ElectroGas Malta LIMITED

EGM-HSE-ERP-001

Internal Emergency Response Plan

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1. INTRODUCTORY NOTE

1.1 Preface

This Internal Emergency Response Plan (IERP) is produced to provide a bridging document in form of a procedure to be adopted by all areas of the Delimara 4 Power Plant, LNG regasification plant & FSU, in the event of an emergency incident. It is built upon established incident command principles and tried and tested best practice in the management of major emergency incidents, which have been developed over many years.

The document is structured in such a way that each step of a developing incident is identified, with clearly defined roles and tasks to be carried out. The objective, to establish consistent incident management procedures, known and applied by on-site personnel and emergency services, to provide an essential, effective and co-ordinated incident response.

The systems, procedures and practices described within this IERP, will ensure the critical health and safety of crews and response personnel engaged in operations, to bring the situation back to normality, and the protection of those persons at risk.

For most incidents, as the situation is evolving, the initial actions and procedures, will determine the success (or otherwise) of the ultimate response operation, and objectives to protect life, property and the environment. This IERP must therefore be seen as a working document with procedures known, practised and applied consistently as second nature, if an emergency situation arises.

A high-profile site such as the Delimara 4 Power Plant demands a robust and fully integrated IERP, not only to satisfy regulatory compliance, or the nationally important role performed, but for the people that might be affected should things go wrong.

In the aftermath of any incident, there will inevitably be an enquiry, and it will be vital to demonstrate an effective Internal Emergency Response Plan was in place, and implemented. This will only be evidenced by structured INCIDENT COMMAND system, effective communications, integrated response and tactics based on sound intelligence and specialist expertise.

1.2 Introduction

The Delimara 4 Power Plant owned by ElectroGas Malta (EGM) is an “upper tier” site as defined by the Control of Major Accident Hazards Regulations that implement the Seveso Directive (Directive 2012/18/EW), so called Seveso 111 Directive, as storage and handling of LNG is in excess of the 200 tonnes threshold criteria. The Directive has been transposed into Maltese law through the Control of Major Hazards (COMAH) Regulations, 2015 – LN 179 of 2015.

This Internal Emergency Response Plan (IERP) sets out the organisation, procedures and resources for responding to emergencies at the Delimara 4 Power Station, operated by ElectroGas Malta. The objective, to minimise the impact of an emergency incident to people, property and the environment. It is applicable to all process and storage facilities, buildings, employees, contractors and visitors.

This IERP defines the coordinated and integrated actions that will be taken by and ElectroGas Malta Ltd as stakeholders in the IERP & Enemalta PLC as the site owner.

The IERP is commissioned by EGM, the prime operators of the Delimara 4 site, regasification plant & FSU is applicable to the other operators of the specific areas of the facility being: ESB International, Reganosa and Bumi Armada and all procedures and practises contained in this document must be adopted in full by those organisations.

Whilst it is recognised that various organisations will have emergency plans in place to cover their own specific area of operation as per (BUMI ERP: OPS-MALT-ALM-HSE-PLN-0003, Reganosa ERP: Internal Emergency plan rev.02 & ESBI: D4-43-DP-001 Emergency Response Plan Handbook rev 1.01) this IERP and procedures contained therein, will act as a bridging document for the above internal ERP's. Only in that way will a structured integrated plan be achieved, protecting the site in its entirety, personnel and assets.

1.3 References

- L.N. 179 of 2015: OCCUPATIONAL HEALTH AND SAFETY AUTHORITY ACT (CAP. 424) Control of Major Accident Hazards Regulations, 2015
- L.N. 44 of 2002: OCCUPATIONAL HEALTH AND SAFETY AUTHORITY: WorkPlace (Minimum Health and Safety Requirements) Regulations, 2002
- CHAPTER 411 CIVIL PROTECTION ACT
- EGM SAFETY STUDIES

