at least 60 seconds and the Incident Commander / Shift Team Leader has authorised it to be silenced. The site evacuation and roll call must be carried out as if for a genuine incident.

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It is the responsibility of the Duty Manager or the most senior person present to carry out the roll call at the muster point and to identify any missing personnel. Once this has been carried out then the Duty Manager will report to the Incident Commander / Shift Team Leader and inform them if all personnel are accounted for or who is missing. Now the Incident Commander / Shift Team Leader will also inform the Duty Manager that they have accounted for all the duty shift team.

Outside of normal working hours it is the responsibility of the incident commander / Shift Team Leader to ensure that all personnel are accounted for.

Once confirmation of an emergency is obtained and the Emergency Services called, the Incident Commander/Shift Team Leader is responsible for ensuring that both site and building access for emergency service personnel is organised. The Incident Commander/Shift Team Leader/Duty Manager may delegate another staff member to meet the emergency services and escort or direct them to the location of the emergency.

If for any reason the Control Room Fire Panel or any other fire detection / suppression equipment is out of service, either due to maintenance or breakdown then all site staff must be made aware. Alternative methods of raising the alarm and evacuating the site may include, telephone and radio announcements.

## 6.2. Facility Evacuation

Evacuation of the facility may be necessary in the event of an emergency. During an evacuation, all personnel will muster at the muster point at the main entrance gate unless an alternative muster point has been allocated. The Duty Manager will be available at the evacuation / muster point to provide assistance and support for the Incident Commander / Shift Team Leader, if required. They are also available to assist in the co-ordinating of the site evacuation.

In the event of a large-scale emergency, it may be necessary to evacuate to an off-site location. In this case, the decision to evacuate will be made by the Incident Commander / Shift Team Leader in accordance with the relevant Emergency and Incident Control Procedure.

Should an evacuation be necessary, ALL staff must immediately proceed to the muster point without stopping to collect any personal belongings

## 6.3. Muster Areas

In the event of evacuation, the designated primary muster point is at the Main Entrance Gate. If the primary muster point is unsuitable then the Incident Commander/Shift Team Leader may allocate an alternative. If an alternative muster point is to be used, then announcements must be made on all radio channels. The Duty Manager/Most Senior Person must ensure that a print out of all on site personnel is taken and that the main gate is opened prior to attending the alternative muster point.

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If a print out of onsite personnel is unavailable, then every effort must be made to identify if all personnel are accounted for. The Duty Manager/Most Senior Person at the muster point shall be responsible for carrying out this out and reporting to the Incident Controller.

These locations are marked on the facility map (Appendix 3). The Incident Commander / Shift Team Leader is responsible for ensuring that all personnel on site are mustered and accounted for at these locations.

Should evacuation to an offsite location be necessary, the Incident Commander / Shift Team Leader is responsible for identifying this site to all personnel by radio or telephone.

## 7. Media Enquiries

All enquiries made to the site by the media should be directed to the Duty Manager. Site staff should not speak directly to the media and should not reveal any personal or operational details in response to any enquiry. On receipt of any contact, the staff member should record the details and pass these on to the Duty Manager who will then act on any information request.

The following statement should be used in response to a direct enquiry:

“We are aware that an incident has occurred and we are investigating to establish the source and cause of the incident. If you would like to leave your contact details, I can pass these on to our Duty Manager who will respond as soon as possible, when further details become available.”

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## 8. Appendix

### 8.1. Appendix 1 - Site Information Summary

Site Information Summary			
Name of Facility	Barry Biomass No2 Ltd		
Address	Woodham Road, Barry, Vale of Glamorgan CF63 4JE		
Name and Address of Owner	<b>Aviva</b> 8 Surrey Street, Norwich, Norfolk NR1 3NG		
Name and Address of Operator	Outotec (UK) Limited Watling Court, Orbital Plaza, Cannock, England, WS11 0EL		
Owners Representative	PCML – Randall Smith		
Plant Manager	Mark Watkin		
Emergency Contact Numbers STL 07788299197			
Control Room	01446 789170		
Fire, Ambulance, Police	Emergency: 999 Police Non-Emergency: 101 Medical Non-Emergency: 111 Fire Station: 01443 232000 Police Station: 02920 222111		
National Resources Wales	Emergency Pollution Reporting: Call: 0300 065 3000. Press 2 for English then 1 for 24-hour Incident Report Line General Enquiries: 0300 065 3000 (Mon-Fri 9am -5pm)		
HSE	General Enquiries: 0300 003 1747 Mon to Fri 08:30 to 17:00, Wed 10:00 to 17:00 Death/Serious Incident Out of Hours: 0151 922 9235 (Duty Officer)		
Welsh Water	Enquiries Office: 0800 052 0145 Mon to Fri 08:00 to 20:00, Sat 8:30 to 13:30 Emergencies: Water 0800 052 0130		

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	Sewerage 0800 085 3968		
Western Power Distribution	DNO 02920 332 843 Emergency Number: 0800 678 3105 General Enquiries: 0800 096 3080		
Hospital Barry - Minor Injuries	01446 704000	University Hospital Cardiff A+E	02920747747

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## 8.2. Appendix 2 – On Site Hazardous Materials Inventory

<b>Hazardous Material Inventory</b>		
<b>Substance</b>	<b>Quantity held in stores</b>	<b>Quantity in use</b>
<b>Oils, Fuels etc</b>		
Diesel Fuel		
Turbine Lubricating Oil		
Hydraulic Oil		
Transformer Oil		
<b>Chemicals</b>		
Urea		
Aqueous Ammonia		
Lime		
Hydrazine		
Phosphate		
Caustic		

