

CORK LOWER HARBOUR WASTEWATER TREATMENT PLANT Emergency Plan

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PURPOSE

The purpose of this procedure is to set out an Emergency Plan for Cork Lower Harbour wastewater treatment plant in accordance with the PMS (Performance Management Systems) documents (available on the O Drive at O:\PMS Documents and Templates\PMS Documents).

SCOPE

This procedure covers the Emergency Plan for Cork Lower Harbour wastewater treatment plant.

REFERENCES

ISO14001:2015	Clause 8.2 of ISO standard
ISO45001:2018	Clause 8.2 of ISO standard

RESPONSIBILITIES

The Operations Team is responsible for ensuring that Emergency Plans are prepared. The Site Managers and Supervisors are responsible for ensuring that onsite Emergency Plans are prepared and implemented where required.

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1.0 TABLE OF CONTENTS

2.0 INTRODUCTION

General

The aim of the Emergency Plan is to set out the emergency procedures to be implemented in the event of an accident / incident at Cork Lower Harbour (CLH) WWTP in accordance with the PMS (Performance Management Systems) documents (available on the O Drive at O:\PMS Documents and Templates\PMS Documents). Each member of staff will be familiar with the emergency plan which will be available at the site office. The emergency plan will be reviewed and tested at intervals not exceeding 12 months and more frequently if required (i.e. if the result of a test highlights deficiencies in the emergency plan). All drills and evacuations will be recorded in the Emergency Evacuation Summary Report. The Emergency Plans will be updated accordingly if any deficiencies become evident.

A site map will be held on site with relevant information, such as the location of assembly points, location of fire exits, fire hydrants, fire extinguishers, confined spaces and chemical (including flammable fuels and gases) storage areas.

Site

CLH WWTP situated at Carrigaline East, Co. Cork, is operated by EPS on behalf of the Irish Water. All personnel on site (including the fulltime employees) must sign in to the plant site upon each visit. The 'Sign In' sheet is located in the administration office. At no point will a visitor be unaccompanied on the site. A visitor is defined as anyone not an employee of EPS or the Irish Water. Contractors are considered an employee of EPS and are familiar with the plant facility. They are however, supervised while on site by a designated full time employee of the site.

Employees

There is 1 fulltime employee on site 5 days a week during site hours 8.30am – 5.00 pm Monday – Thursday and 8.30 am – 4.00 pm on Friday. 2 employees are available for on call work. Employees alternate weekend duty.

Emergency Plan

The Area Manager will make frequent visits to the Plant Site in the course of his / her normal work. The EPS Internal ISO9001 / 14001 / 45001 Auditors will visit the plant site to carry out monitoring of the health, safety, quality and environmental management system.

Contractors

At various times contractors will be present on site for the removal of sludge, screenings, and grit. These personnel will undergo a site safety induction during their first site visit. A record will be maintained at site of all personnel who have completed this induction.

Employer

Irish Water may visit the site at various times to carry out tests, inspections or groundwork. Maintenance of landscaping and ground works is the responsibility of EPS.

Others

Various agencies with an interest in the operation of Cork Lower Harbour may make an unannounced visit to the plant site. (e.g. EPA). Visits by school groups, councils and consultants will also be facilitated and given site tours as requested and by prior arrangement.

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3.0 CATEGORIES OF EMERGENCIES

Categories A and B are defined as per the PMS documents.

Category A	Description
Environmental Pollution	Chemical, oil or effluent discharge into local water table
Threat to Treatment Process	Major oil spill into treatment plant
Public Health Danger	Bomb threat, environmental threat, disease
Explosion or Potential Explosion	Gas systems leaking, digesters exploding, thermal dryer exploding

Category B	Description
Personnel in Need of Rescue	Person(s) trapped or incapable of moving, i.e. in confined space, building collapse
Death / Serious Injury on site	Person found dead or seriously injured on site
Medical / First Aid Emergencies	Personnel in need of medical assistance
Extreme Weather Conditions	Flooding on site damaging equipment
Gas Leak / Build Up	Gas build up in confined space, gas alarms activated due to leakage in building
Intruder Alarm – Security Breach	Intruder alarm activated requiring security company to check site
No Water Supply	No water on site for maintenance, washbars, screens, etc..
Transportation / Vehicle Accident	Vehicular accident on site requiring attendance of emergency services
Electricity Supply Failure	No electricity on site / electrical equipment failing to operate
Disruption of Process / Services	Fault which may jeopardise the treatment process, i.e. loss of pumps, blowers, compressors, boilers
Fire	Fire which cannot be controlled with extinguisher

DESCRIPTION OF RESPONSE PROCEDURES: FOR CATEGORY B EMERGENCIES

4.0 PERSONNEL IN NEED OF RESCUE

This procedure describes the actions to be implemented in the event of a person or persons requiring rescue. It may be implemented in isolation or in conjunction with additional procedures (e.g. Death/Serious Injury on Site).

4.1 Purpose

The purpose of this procedure is to clearly outline the steps to be taken when conducting a rescue of personnel.

4.2 Responsibility

The permanent staff onsite are responsible for carrying out this procedure.