1.4 Site Overview

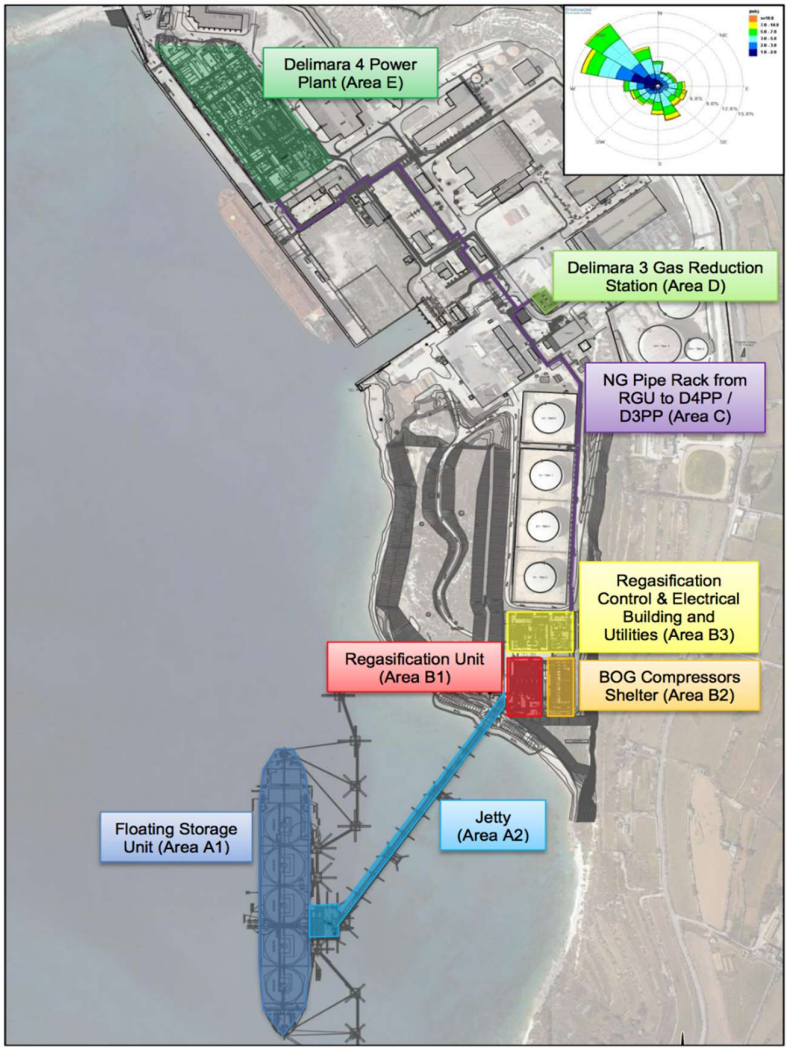


Table 1: Site Overview Delimara 4 Power Plant

1.4.1 Electrogas Delimara 4 and gas facilities consist of four main parts:

(a) A Floating Storage Unit (FSU) – An LNG bulk carrier vessel which has been converted to provide a floating storage facility

(b) The Jetty – The FSU is berthed on a custom built jetty, purposely constructed to pipe the LNG to shore based facilities, to go through the regasification process.

(c) The Regasification Compound – The third main part of the facilities, where the LNG is converted back to the natural gas

(d) D4 – The natural gas is piped towards EGM's D4 Unit and D3 unit, the combined cycle power plant, and the fourth component of the ElectroGas Malta installation of Siemens industrial turbines.

1.4.2 Terms and Conditions

Terms	Definition
Emergency	Unexpected event requiring immediate action
Delimara Power Station (DPS)	The site including ENEMALTA, D3PG and EGM actives and activities.
Internal Emergency Response plan (IERP)	An internal procedure established by EGM to ensure emergency response is effective & communicated between EGM operators, Enemalta & CPD
Coordinated Emergency Response Plan (CERP)	A site overall emergency response established by Enemalta for a major accident or domino effect to ensure communication and coordination between site stakeholders (EGM – D3PG – Enemalta) with CPD
Domino effect	The effect produced when one event sets off a chain of similar events
Major accident	An event such as a major emission, fire, or explosion resulting from uncontrolled developments in the course of the operation of any establishment covered by the Seveso III Directive, and leading to serious danger to human health or the environment, immediate or delayed, inside or outside the establishment, and involving one or more dangerous substances;
Medical emergency	An event that requires medical assistance, event linked to personnel activities that can lead to different kind of emergencies and that involve the employee's safety at work.
Near miss	Event that does not have consequences neither on persons nor on the structures but is very useful to be analysed and recorded because it may provide information to prevent future accidents.
Occupational Injury	Injury to person(s) arising from their employment.
Incident Command Room	A dedicated resourced room provided for the purpose of Incident Command, enabling the Incident Commander in association with technical and tactical advisors, to manage incident response from a place of safety. This will generally not be in a day to day control room, which serves a very different function.
Site Incident Control Officer (SICO)	Responsible to manage the whole site incident response prior to arrival of CPD, hand over to CPD, and head on-site technical and operational support to the Incident Commander including coordination of the Emergency Advisory Team (EAT)

Site Incident Control Support Officer (SICS)	Responsible for co-ordination of communications and information exchange between on-site control rooms and RVP in support of the Site Incident Control Officer feeding into Incident Command
RVP Control Officer (RVPO)	Responsible for setting up the RVP, Holding Area, logging in/briefing Emergency Crews and dispatch to the incident as directed by Incident Command. Also, collation of persons evacuated and roll call
Emergency Control Officer (ECO)	Responsible for instigating incident alerting procedures, deployment of Emergency Response Team, implementation of initial response actions in the area of the site affected, and hand over the Site Incident Control when established
Emergency Response Team (ERT)	A nominated team provided within individual areas of the site deployed by the Emergency Control Officer with the capability of making an initial incident scene assessment and carryout initial response procedures to limit any potential escalation. Activities are limited to within their area on operations on the site
Emergency Advisory Team (EAT)	A team comprising of technical and operational specialists representing all areas of the site, co-ordinated by the Site Incident Control Officer (SICO) providing technical support/advice to incident command
Assembly Point	Designated locations on site where evacuated persons can assemble in comparative safety to undertake a roll call and await further instruction.
Roll Call	A process used at Assembly Points to determine whether all persons recorded as being on site (employees, visitors, contractors) have successfully evacuated and whether a person remains unaccounted for
Pre-determined Attendance	The level of response provided by emergency services (fire trucks, specialist appliances etc) that will be mobilised for each incident category
Category A	A serious incident in terms of hazards presented, life risk, scale and potential for escalation, or which has the capacity to have off-site implications, and the requirement to initiate the External Emergency Plan.
Category B	An emergency incident that requires a reduced attendance of emergency services, the extent of the incident is believed to be capable of being contained within the confines of the site boundary.
Category C	An incident on-site within the capability of the on-site Emergency Response Team but requires the attendance of Delimara Fire Station appliances to perform a standby role until the situation is resolved.
Local Standby	A Local Standby situation is a scheduled event which could result in hazardous conditions until works are completed.