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## 8.3. Appendix 3 – Bomb Threat Checklist

Bomb Threat Checklist	
Receipt of bomb threat	Time:
Carefully record the exact wording of the threat. Ask for the message to be repeated if necessary.	Notes:
Inform control room who will initiate the incident control procedure	
Decide whether to evacuate based on risk assessment	Time:
Incident Controller Informs:	
Duty Manager	Time:
Police	Time:
Site Owner	Time:
Muster Completed	Time: Persons not accounted for:
Plant should be maintained on Load with minimum staff until advice to the contrary is given by Police	
If Police advise complete evacuation, reduce load to zero and trip as soon as possible.	
Inform power trading firm, Western Power etc as required	Time:

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## 8.4. Appendix 4 – Fire/Explosion Checklist

Time of Fire/Explosion	Time:
Person raising alarm	Location:
Automatic fire alarm identification	
Manual call point identification	
Person investigating fire	
Evacuation alarm sounded	Time:
Fire Brigade called	Time:
Fire Brigade on site	Time:
Ambulance called	Time:
Police called	Time:
Muster completed by Duty Manager	Time: Persons not accounted for:
Actions taken to find missing persons	
Duty Manager informed (If not on Site)	Time:
Owner informed	Time:

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## 8.5. Appendix 5 - Spillage Check List

Hazardous Material Leak	
Leakage Material	
Leak Discovered	Time
Area evacuated	Time:
Persons investigating	Protective clothing:
Site discharges stopped	Time:
Drain covers fitted	Time:
Call -	
1. Fire Brigade if required	Time:
2. Ambulance if required	Time:
Inform Duty Manager	Time:

Gather information for Emergency Services:

- MSDS for leaked substance
- If any personnel are in danger
- Quantities held in tank / spilled
- If the leakage is contained or not.
- Location of isolation valves, if isolation required, or where substance has been isolated.
- Actions already taken

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## 8.6 Appendix 6 – Oil & Chemical Spillage Control Action Procedure

### Included in every spill kit on site



## Oil & Chemical Spillage Control Action Procedures

In the event of a spillage, prompt action and correct use of equipment is essential to minimise damage to the environment and to prevent contamination to the people involved in the clear up operation. This equipment must be used as quickly as possible to prevent ground contamination and water contamination both of storm water and foul water.

- Spillage/Control Response needs to be fast, safe and efficient if the situation is to be localised and major incidents are to be avoided.
- Find the source of the pollution. Wherever possible, those working near the spillage should try to identify what they saw i.e. smoke, fumes, foam etc. or perhaps the labels on the containers involved but they should not go back for a second look.
- The person at the scene should contact the 'Control Room' and provide details to the controller so that the appropriate emergency services can be raised.
- If it is safe to do so, casualties should be removed from the incident if he/ she is in immediate danger. The person undertaking the rescue must be trained and adequately equipped.
- Take immediate action to reduce or stop the pollution. Switch off devices or isolate to prevent further contamination and minimise spread and seal off drains using drain covers if required to prevent contamination entering the storm water or foul drains.
- The area should be sealed off and secured to prevent unauthorised entry. Steps should be taken to identify the hazards using the product label, MSDS and/or COSHH Assessment.
- A plan must be prepared for cleaning up the spillage and dealing with the emergency, this should identify the hazards, protection required and availability of trained personnel.
- The most senior person present should decide on the method for containing the spillage. If there is any doubt, professional advice and help should be obtained.
- The most senior person present should identify the hazards, protection required and the availability of trained personnel. The method of carrying out the clean-up operation and the requirements for the disposal of the waste and clean-up materials. The spill kits contain gloves but PPE should be considered and used for every part of your body - from head to

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toe, suits, face protection, gloves and boots.

- Contain the spillage. Construct a bund around the spill to stop it spreading using spill socks and booms.
- Use the spill kits to clean up the spillage (i.e. use the absorbent granules/pads/ pillows in the spill kits to mop up spills). Additional equipment is contained in stores building.
- Spills should be contained and removed with absorbent materials or by direct collection (e.g. by specialist tanker). Spills containing substances such as oil, diesel or paint will be hazardous waste and these need to be disposed of in the correct way, specialist disposal may be required. Materials used to control the waste spillage must be disposed of correctly, having regard for the classification of waste. In addition, all appropriate documentation must be raised to identify and classify the waste, which must also be properly labelled prior to disposal.
- Under no circumstances should spills be washed into drains.
- If you are using drip trays, never let them overflow and always dispose of any contains appropriately (i.e. when full, do not empty by tipping out onto the ground!). Identify the route of disposal and arrange storage of the drip tray contents before they require emptying.

## **SPILL KIT LOCATIONS**

No.	Location
1	TBD
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

## **DRAIN COVER LOCATIONS**

No.	Location
1	
2	
3	

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Church Motors	Yes / No 01446 722070	
RM Auto Repair	Yes / No 01446 739999	
Natural Resources Wales	Yes / No – 0300 065 3000	
HSE	Yes / No 0300 003 1747	
Other:		
Duty Manager Informed	Time:	
Owner Informed	Time:	

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## 8.8 Appendix 8 – General Enquiry Form

Person receiving enquiry:	
Mode of enquiry:	In Person/Phone/other
Time of enquiry:	
Name of person making enquiry	
Contact details	
Details of enquiry:	
Call back requested	Yes/No

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