4.3 Associated Documents / Information

- Site Plan
- Emergency Service contact numbers

4.4 Procedure – Discovery of an Accident / Incident

The Person discovering the accident / incident must raise the alarm. This should be done immediately. Once the alarm has been raised the following actions must be carried out:

1. If a fire is present, the nearest fire alarm should be activated.
2. If safe to do so and without endangering oneself, tackle the fire, using the correct fire extinguisher or other fire fighting equipment.
3. Contact the fire brigade.
4. If machinery is involved and it is safe to do so (i.e. the emergency stop can be safely reached), the emergency stop for the machine should be activated in order to shut down the machine.
5. If the person discovering the accident / incident can safely reach the victim without putting himself / herself in danger, then they should do so.

4.5 Hazards

Under no circumstances must a person from outside the danger zone approach the danger zone unless the area is safe to enter. If the area is unsafe a rescue must not be attempted. Particular care is required if the following hazards are present at the accident site.

Emergency Plan

Electrical: If the hazard is electrical in nature the electrical supply must be switched off at the local isolator or distribution board. In cases where access is restricted, the individual control panels can be isolated on the main distribution board. If the electrical supply cannot be turned off locally at the panel (in the event that the accident restricts access to the switchboard) the Electrical Supply Board (ESB) 1850 372 999 must be contacted as a matter of urgency.

Gas: If toxic Gas is present at the accident site (indicated by a personal gas detector alarm or wall mounted gas detector) then the area must be ventilated before approaching the victim by leaving exit doors open. A rescue must only be attempted if the gas detectors are indicating safe levels of gases in the area.

4.6 Rescue Procedure

Once safe access for the rescuer to the victim can be achieved, the condition of the victim is to be assessed. One or all of the following may be required:

1. Assess the injuries (if any) to the victim. If there is even a slight chance of spinal injury, then the victim must not be moved until professional medical help is available. The only exception to this is if the area becomes Immediately Dangerous to Life or Health and the casualty must be moved to preserve life.
2. If the hazard can be eliminated (by ventilation, emergency stops, etc..) then the victim, if unresponsive, must not be moved under any circumstances with the exception of placing them into the recovery / safe airway position.
3. Trained First Aid Personnel will administer first aid.
4. If professional medical help is required and / or there is a danger of fire or explosion contact the Emergency Services.
5. If required, once it is safe to do so, the accident / incident area must be made safe to avoid reoccurrence of a similar accident / incident. Accidents / incidents must be documented and reported to the Health and Safety Advisor and the Health and Safety Manager.

4.7 Rescue from Within a Tank: Drowning Hazard

If the person in need of rescue has fallen into a tank filled with water or waste water with an aeration system in operation, the following rescue restrictions must apply:

1. Throw the Life Buoy to the victim.
2. Turn off the blowers and any other equipment (mixers etc.) at the emergency stop or local isolation switch.
3. Contact the Emergency Services.

Emergency Plan

4. Note that any rescuer or rescue attempt must not involve the rescuer entering the danger zone or tank.
5. If required, once it is safe to do so, the accident / incident area must be made safe to avoid reoccurrence of a similar accident / incident. Accidents / incidents must be documented and reported to the Health and Safety Advisor and the Health and Safety Manager.

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5.0 DEATH / SERIOUS INJURY ON SITE

Emergency Plan

If death or serious injury occurs onsite as a result of an accident, or other type of emergency, the following procedure must be implemented.

5.1 Purpose

This Procedure describes the actions to be implemented on managing a death or serious injury that has occurred on the plant site and is not treatable by First Aid.

5.2 Responsibility

The person discovering the accident onsite is responsible for carrying out this procedure. The Site Supervisor, Health and Safety Advisor, Human Resource Manager, Health and Safety Manager and Operations Management Team must be alerted as soon as practical after the event.

5.3 Associated Documents / Information

- Site Plan
- Emergency Service contact numbers

5.4 Procedure

Serious Injury

If a rescue attempt can be made with the restrictions described in section '3.0 PERSONNEL IN NEED OF RESCUE' but the victim has sustained a serious injury the following must be carried out:

1. Contact the Emergency Services as required. In the first instance contact professional medical help (Ambulance Service and Doctor).
2. Request the Fire Service if the victim is in an inaccessible location.
3. Request the Fire Service if the victim is trapped.
4. Contact the ESB if electricity is involved in the accident and cannot be turned off locally in a safe manner.
5. Inform the Site Supervisor, Health and Safety Advisor, Human Resource Manager, Health and Safety Manager and Operations Management Team.

Fatality

If a rescue attempt can be made with the restrictions described in section '3.0 PERSONNEL IN NEED OF RESCUE' but a fatality has been sustained the following must be carried out:

1. Inform the Emergency Services as required.

Emergency Plan

2. In the first instance contact professional medical help (Ambulance Service and Doctor).
A Doctor is required to pronounce a death, otherwise all reasonable First Aid must be administered until the Doctor and / or Ambulance Personnel arrive.
3. Gardaí must investigate the accident.
4. Inform the Site Supervisor, Health and Safety Advisor, Human Resource Manager, Health and Safety Manager and Operations Management Team.
5. The Health and Safety Authority (HSA) may wish to investigate the accident. The accident area must be preserved as is unless it is unsafe to do so (i.e. danger to others).
6. If required, once it is safe to do so, the incident area must be made safe to avoid the reoccurrence of a similar accident. The accident must be documented on the appropriate forms and distributed as required (i.e. IR1 form (HSA), internal reporting forms and accident investigation forms).