1.4.3 Acronyms and Abbreviations

AFM	Armed Forces Malta
AIS	Automatic Identification System
ARPA	Automatic Radar Plotting Aids
BLEVE	Boiling Liquid Expanding Vapour Explosion
BOG	Boil-Off Gas
CCA	Casualty Clearing Area
CCGT	Combined Cycle Gas Turbine
CCR	Cargo Control Room (FSU)
CCR	Central Control Room (Enemalta)
CTS	Custody Transfer System
CCTV	Close Circuit TV
CERP	Coordinated Emergency Response Plan
COMAH	Control of Major Accident Hazards
CPD	Civil Protection Department
CPR	Cardiopulmonary Resuscitation
CSMS	Coordinated Safety Management System
D3PP/D3PS	Delimara 3 Power Plant/Delimara 3 Power Station
D3PP/D3PS/D3PG	Delimara 3 Power Plant/Delimara 3 Power Station/Delimara 3 Power Generation
D4PP/D4PS	Delimara 4 Power Plant/Delimara 4 Power Station
DO	Diesel oil
DPS	Delimara power station
EAT	Emergency Advisory Team
EC	Emergency Controller
ECC	Emergency Control Centre
ECO	Emergency Control Officer
ECR	Emergency Control Room
EGM	ElectroGas Malta Ltd
EPABX	Electronic Private Automatic Branch Exchange
EPIRB	Emergency Position Indicating Radio Beacon
ERP	Emergency Response Plan
ERT	Emergency Response Team
ERTL	Emergency Response Team Leader
ESD	Emergency Shutdown
FBB	Fleet Broadband
FC	Forward Controller (Emergency Response Team Leader)
FCP	Forward Control Point
FG	Fuel Gas
FSGDS	Fire Spill and Gas Detection System

FSU	Floating Storage Unit
GMDSS	Global Maritime Distress and Safety System
GRS	Gas Reducing Station
GT	Gas Turbine
GVU	Gas valve unit
H&S	Health and Safety
HAZID	HAZard IDentification
HAZOP	HAZard and OPerability study
HFO	Heavy Fuel Oil
HP	High Pressure
IERP	Internal Emergency Response Plan
IERP REFERENCE MANUAL	Portfolio of data to support decision making process within the IERP
IESC	International Engineering Services Ltd
IHC	Indoor Hose Cabinet
ISPS	International Ship & Port Security Code
KO	Knock out drum
LNG	Liquefied Natural Gas
LNGC	LNG Carrier(s)
MSDS / SDS	Material Safety Data Sheet
NAVTEX	Weather forecast
NG	Natural Gas
NMPCP	National Marine Pollution Contingency Plan
NVCC	Non-visible combustion chamber
OHC	Outdoor Hose Cabinet
OHSA	Occupational Health and Safety Authority
PA	Public Address
PDA	Pre-Determined Attendance
PFSO	Port facility security officer
PID	Process and Instrument Diagram (P&ID)
PIRU	Pollution and Incidence Response Unit
PPE	Personal Protective Equipment
RGU	Regasification Unit
RVP	Rendezvous point
SSL	Ship to shore link
SOP	Standard Operating Procedure

2. ALERTING AND INITIAL RESPONSE

2.1 Incident Categorisation

2.1.1 Categorisation of Incident Types

It is essential that when raising the alarm for any incident type occurring on-site that a strict protocol be adopted for Categorisation of the Incident to identify the potential severity and scale of the incident (based on the information as known at the time).

The objective is to ensure that from the outset when an emergency is declared all personnel on-site, emergency services and other agencies, have a consistent understanding of the type of incident they are going to be dealing with.

For each Category of Incident (ie. Category A, Category B, Category C or Local Standby), there will be a Pre-Determined Attendance (PDA) from the emergency services (Police, Fire (CPD) and Ambulance) which will specify the number and type of emergency vehicles, any specialist equipment and level of supervisory cover to be mobilised, as the initial response on receipt of the call.

2.1.2 Emergency Categorisations of Incidents

For the purposes of this protocol incidents will be identified as being:

Category A

A serious incident in terms of hazards presented, life risk, scale and potential for escalation, or which has the capacity to have off-site implications, and the requirement to initiate the External Emergency Plan.

Category B

An emergency incident that requires a reduced attendance of emergency services, the extent of the incident is believed to be capable of being contained within the confines of the site boundary.

Category C

An incident on-site within the capability of the on-site Emergency Response Team but requires the attendance of Delimara Fire Station appliances to perform a standby role until the situation is resolved.

In any event there is any uncertainty as to the category of an incident, it should be identified as a Category A, unless it is clear that a reduced attendance would be more suited to the incident presented.

Local Standby

A Local Standby situation is a scheduled event which could result in hazardous conditions until works are completed. If the nature of a future maintenance activity would benefit from CPD standing by this should be pre-arranged in advance of the work being commenced in liaison with

CPD without going through the 112 emergency call out procedure. i.e. road closure limiting access to site assets, maintenance on firefighting systems, etc.

Medical Emergency

An event that requires medical assistance, but the nature of the incident does not require the attendance of other emergency services to resolve the situation. **(Refer Section 2.6 Medical Emergency for further detail)**

Security Threat

A threat or actual terrorist event with the potential impact to threaten life, plant and operations. **(Refer Section 2.7 Security Threats for further detail)**

Natural Disaster

A naturally occurring event (flood, high winds, heavy seas etc) presenting a serious risk to life, plant facilities and operations, and hazardous products held. Dependant on the severity or hazardous conditions resulting from the Natural Disaster the incident would need to be identified as falling within Category A, Category B, Category C or Local Standby.

INITIATION OF THE EXTERNAL EMERGENCY PLAN FOR THE DELIMARA 4 POWER STATION & REGASIFICATION SITE UNDER COMAH WILL BE THE RESPONSIBILITY OF CPD. THE FSU WILL BE UNDER THE COMMAND OF THE FSU MASTER. CPD WILL PROVIDE SUPPORT TO THE FSU MASTER.

The master is in control of incidents on board the FSU until he asks for CPD assistance.

This means he hands control of the incident response to the incident commander but does not mean he relinquishes control of the FSU.

All liabilities for the FSU, the cargo, the people and environment remain at all times with the master.

2.1.2.1 Emergency Levels & CERP Activation

EGM category	CERP level	CERP activation	Leadership	Alert to 112
Category A	RED Situation with effects offsite DPS DOMINO EFFECT Multiple casualties	Full	CPD Commander on scene	To be performed by affected Operator as per its ERP
Category B	AMBER Situation with effect onsite DPS but outside an Operator premises Any accident with potential DOMINO EFFECT	Full	CPD Commander on scene	To be performed by affected Operator as per its ERP
Category C	GREEN Situation with affects within an Operator premises	Communication only	Operator	To be performed by affected Operator as per its ERP
Local standby	Scheduled event	Communication only	Operator	To be performed by affected Operator as per its ERP
Medical Emergency	MEDICAL Emergency	Communication only	Operator	To be performed by affected Operator as per its ERP
ISPS emergency	ISPS emergency	Communication only	Operator	To be performed by affected Operator as per its ERP

2.1.3 Description of Emergency Categories

Category A

Examples of Category A incidents that may occur at the Delimara 4 CCGT, FSU and LNG Terminal include:

- **LNG spills at the FSU, the Jetty or the Regasification Unit that are not contained and could result in an unconfined fire and/or explosion**
- **Flammable gas leaks (BOG/NG or propane) from significant failure of a pipeline or process equipment**
- **Serious property or equipment fire due to scale, life risk or proximity location on-site**
- **Structural failure of a LNG cargo tank at the FSU**
- **Any fire aboard the LNG Carrier**
- **Severe weather conditions (including earthquake) that cause wide-scale damage to equipment and systems that result in, or have the potential to result in a loss of containment of LNG or flammable gases**
- **Marine Incidents – any offshore event, involving the FSU in fire, collision with another vessel or structure or pollution threat**
- **Any fire, emergency departure* / disconnect involving the FSU or visiting LNG Carrier**
- **In any event there is any uncertainty as to the category of an incident, it should be identified as a Category A unless it is clear that a reduced attendance would be more suited to the incident presented**
- **Any incident that could result a domino effect on 3rd party structures or plants.**
  Departure of FSU from Jetty due to incline in weather is not considered as an emergency departure as such weather is monitored through weather forecasts & weather report.

Category B

Examples of Category B incidents that may occur at the Delimara 4 CCGT and LNG Terminal include:

- **Collapse of building elements or systems and equipment that does not result in or does not have the potential to result in the loss of containment of LNG or flammable gases**
- **Building fires that do not involve flammable gases**
- **Electrical fires that do not involve flammable gases**
- **Vehicle accidents (without any LNG spill or gas release)**
- **Vehicle fires**

Category C

Examples of Local Standby incidents that may occur at the Delimara 4 CCGT and LNG Terminal & FSU may include:

- **Minor LNG leaks at the FSU that are contained within drip pans and could result in a confined fire (if ignition)**
- **Minor LNG spills at the Regasification Unit that are contained within the Impounding Basin or the Flare KO Drum Pit and could result in a confined fire (if ignition)**
- **Transformer or lubrication oils leakages within a containment system and could result in a confined fire**

This is not an exhaustive list of potential events that might come under the heading of a Local Standby. In all cases a judgement to be made that the emergency situation is within the capability of the on-site response but CPD to standby.

2.1.4 Description of Emergency Categories

Under the direction & requirements from CPD on scene commander the PDA for the various category incidents may be as follows:

	Category A	Category B	Category C
Fire – CPD	6 x Pumping fire appliances	3 x Pumping fire appliances	2 x Pumping fire appliances
	1 x Arial appliance (drone)	1 x supervisory officer	1 x supervisory officer
	1 x supervisory officer		
Police	4 x Police cars	3 x Police cars	not required
	1 x supervisory officer	1 x supervisory officer	
Ambulance	3 x Ambulances	1 x Ambulances	not required
	1 x Doctor	1 x Doctor	

2.2 Incident Alerting Procedure

2.2.1 Incident Alerting (excluding Security Threat or Medical Emergency)

On discovery of an emergency situation the following action to be taken:

(a) From a place of safety operate a manual alarm call point

(b) By radio, contact the Control Room of the area involved

(c) Provide the Control Room for that area with name and position and brief details of the situation to include:
- Type of incident (e.g. fire, gas release or spill)
- Exact location of the incident
- What is involved (e.g. building, section of the plant or process area)
- Are persons involved or at risk
- Indication of the size or severity of the incident

(d) Notify the Control Room for that area of next intended personal action (i.e. evacuate, assist casualty to safety or take up emergency role as identified in the Emergency Response Plan

(e) Maintain radio contact if possible to provide clarification or further information as may be required

On actuation of an alarm or report of an emergency event

The Control Room responsible for that area of the site will be responsible for:

(f) Taking emergency calls from persons on-site reporting an incident, extracting all relevant details available

(g) Identification of the type of incident, location, and any initial information of what is involved

(h) If the incident is on board the FSU, the master will relay the information down to the regasification terminal & the terminal will Initiate the 112 call to emergency services. The call out should include INCIDENT CATEGORY and details of incident (using Emergency Call Log Proforma as outlined in Appendix 1 of this document)

(i) If the master requires additional assistance from the seaside for the FSU, such as i.e. pilots, FF tugs then the Master will perform the call outs for such assistance.