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6.0 MEDICAL FIRST AID EMERGENCY

This procedure describes the method to be implemented in the event of a person or persons in need of Medical First Aid. It can be implemented in isolation or in conjunction with additional Procedures (e.g. 4.0 DEATH / SERIOUS INJURY ON SITE AND 3.0 PERSONNEL IN NEED OF RESCUE)

6.1 Purpose

The aim of this procedure is to define the process on managing a Medical First Aid Emergency that has occurred on the plant site.

6.2 Responsibility

The person discovering the incident on the site is responsible for carrying out this procedure. The Site Supervisor, Health and Safety Advisor, Human Resource Manager, Health and Safety Manager and Operations Management Team must be alerted as soon as practical after the event.

6.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

6.4 Procedure

1. If injury is sustained then the trained First Aider shall administer required attention if appropriate and / or contact the Emergency Services.
2. If the injury requires additional medical attention then the victim shall be transported to the emergency room of the nearest Hospital, if deemed safe to do so by the First Aider.
3. If the injury is of a serious nature then the '4.0 DEATH / SERIOUS INJURY ON SITE' procedure is to be implemented.
4. Inform the Site Supervisor, Health and Safety Advisor, Human Resource Manager, Health and Safety Manager and Operations Management Team.
5. The incident must be documented on the appropriate forms and distributed as required (IR1 form (HSA), internal reporting forms and accident investigation forms).

7.0 EXTREME WEATHER CONDITIONS

This procedure describes actions to be implemented in the case of emergency caused by adverse weather conditions, i.e. flooding. Cork Lower Harbour WWTP is not located in an area, however the access roads to site may experience flooding on occasion due to excessive rain.

7.1 Purpose

The aim of this procedure is to define the process on managing weather induced emergencies that may affect the plant site.

7.2 Responsibility

The Plant Manager is responsible for carrying out this procedure.

7.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

7.4 Procedure

Flooding

It is unlikely that a flood condition could occur at CLH WWTP. In the event of flooding the following procedure must be followed:

1. All electrical power must be switched off at the first sign of water entering a building.
2. The Operations Manager must be informed, who will in turn inform the Irish Water.
3. Site drainage pumps will aid the evacuation of water from vital below ground areas of the process.

High Winds

In the event of high winds the following measures must be taken:

1. No items outside of the main buildings are to be left unsecured.
2. Personnel must not access plant or equipment at high levels

7.5 Lightning Strike

Refer to section '12 ELECTRICAL SUPPLY FAILURE'.

8.0 GAS LEAK / BUILD UP

This Emergency Plan is implemented if high level gases are produced by the process, a result of maintenance operations (use of portable generators, solvents etc.), or gases emanating into the works through the sewer system.

8.1 Purpose

The purpose of this procedure is to define the responsibilities and actions to be taken in the event of the presence of dangerous gases in order to prevent asphyxiation or explosion.

8.2 Responsibility

The person who discovers the incident must inform the Plant Manager.

8.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

8.4 Procedure

In the event of an increase of dangerous gases within buildings or enclosed spaces or in the event of a gas detector alarm sounding the following action must be taken to eliminate any danger:

1. The Plant Manager (or Site Supervisor in the absence of the Plant Manager) determines the danger area by checking the portable gas monitors. Note portable gas detectors will only detect hydrogen sulphide, methane, carbon dioxide and high and low levels of oxygen. Where anaerobic digesters are used hazardous levels of carbon dioxide will not be detected by portable gas monitors.
2. All personnel must immediately be evacuated to the assemble point located in front of the admin building near site entrance.
3. The Plant Manager or Site Supervisor must account for all staff (permanent staff and contractors) on site. In the event of personnel missing initiate section '3.0 PERSONNEL IN NEED OF RESCUE'.
4. Any 'Hot Works' must be stopped immediately. There must be No Smoking in any part of the plant.
5. Ventilation measures must be implemented, to include extraction systems.
6. Doors to the exterior must be opened to ventilate internal affected areas.
7. The Plant Manager will ensure that no person enters the building until the gas detector alarms turn off.

Emergency Plan

8. The Plant Manager will investigate the cause of the alarm.
9. If the cause is from the sewer (septic sewage), it will have to be allowed pass through the wastewater treatment plant. Irish Water must be informed in case there is a gas build up in the remote pumping stations.
10. If the gas is generated onsite (septic sludge) the sludge must be processed, taking appropriate precautions i.e. ventilation and wearing personal gas monitors.
11. Check for leaks from the gas bell and the gas supply lines
12. In the event of personnel being trapped in the danger zone follow procedure '3.0 PERSONNEL IN NEED OF RESCUE'.

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9.0 INTRUDER ALARM / SECURITY BREACH

An Emergency Plan must be implemented in the event of the intruder alarm system registering an unauthorised access to the plant.

9.1 Purpose

To define actions required in the event of an intruder to minimise damage / loss of property, interruption of process and to prevent unintentional injury.