(j) Notification of emergency to be made to the other site Control Rooms to cascade information to rest of site and nominated call out list.

(k) Initiating the deployment of the Emergency Response Team for that area to make an initial assessment of the incident to inform the incident response, and implement initial safety shutdown procedures

2.2.1.1 Initiating The Call To The Emergency Services (excluding Security Threat or Medical Emergency)

Dial 112 requesting the Fire (CPD), Police and Ambulance Services

Provide the following information:

(a) The callers name and position

(b) Caller location
Example: "Regasification Plant or D4 power plant."

(c) Full Address: Delimara 4 Power Station

(d) Category of incident
Example "We have a CATEGORY A, CATEGORY B or CATEGORY C Incident etc."

(e) Brief description of incident:
- How the alarm was raised (automatic detection, manual call point or verbal report)
- Nature of the emergency (fire, explosion, gas release, spill etc.)
- Location of the incident
- Indication of extent of the incident and areas involved (interpretation of alarms showing on control panel, visual sightings, sounds heard etc.)

(f) Persons involved and/or unaccounted for
Example "PERSONS MISSING or EVACUATION UNDER WAY"

(g) Rendezvous Point to be used by the responding emergency services

(h) Hazards - any specific hazards that might impact emergency services on the approach to the incident
Example "UNCONTROLLED RELEASE OF GAS TOWARDS MAIN ENTRANCE"

ALL ABOVE DETAILS PASSED TO THE EMERGENCY SERVICES MUST BE RECORDED ON THE EMERGENCY CALL LOG PROFORMA AS FOUND IN APPENDIX 1 OF THIS DOCUMENT

All calls requesting emergency assistance of CPD to be made direct using the 112 system and not to the Delimara Fire Station via their administrative phone line

2.2.1.2 Alerting Other Areas Of The Plant There Is An Emergency On-Site (Excluding Security Threat or Medical Emergency)

Initiating Control Room

Having made the 112 call to the emergency services the initiating Control Room Operator that placed the call will implement the following actions:

(a) Calling all site control rooms by using the emergency radio base station, providing details of the emergency as known, and details given to emergency services (i.e. Incident Category A) and any initial actions implemented (i.e. shutdown of main valve underway) This call out is transmitted to 5 control rooms, (Enemalta CCR, D4 control room, Regas control room, FSU control room , Main gate security & Regas security.

(b) The checklist completed with details provided on the 112 call to emergency services to be saved & sent by email to EGM at time appropriate.

(c) Notify EGM area manager, providing details of the Emergency.

Enemalta Control Room

On receipt of an incident notification where the Coordinated Emergency response plan for Delimara power station is initiated (Category A & Category B),via the internal radios or hotline system, the following actions will be taken:

(a) The Enemalta Control Room will advise the initiating Control Room that they will be assuming responsibility to:

- Evaluate the evacuation of their sites
- Notify all key personnel on the contact call out list held for the various organisations in the Coordinated Emergency Response Plan.
- Act as the initial coordination centre for all communication until an INCIDENT COMMAND ROOM is established
- Provide the initial site command function, led by the senior site representative SITE INCIDENT CONTROL OFFICER supported by the EMERGENCY ADVISORY TEAM as outlined in Incident Roles and Responsibilities Section of this document
- Establish a link with Security at the Main Gate to secure the site and prevent any further entry, other than emergency services and key personnel from the site responding to the emergency.
- To establish Main Gate as the RVP Control Point, recording all access and egress from the site as part of the RVP role

- Facilitate the transfer of the Incident Command function to INCIDENT COMMAND ROOM when set up, which is likely to coincide with the Incident Command being formally handed over to CPD

General Note:

When cascading the details of the emergency as part of the alerting process, details should be used from the Emergency Call Log Proforma (Appendix 1) of the initial call to 112 rather than recall of verbal information received to ensure consistency of message.

2.2.2 Medical Emergency

On discovery of a medical emergency the following action to be taken

(a) Evaluate the surroundings & if possible do not move the casualty.

(b) Without placing yourself at risk, or the potential to compound the casualties' injuries, ensure the casualty is in a place of safety, away from further risk

(c) Initiate immediate lifesaving first aid actions such as CPR

(d) From a place of safety, contact the Control Room for that area of the site. The caller to confirm name and position, and provide brief details of the incident to include:
- Type of incident (fall, burn, chemical exposure, heart attack etc.)
- Exact location of incident
- Is there more than one person involved
- Is the casualty/s at further risk due to their location, or proximity to a hazardous situation
- Is there a requirement to initiate rescue procedures
- Have any immediate actions been initiated (clear airway, CPR)
- Maintain radio contact if possible to provide clarification, or further information as may be required

On actuation of a report of a medical emergency event

(a) The Control Room responsible for that area of the site will be responsible for:
- Taking emergency calls from persons on-site reporting a medical emergency, extracting all relevant details available
- Identification of the type of medical incident, location and any initial information of what is involved and whether the need for rescue is required
- Call the onsite nurse for assistance.
- Initiating the 112 call to the Emergency Services
- Alerting the Enemalta Control Room there is a medical emergency on-site
- Initiating the deployment of on-site Emergency Response Team and first aid/medical response provision

2.2.2.1 Initiating The Call To The Emergency Services – Medical Emergency

DIAL 112 REQUESTING AMBULANCE SERVICE - if it is a rescue situation also request FIRE (CPD)

Provide the following information:

(a) The callers name and position

(b) Caller's location
Example: "Regasification Plant Control or D4 plant."