9.2 Responsibility

The 'on call' site staff must contact the Gardaí if required.

9.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

9.4 Procedure

1. In the event of an intruder alarm, security staff will be alerted via the SCADA dial out system.
2. The security staff must contact the 'on call' staff and the Gardai to attend the site if required.
3. The Gardaí must be informed that site staff will meet them at the main gate to inform them of any potential hazards. The Gardaí must be informed of the location of the main gate.
4. The instructions given by the Gardaí after their attendance must be followed.
5. When deemed safe to do so by the Gardaí the damage if any can be assessed.
6. If the process is affected, contact the Plant Manager and report to the Operations Management Team. Report the incident via the PMS.
7. If the incident is a false alarm inspect the site, reset the alarm and report the incident via the PMS.

10.0 NO WATER SUPPLY

This Emergency Plan must be implemented in the event of loss of potable water to the plant.

Processes affected by loss of potable water are as follows:

- Welfare facilities – non-emergency
- Screens – non-emergency if less than 24 hours
- De-watering – non-emergency if less than 24 hours

10.1 Purpose

To define activities to be implemented to continue the process / operation of the Treatment Plant.

10.2 Responsibility

The site staff at local level are responsible for contacting Local Authority

10.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

10.4 Procedure

1. The Plant Manager must contact Irish Water to confirm the loss of water supply and to estimate of length of interruption.
2. Stop the skip manually (auger).
3. Cease laboratory work (no eyewash).
4. Cease chemical handling (no emergency showers for washing).
5. Follow standard operating procedures on the appropriate PPE to be worn when handling raw sewerage.
6. Ensure screenings are moved through by manually washing down with process water. Sufficient water must be added to allow transfer of screenings to the rag compactor.
7. Manual sluicing down of the screens trough must be continued for as long as the interruption lasts.
8. Manual sluicing is also required of the grit trap.
9. No external loads (leachate or other) must be taken onsite during the loss of water supply (no wash down ability (health and safety consideration)). The Plant Manager must inform the external load source contact (see contacts list) of the situation.

Emergency Plan

10. If the loss of supply extends past 24 hours surplus sludge may need to be tanked offsite, due to inability to dewater. The Plant Manager must inform the Area Engineer in Irish Water.

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11.0 TRANSPORTATION / VEHICLE ACCIDENT

In the event of a vehicle accident occurring on site the following procedures must be implemented.

11.1 Purpose

The aim of this procedure is to define the process on managing an accident involving a vehicle or other mode of transport with personnel or property that has occurred on the plant site.

11.2 Responsibility

The Plant Manager is responsible for carrying out this procedure.

11.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

11.4 Procedure

Vehicle / Vehicle (property damage only)

1. Document the incident and take photos if possible.
2. If it is clear that one party is at fault, follow normal insurance claim procedures.
3. If it is not clear who is at fault then, again, follow normal insurance claim procedures.
4. Report the incident in the monthly status report (PMS).

Vehicle / building (property damage only)

1. Assess the damage to the building and claim for the damages from the vehicles insurance / owner.
2. If structural damage occurs, then evacuation may be required. The building may need to be repaired before employees can gain access.
3. Report the incident in the monthly status report (PMS).

Major (personal injury)

1. Implement section '3.0 PERSONNEL IN NEED OF RESCUE' and / or '4.0 DEATH / SERIOUS INJURY ON SITE' procedures as may be required.
2. Contact the Gardaí to investigate the injury.
3. Inform the Operations Manager of the incident.
4. Consult the Company Health and Safety Advisor on action to be taken.

Emergency Plan

5. Document the incident on the appropriate forms and distribute as required (IR1 form (HSA), internal reporting forms and accident investigation forms).
6. Report the incident in the monthly status report (PMS).

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12.0 ELECTRICAL SUPPLY FAILURE

This Procedure is implemented in the event of a power failure from the ESB.

12.1 Purpose

The aim of this procedure is to define the process on managing a power failure that has occurred on the plant site.

12.2 Responsibility

The Plant Manager and / or personnel 'on call' are responsible for carrying out this procedure.

12.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

12.4 Procedure

Generator Onsite

1. (If electrical power failures occur in either center plant locations) then the standby generators will automatically activate. However as described in section 7.0 EXTREME WEATHER CONDITIONS, if the electricity supply becomes unreliable due to stormy conditions, consider turning off the ESB supply and allowing the plant to be run by the generator until the storm has abated.
2. The SCADA onsite will alert the 'on call' staff member. The staff member will login remotely with his / her laptop to ascertain as to whether the generator has started or stopped and the plant is functioning as it should. If the generator fails to start or stop (when the power is restored) then the 'on call' staff member must attend the plant and start the generator manually.
3. If the generator still fails to start the 'on-call' electrician must be contacted.
4. The ESB must be contacted to get information on the length of time of the power outage.
5. The necessary arrangements must be made for diesel supply for the duration of the outage.
6. Checks must be carried out to ensure the generator is operating properly.
7. On resumption of normal supply, site staff will ensure that all plant has restarted automatically and the generator has switched off.