(c) Full Address: Delimara 4 Power Station

(d) Category of incident
Example "We have a MEDICAL EMERGENCY situation"

(e) Brief description of incident –
Example "FALL FROM HEIGHT - plant gantry, casualty in stable location not at further risk"

(f) Number of casualties involved and any obvious symptoms displayed
Example: "unconscious, not breathing"

(g) Any first aid measures initiated
Example: "CPR/AED"

(h) Any arrangements for the ambulance (and Fire/CPD if rescue involved) to be met and escorted to the incident on arrival at the site

ALL ABOVE DETAILS PASSED TO THE EMERGENCY SERVICES MUST BE RECORDED ON THE EMERGENCY CALL LOG PROFORMA AS FOUND IN APPENDIX 1 OF THIS DOCUMENT

All calls requesting emergency assistance to be made direct using the 112 system and not to the Delimara Fire Station via their administrative phone line

2.2.2.2 Alerting Other Areas of the Plant of a Medical Emergency On-Site

Initiating Control Room
Having made the 112 call to the emergency services, the initiating Control Room Operator that placed the call, will implement the following actions:

(a) Alert all other Control Rooms on the site via the communications channels
(b) Contact the Enemalta clinic and FSU Hospital to see if they are able to make an initial response

(c) Alert Security at the Main Gate and request they direct / escort the ambulance (and any other emergency services if required to the incident location)
(d) Notify all key personnel on the contact notification list for medical emergencies held for the various organisations
(e) Act as the coordination centre for all communications for the duration of the medical emergency as required
(f) The Emergency Call Log Proforma (Appendix 1) completed with details provided on the 112 call to the emergency services, to be sent by email to EGM .

General Note:

When cascading the details of the emergency as part of the alerting process, details should be used from the Emergency Call Log Proforma (Appendix 1) of the initial call to 112 rather than recall of verbal information received to ensure consistency of message

2.2.2.3 Accident Notification Form

In accordance with OSHA guidelines the Accident Notification Form included in Appendix 5 must be completed to reach OHSA within 7 days of any accident.

2.3 Initial Response Actions

2.3.1 Overview of Initial Response Actions

Initial response actions outlined in this section are for incidents that require the Full Attendance of the emergency services, a limited Local Standby attendance of CPD and Medical Emergencies.

2.3.1.1 Full Emergency (Category A & B Events

In the event of a full emergency situation (fire, gas release, spill) the following actions will be implemented as part of the initial response following confirmation that all control rooms on the site have been notified of the incident in progress;

(a) Security
- Secure access restricted to the site and to prevent further entry (other than emergency response & EGM Strategic Emergency teams)
- Establish the RVP Point at the Main Gate and initiate booking in procedures of Emergency Response teams (using the Emergency Response Roll Call Proforma provided in Appendix 3 of this document)
- Establish links with assembly points and collate details of persons held at various assembly points or committed on-site to perform a designated role under the IERP (using Personnel Roll Call Proforma provided in Appendix 2 of this document)

(b) Area of the site involved
- Senior official of the area of site involved assumes the role of EMERGENCY CONTROL OFFICER (ECO) and deploys an initial Emergency Response Team to make an assessment of the incident scene, and carry out any initial emergency shutdown procedures as

detailed in the units plan for that area of the site. The unit plans for the individual areas of the site are located in the **IERP Reference Manual.**

- The Emergency Control Officer (ECO) of the site involved, to oversee initial immediate response actions within that immediate area and inform other site Control Rooms as the Initial Incident Command of:
    - Any deployment of the Emergency Response Team
    - Any assessment of the scene
    - Any emergency shutdown procedures initiated
    - Establish a communications link and report to the SITE INCIDENT CONTROL OFFICER.

(c) Senior Official on the Delimara 4 Site and Regasification plant

- Senior official on the Delimara 4 site present to report to the Control Room if safe to do so, and assuming the location is not compromised by the incident.
- Assume the role of SITE INCIDENT CONTROL OFFICER, and take overall charge of the incident
- Implement the transfer of INCIDENT COMMAND from the Enemalta Control Room to the established INCIDENT COMMAND ROOM
- Ensure an effective hand over of responsibility for the incident to the senior officer of CPD on their arrival

(d) Initial Deployment of Emergency Response Team

The EMERGENCY CONTROL OFFICER (ECO) at the area of the site involved will deploy an Emergency Response Team to carry out the following actions:

- Make an initial assessment of the incident scene and report back to the EMERGENCY CONTROL OFFICER (ECO)
- Initiate any immediate emergency shutdown procedures for that site (as outlined in Section 6 of this document)

Await instructions for further deployment from the overall site Incident Command

2.3.1.2 Category C

Category C events are those occurrences that can be realistically dealt with by the resources held on-site and reduced CPD attendance standing by, it may be appropriate to scale down some of these initial actions as follows:

- Incident Control for the site to be retained at the local effected Control Room if is safe to do so.
- In most cases set up of the EMERGENCY ADVISORY TEAM will not be generally required and evacuation is likely to be limited to the local scene of operations.