Emergency Plan

8. The incident will be reported in the monthly status report.

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13.0 DISRUPTION OF PROCESS / SERVICES

An incident involving disruption of process / service can be the result of equipment failure or other mechanical factors.

13.1 Purpose

To instruct the plant staff in dealing with a disruption of process or service.

13.2 Responsibility

The Plant Manager or person 'on call' is responsible for carrying out this procedure.

13.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

13.4 Procedure

Redundant Systems

Most of the critical processes have standby units, which in the event of failure, are activated until the duty equipment can be repaired or replaced. In some instances the equipment may not have a direct standby unit but the duplicate equipment on the other process stream can be tasked to perform the required function until the failed plant can be reinitialised.

Non-Redundant Systems

Spare plant (pumps, fuses, solenoids, etc.) are available onsite to replace faulty items. Consult with the manufactures operation and maintenance manual for relevant sections.

14.0 PLANNED OR UNPLANNED MAINTENANCE

Planned or unplanned maintenance on:

- Macerators and inlet works
- Blowers
- Compressors
- Actuated valves
- Pumps
- UV
- PFT
- Odour Control Unit
- Centrifuges & Poly system

14.1 Purpose

This procedure describes actions to be implemented in the event of planned or unplanned maintenance to be performed on the plant and equipment listed above.

14.2 Responsibilities

It is the responsibility of the Plant Manager and site staff to ensure this procedure is implemented.

14.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

14.4 Procedure

Planned or foreseen interruptions

In the case of planned or foreseen interruption of the service the following steps should be followed:

1. The Plant Manager must agree a date with Irish Water.
2. The site staff must prepare a permit to work and method statement.
3. A minimum of 2 site staff must perform the work.
4. All flow to the works must be stopped and the relevant pipe valves must be shut where possible. Pumps must be to be shut and locked off.
5. When the Plant Manager is satisfied that the flow is stopped, the (enter name of plant / equipment) must be emptied to allow for the work to commence.

Emergency Plan

6. The method statement must be adhered to. Appropriate PPE (portable gas monitor, harness etc.) must be worn at all times.
7. When work is completed and the system is deemed safe to continue by the Plant Manager, all the isolating valves must be reopened, and pumps must be restarted.
8. The Plant Manager must inform Irish Water of the resumption of service.
9. The incident must be reported in the monthly status reports.

Unplanned or unforeseen interruption

In the case of unplanned or unforeseen interruptions of the service the following steps should be implemented:

1. The Plant Manager must inform the Operations Management Team of the situation.
2. Both must decide whether immediate action needs to be taken or whether the planned procedure above can be followed.
3. The Plant Manager must consult with Irish Water to determine feasibility of the immediate work to commence (i.e. flow stopped).
4. If agreed to stop the flow, the procedure above must be followed.
5. If unable to stop the flow immediately, the Plant Manager and Operations Management Team must agree on a plan of action until shut down possible.
6. The incident must be reported in the monthly status report.

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15.0 FIRE

In the event of a fire the following procedure must be implemented.

15.1 Purpose

The aim of this procedure is to define the process on managing and dealing with a fire on the Plant Site.

15.2 Responsibility

The Plant Manager (or operations staff in his / her absence) is responsible for carrying out this procedure.

15.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

15.4 Procedure

In the event of the fire alarm sounding, go to the fire alarm unit located in the entrance of the administration building. Pressing the alarm silence key can silence the fire alarm. This must be done by fire warden. All fires must be checked out using caution and abiding to safety precautions in the site plan.

In the event of a false alarm the fire alarm system must be reset AFTER all checks have been carried out. This is done by pressing reset key on the fire alarm unit.

15.5 Minor Fires

1. If the fire is of a minor nature and can be dealt with using the appropriate type fire extinguishers and personnel are trained and not put at risk, then an attempt to deal with the fire may be made by the employees. The table below shows the fire extinguisher types.

Fire Extinguisher Types

Extinguisher (Colour Code)	Class A Solid Combustibles Paper, Wood, Etc.	Class B Liquids	Class C Gases
Water	✓	X	X
Foam (AFFF)	✓	✓	X
Powder	✓	✓	✓
Carbon Dioxide	X	✓	X

2. If it is decided that the fire cannot be controlled by fire extinguishers, the Emergency Services must be contacted (122 or 999), followed by the appointed Fire Warden and Site Manager.
3. The fire alarm must be activated to alert other personnel on-site as to the danger of the fire.
4. All onsite must evacuate to the assemble point where all personnel including visitors must be accounted for.
5. Nobody is to attempt to re-enter the site until instructed to do so by the Emergency Services and / or the Site Supervisor.
6. The Plant Manager must be informed.
7. Irish Water must be informed.

Note that if the fire occurs in an area that may ignite process gases or other flammable materials, then the major fire procedures must be implemented.

15.6 Major Fires

If a major fire occurs (i.e. fire extinguishers are inadequate to deal with the fire or flammable gases or materials present), the following emergency procedure must be implemented:

1. On discovery of a fire, if automatic detectors do not activate, activate the nearest fire alarm.
2. All personnel on site must be evacuated to the plant gate where all personnel including visitors must be accounted for by the Plant Manager (or Plant Operative in the absence of the Plant Manager).
3. The Plant Manager / Plant Operative must:

Emergency Plan

- Contact the Fire Service if not already completed providing clear instructions of the address to the site
 - Detail a guide to direct the emergency services onto the site
 - Detail a member of EPS to man the telephone
 - Go to the assembly point and assess the situation
 - Check with contractors if any operatives are missing
 - Receive and brief the emergency services
4. If personnel on-site are not accounted for after the evacuation, the Fire Services should be informed immediately upon their arrival. If possible, they should be informed of the persons last known whereabouts on the site and their normal place of work (including type of work) or the place of their work on the day.
 5. Any information pertaining to the type of fire must be communicated to the Fire Services at the time of the initial call. This information should include the type of fuel that is burning (diesel, solid fuel, building, flammable liquids, etc.) If possible an assessment must be given as to the likelihood of the fire spreading to other areas of the site and whether additional fuels nearby are likely to ignite. This may include a list of all chemicals, oils and combustible fuels regularly kept on site.
 6. On arrival the following must be made available to the Emergency Services:
 - SDS sheets
 - Site map showing fire hydrant points clearly marked, the location of all-electrical cut-off switches and gas isolation valves (where required)
 - Chemical storage areas
 7. If possible, all electrical power must be isolated (without putting personnel in danger).
 8. If automatic gates fail due to loss of electrical power, all access gates must be opened manually to allow access for the Emergency Services.
 9. Permanent Employee(s) that are present must meet the Fire Services as close to the site gate as the fire permits without endangering themselves, to aid the Fire Services with any information they may require.
 10. Only return to the site, when informed by the EPS Supervisor, Gardaí or Fire Officer.
 11. Inform the Site Supervisor, Health and Safety Advisor, Human Resource Manager, Health and Safety Manager and Operations Management Team.
 12. Inform Irish Water of the fire.
 13. Report the fire in the monthly status report.

DESCRIPTION OF RESPONSE PROCEDURES: FOR CATEGORY A EMERGENCIES

16.0 ENVIRONMENTAL POLLUTION

This procedure must be implemented when dealing with an effluent discharge, storm overflow or chemical spillage from the plant.

16.1 Purpose

The aim of this procedure is to define the process for managing and dealing with a spillage endangering the environment from the plant site.

16.2 Responsibility

The Operations Management Team, Plant Manager and Irish Water are responsible for carrying out this procedure.

15.3 Associated Documents

- Site Plan
- Emergency Service contact numbers
- Emergency Response Plan

15.4 Procedure

Total Failure of Process (catastrophic effect on biological process)

1. The Plant Manager may detect a loss of effluent quality (via visual inspection or process analysis). This would manifest itself in loss of settlement characteristics of biomass.
2. The Plant Manager (or in their absence the operation staff) must contact the Operations Management Team.
3. The Plant Manager must contact Irish Water to stop the flow from the pumping stations (minimise export of contaminant to discharge point) temporarily.
4. The contaminated contents must be retained in the treatment works (no flow).
5. The Plant Manager must contact Irish Water.
6. Sampling and analyses must be carried out to identify the nature and extent of the contamination.
7. The Plant Manager must liaise with Irish Water to remove the contaminated material. This could mean small volumes of surface material or contents of entire basins. Given the size / volume of aeration tanks, a decision may be made by the Plant Manager and

Emergency Plan

Irish Water to allow the process to recover and to allow discharge of below specification material to the discharge point.

8. Reseed the plant if required.
9. Report the incident in the monthly status report.

Loss of Effluent Quality

1. Upon discovery of the loss of effluent quality (either through visual or analytical means) the Plant Manager must be informed.
2. The Plant Manager or site staff (if the Plant Manager is unavailable) must inform the Operations Management Team.
3. The following information should be sought and kept to hand for the Operations Management Team:
4. The site staff must investigate the process through laboratory tests and SCADA records / trends.
 - Effluent quality
 - Incoming flows (present and previous week)
 - Historical BOD loads for previous week
 - Microbiological examination results
 - Recycle rates
 - DO concentration
 - No. of blowers in operation and their output
 - Failures of any site plant & equipment
 - Prevailing conditions e.g. heavy rain, freezing conditions, work being performed onsite, any input from industrial discharges
5. The Operations Management Team must instruct the Plant Manager / Site Staff regarding remedial action.
6. The Operations Management Team must contact the client as soon as practical after the event.
7. The incident must be reported in the monthly status report.

Storm Overflows

1. Storm flow capacity is available at plant and on storm events above hydraulic capacity of the plant, storm overflows are discharged via the outfall.
2. The Plant Manager or site staff (if the Plant Manager is unavailable) must inform the Operations Management Team of any storm overflows outside of normal operation. These may be resulting from equipment failure, or maintenance works being carried out.
3. The site staff must investigate the process through laboratory tests and SCADA records / trends.
4. The Operations Management Team must instruct the Plant Manager / Site Staff regarding remedial action.
5. The Operations Management Team must contact the client as soon as practical after the event reporting volumes discharged and times.
6. The incident must be reported in the monthly status report.

Chemical Spill

Size of Spills

This procedure covers the following size of spills:

Size of Spill	Description
Small	Not greater than 30 centimetres in diameter with a source volume of less than 25 litres.
Medium	Greater than 30 centimetres in diameter, less than 300 centimetres in diameter with a source volume of less than 200 litres.
Large	Greater than 300 centimetres in diameter with a source volume of greater than 200 litres.

The spillage may be of any type of substance used on site or brought onto site.

Personnel Protective Equipment (PPE)

Consult the relevant safety data sheet for PPE and spill control considerations. Depending on the size of the spill the following PPE must be worn:

Size of Spill	PPE

Small	Tyvex Suit, Safety Boots (S3 and chemical resistant) Helmet, Safety Glasses and PVC Gloves
Medium	Full PVC suit, Wellington Boots, PVC Gloves, Face Visor, Respiratory Protective Equipment with Carbon Filter
Large	Contact the emergency services

Spillage Identification

The following steps must be followed when a spillage occurs:

1. Assess the situation.
2. If you have no knowledge of the spillage do not enter the area.
3. Use the onsite documentation including the relevant Safety Data Sheets to gather information on the substance, the source and the impact of the spillage.
4. Inform the Site Supervisor immediately of the situation. Provide the Site Supervisor with as much information as possible.
5. Check for ignition sources.
6. Check the atmosphere for hazardous gases using a portable gas monitor. If the area is deemed to be unsafe to enter, do not enter.
7. If the spillage and the associated health, safety and environmental conditions allow, ventilate the area until the atmosphere is safe according to the portable gas monitor.
8. If necessary, evacuate and seal off the area and initiate a roll call to identify if anyone is missing.
9. Locate the nearest available fire extinguishers (powder and foam).
10. Locate the nearest emergency shower / eye wash and first aid kit.
11. Locate the nearest spill kit.

Personnel must be aware that the size of the spillage will change and possibly increase if the spillage cannot be contained. Those dealing with the spillage must be constantly aware and review the situation on an on-going basis.

Containing the Spillage

The following steps must be followed when containing a spillage:

1. Don the appropriate level of Personal Protective Equipment (PPE). If risk is unknown then don the highest level of protection.
2. Continue monitoring the atmosphere for flammable gases using a gas monitor. If the area is deemed to be unsafe to enter, ventilate the area until the atmosphere is at a safe level.
3. Ensure that all personnel are upwind of the area.

Emergency Plan

4. Use a spill kit where applicable. If possible, soak up any liquid spills with inert absorbent materials. Do not dilute the spillage with water.
5. If applicable prevent the spillage from entering the water system by using spill booms and where possible close the surface water discharge valve. If chemicals have entered into the site drainage system ensure that the discharge is maintained in a closed position until tests are carried out to determine the potential polluting nature of the spillage. Only after the assessments and / or removal of the contained spillage is the surface water discharge valve to be reopened.
6. Make sure any materials used to clear up the spillage are stored and disposed of via a licensed hazardous waste disposal Contractor.

Reporting

Ensure full records are kept regarding the spillage, its impacts, the clean up and the disposal of the waste material. Ensure the company incident documentation is completed and returned to the relevant personnel. It is the responsibility of the Plant Manager to inform clients and any regulatory authority about the spillage and the subsequent clean up.

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17.0 THREAT TO TREATMENT PROCESS

The process may be affected / interrupted in a number of scenarios. If illegal dumping has been made into the system this may 'Kill' the process (diesel, shock load, chemical etc..) Additionally, illegal dumping of fat (from restaurants or hotels) may block the system.

17.1 Purpose

To instruct the site staff on how to manage the disruption of process / services.

16.2 Responsibility

The Plant Manager, Site Staff & (select from the following: Local Authority / Irish Water / Other) are responsible for carrying out this Procedure.

17.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

17.4 Procedure

Receipt of Shock Load to Treatment Plant

In the event of a shock load to the treatment plant the most suitable of the procedures below should be followed as a minimum.

Low flow, above average organic concentration (BOD, COD)

1. During low flow conditions, high BOD concentration may not present a treatment problem.
2. Actual load may not be excessive.
3. Calculations on load should be calculated and the Plant Manager must be informed.
4. The Plant Manager in conjunction with the Operations Management Team may decide to receive the incoming load as normal, with all staff on alert to monitor plant performance.

Normal flow, above average organic concentration (BOD, COD)

1. Above average organic concentration during normal flows may present treatment problems.
2. This may manifest itself either visually by site staff, increased output from the aeration blowers, low DO readings in the aeration lanes or laboratory results.

Emergency Plan

3. If the Plant Manager is not aware of the situation they should be informed immediately, or in their absence, the Operations Management Team must be informed.
4. The Manager may decide that the process is at risk and may then decide to stop or reduce the flow to the works.
5. The Plant Manager must contact Irish Water to jointly decide whether to allow flow into the works or to divert the flow from the pumping station to the storm tanks with a possibility of untreated flows going to the river.
6. If the shock is short-lived, the storm tanks may be sufficient to hold the out of specification influent.
7. It may then be possible (when normal conditions return) to return the influent to the treatment process in a controlled manner over an extended period of time.

High flow, high organic concentration

1. In these conditions, the final effluent quality and process is at risk. It will manifest itself as poor effluent quality, increased aeration blower output, suppressed DO readings, or other analytical results.
2. The Plant Manager or, in his / her absence, the Operations Management Team should be informed.
3. The Plant Manager / Operations Management Team (in conjunction with Irish Water) may decide to restrict all or some of the incoming flow to the works.
4. In increased flow conditions, and especially if all the flow is diverted, the storm tanks will fill quickly (with a possibility of untreated effluent discharging to the river).
5. It may be necessary to continue this condition until the organic (or inorganic) content of the incoming effluent has lowered, not necessarily the flow.
6. The Plant Manager will perform process analysis to determine the effect on the process.

Oil, Fat or Grease (OFGs)

Oils, fats and greases can be toxic to a biological system and can have a physical effect on plant and equipment and biological effect on the biomass. As soon as OFGs are discovered in the incoming flow in very high concentrations (either through visual checks or information from external source e.g. fire brigade, industry, Town Council), the flow should be restricted to the works. Efforts can then be made to physically remove the OFG from the storm tanks and other contaminated areas.

Additional Analysis to be undertaken during pollution Incidents & Shock Loads

Emergency Plan

1. Normal sampling and analysis regimes will continue unaffected.
2. Additional sampling and analysis will be undertaken on each and every event.
3. The pumping stations inlets, works inlet, and effluent composite samples will be separated to identify the hour or quarter of the day that the incident occurred.
4. Guidance on choosing the appropriate separation will be given by the Plant Manager and will take into account, the length of time over which the incident occurs and the severity of the impact on the works.
5. Analysis on COD will be undertaken for each sample as a minimum. The Plant Manager will advise on additional analysis.
6. Samples will be analysed representing each 6 hours of the composite sample as a minimum.
7. The additional sampling and analysis will continue for a period of six hours after it is believed the incident has passed. All samples relating to an event will be retained for a minimum of 7 days. In the event of a composite sampler being out of action an hourly grab sample will be taken at each sampling point and the analysis completed as above.

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18.0 PUBLIC HEALTH DANGER

This procedure must be implemented in the event of danger to public health.

18.1 Purpose

The aim of this procedure is to define the process on managing a threat to public health.

18.2 Responsibility

It is the responsibility of the Plant Manager and Operations Management Team to ensure that this procedure is implemented.

18.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

18.7 Procedure

Bomb Threat

1. The person who received the threat must inform the Gardaí.
2. The Plant Manager must evacuate all staff and visitors onsite to a safe distance i.e. main road and await the Gardaí.
3. Gardaí instructions must be followed.
4. The Site Supervisor, Health and Safety Advisor, Human Resource Manager, Health and Safety Manager, Operations Management Team and Irish Water must be informed.
5. Await 'all clear' from the Gardaí.
6. The incident must be reported in the monthly status report.

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19.0 EXPLOSION OR POTENTIAL EXPLOSION

This Procedure documents the actions to be taken in the event of or at the risk of an explosion.

19.1 Purpose

The aim of this procedure is to avoid or minimise in the first instance the risk of personal injury to site staff and third parties and to avoid or minimise in the second instance the risk of property damage or loss.

19.2 Responsibilities

It is the responsibility of the Plant Manager and site staff to ensure that this procedure is implemented.

19.3 Associated Documents

- Site Plan
- Emergency Service contact numbers

19.4 Procedure

There no known areas onsite where there is a risk of explosion.

In the event or risk of an explosion at (enter area / equipment):

1. The fire alarm must be raised.
2. All staff must evacuate to the main gate.
3. The Plant Manager must inform the Fire Service, Gardaí, and Irish Water.
4. Inform the Site Supervisor, Health and Safety Advisor, Human Resource Manager, Health and Safety Manager and Operations Management Team.
5. On arrival instructions from the Fire Service / Gardaí / must be followed.

DESCRIPTION OF RESPONSE PROCEDURES: FOR OTHER EMERGENCIES

20.0 TRAINING PROCEDURES

Contact will be made with the officer in charge of each Emergency Service with a view to inviting them or their delegate on to the plant in order to familiarise them with potential emergency situations and detail the likely site specific difficulties they may encounter if an emergency situation arises. For example the Fire Service will be given a detailed tour of the facility and informed of the likely hazards to be encountered in each specific area. Information also supplied to the Fire Service includes the type of chemicals stored on site, the quantity, the location and the Safety Data Sheet. Ambulance Personnel will be given information with regard to the type of gases present or likely to be present on the plant, in case of asphyxiation emergencies. The Emergency Services expertise will be listened to and any information that they require will be forwarded to them.

A site map will be held onsite with pertinent information, such as location of fire hydrants, fire extinguishers, confined spaces, areas where flammable fuels & gases (including domestic heating oils and maintenance oils) may be present, chemical storages etc. This is also applicable for high volume pump stations, low volume pump stations may be excluded. Training will be provided as per the training matrix for plant personnel. Visitors will be given a site induction before entry to works.

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21.0 LIST OF APPENDICES

List of emergency names and numbers



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LIST OF EPS PERSONNEL

Contact Name	Title	Telephone Office	Telephone Home	Telephone Mobile

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22.0 LIST OF RESOURCES AVAILABLE

NO. OF ITEMS	ITEMS

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