2.3.1.3 Medical Emergency

Overview

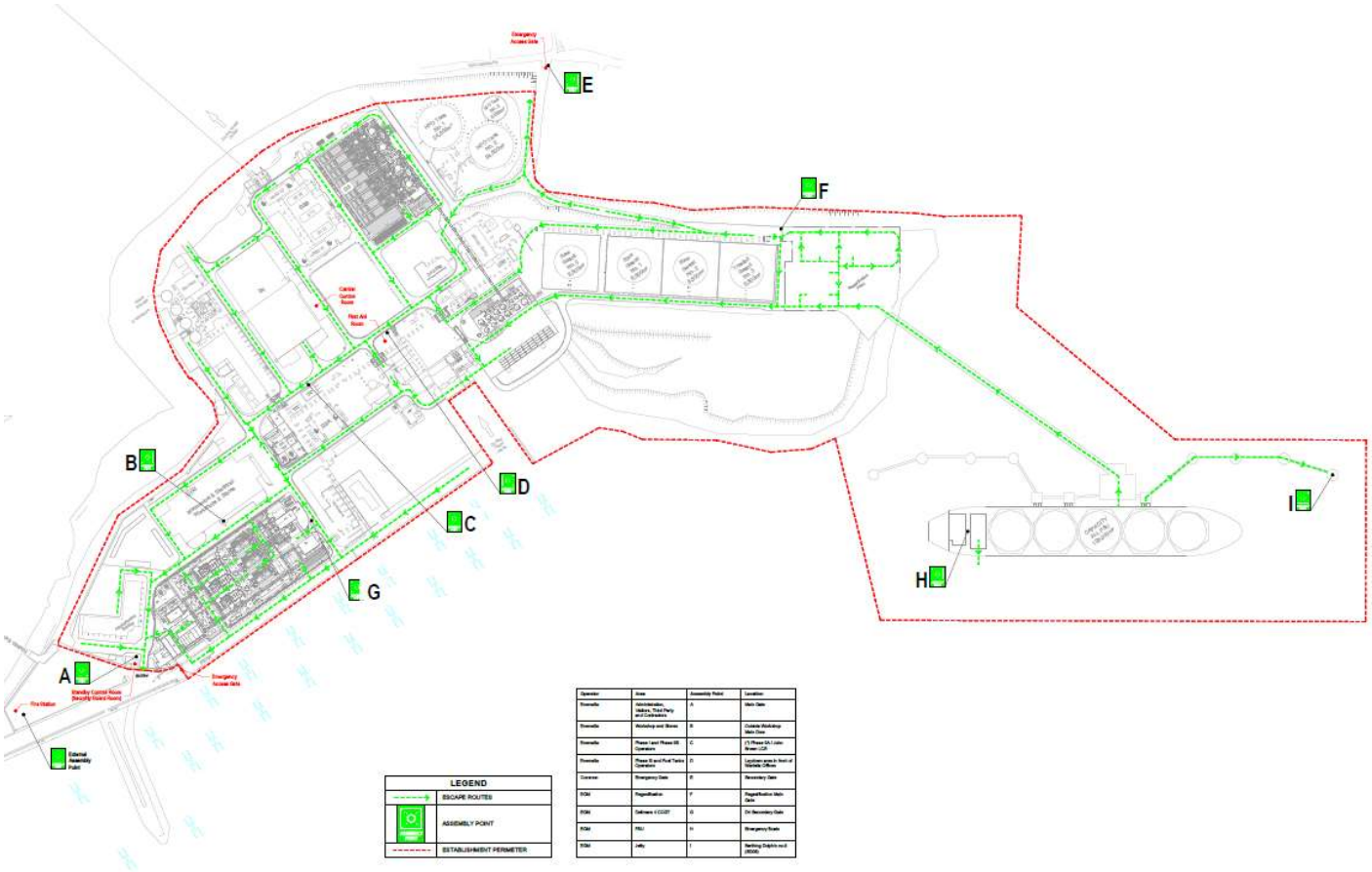
In the event of a reported medical emergency on-site it should be noted that if it appears that medical or hospital treatment is required, an ambulance is to be called.

The procedure to be adopted for a report of a medical emergency is as follows:

Control Room on the area of the site involved

The following actions to be taken in the event of a medical emergency:

(a) Call 112 requesting an ambulance providing details of the incident
(b) Call site nurse for assistance
(c) Notify all control rooms on-site and Security at Main Gate of details of the medical incident
(d) Deploy the EMERGENCY RESPONSE TEAM (ERT) and First Aider to make an assessment of the scene/assist and report back
(e) Notify Enemalta Clinic and/or FSU Medical Facility to see if they can provide any initial on-site response (dependant on the indicated nature of medical emergency and time of day)
(f) Notify EGM / Enemalta Management and Health and Safety Officer of the incident to enable them to respond if required



2.3.2 Emergency Shutdown Systems (ESD)

Emergency shutdown procedures for different areas of the Delimara 4 site areas are as follows:

2.3.2.1 FSU

ESD System at the FSU:

ESD Level	Initiation	Action
LNG ESD	• Emergency push button / Trip switches • Pneumatic system released (manifolds or melting plugs • ESD system computer power / Failure	• ESD signal to jetty and LNGC via SSL System • Closure of ESD valves at port/starboard manifolds • Closure of FG master valve to boilers • Trip of FSU gas compressors • Trip of cargo tanks LNG pumps • Closure of cargo tanks liquid valves
	• ESD push button at starboard manifold (LNGC side)	• ESD signal to LNGC via SSL System • Closure of starboard manifold valves
	• ESD push button for release of starboard hoses	• ESD signal to LNGC via SSL System • Disconnect of hoses and closure of starboard manifold valves
	• ESD push button at port manifold (jetty side)	• ESD signal to jetty via SSL System • Closure of port manifold valves • Trip of FSU gas compressors • Trip of cargo tanks LNG pumps
	• ESD push button for release of port hoses	• ESD signal to jetty via SSL System • Disconnect of hoses and closure of port manifold valves • Trip of FSU gas compressors • Trip of cargo tanks LNG pumps
Power Trip	• Shore power shutdown local push button	• Start of diesel driven generators • Trip of shore supply feeders
SSL Signals	• ESD signal from jetty via SSL System	• Closure of port manifold valves • Trip of FSU gas compressors • Trip of cargo tanks LNG pumps
	• Jetty FMC ESD1 signal	• ESD signal to jetty and LNGC via SSL System • Closure of port manifold valves • Trip of FSU gas compressors • Start of diesel driven generators • Trip of cargo tanks LNG pumps
	• Jetty FMC ESD2 signal	• ESD signal to jetty and LNGC via SSL System • Disconnect of hoses and closure of port manifold valves • Closure of FG master valve to boilers • Start of diesel driven generators • Trip of shore supply feeders • Closure of port manifold valves • Trip of FSU gas compressors • Start of diesel driven generators • Trip of cargo tanks LNG pumps

	• ESD signal from LNGC via SSL System	• Closure of starboard manifold valves • Trip of FSU gas compressors
Manifold hoses	• Starboard manifold hoses ESD1	• ESD signal to LNGC via SSL System • Closure of starboard manifold valves • Trip of FSU gas compressors
	• Port manifold hoses ESD1	• ESD signal to jetty and LNGC via SSL System • Closure of port manifold valves • Trip of FSU gas compressors • Start of diesel driven generators • Trip of cargo tanks LNG pumps
	• Port manifold hoses ESD2	• ESD signal to jetty and LNGC via SSL System • Disconnect of hoses and closure of starboard manifold valves • Trip of FSU gas compressors • Closure of FG master valve to boilers • Start of diesel driven generators • Trip of shore supply feeders • Trip of cargo tanks LNG pumps
Gas / Fire Detection	• Gas detected, Boiler hood, FG main pipe duct, GVU	• Closure of FG master valve to boilers • Trip of FSU gas compressors
General ESD Causes	• Emergency loop low pressure (melting plugs + back-up SSL) • Control air pressure low at compressor room • Hydraulic oil line pressure low • Power black-out • Hydraulic power unit room both supply fans stop	• ESD signal to jetty and LNGC via SSL System • Closure of port manifold valves • Closure of new liquid export valve (jetty side) • Closure of starboard manifold valves • Closure of FG master valve to boilers • Trip of FSU gas compressors • Trip of cargo tanks LNG pumps
	• FG main pipe exhaust fan stop • FG line low temperature • ECR manual stop switch	• Closure of FG master valve to boilers • Trip of FSU gas compressors
Cargo Containment	• Level very high cargo tank 1, 2, 3, 4 or 5 (spot sensor)	• ESD signal to jetty and LNGC via SSL System • Closure of port manifold valves • Closure of new liquid export valve (jetty side) • Closure of starboard manifold valves • Closure of FG master valve to boilers • Trip of FSU gas compressors • Trip of cargo tanks LNG pumps • Closure of concerned cargo tank filling valve
Differential Pressure	• Differential pressure cargo tank 1, 2, 3, 4 or 5 / Hold space	• Trip of concerned cargo/jetty feed tank pumps • Closure of concerned cargo tank spray inlet valve • Closure of FG master valve to boilers • Trip of FSU gas compressors

LNG Storage Tanks	• Pressure low low cargo tank 1, 2, 3, 4 or 5 (CTS sensor)	• Trip of concerned cargo/jetty feed tank pumps • Closure of concerned cargo tank spray inlet valve • Closure of FG master valve to boilers • Trip of FSU gas compressors
	• Level high high cargo tank 1, 2, 3, 4 or 5	• Closure of concerned cargo tank filling valve

2.3.2.2 Regasification Terminal

ESD System at the Regasification Terminal is divided in three (3) levels as presented in the following table:

ESD Level	Initiation	Action
Fire Detection	• Fire detection in jetty platform	• Activation of jetty water curtain deluge system • Initiation of ESD1(voting 2/n)
	• Fire detection in flare KO drum	• Activation of flare KO drum foam unit • Stop of flare KO drum pit drainage pumps • Initiation of ESD1(voting 2/n)
	• Fire detection in suction drum • Fire detection in LNG pumps • Fire detection in IFV	• Activation of IFV deluge system • Activation of BOG water curtain deluge system • Initiation of ESD1(voting 2/n)
	• Fire detection in BOG KO drum • Fire detection in BOG compressors	• Activation of BOG compressors deluge system • Activation of BOG water curtain deluge system • Initiation of ESD1(voting 2/n)
	• Fire detection in D3PP/GRS	• Initiation of ESD3
Gas Detection	• Gas detection in jetty platform • Gas detection in flare stack and KO drum • Gas detection in suction drum • Gas detection in LNG pumps • Gas detection in IFV • Gas detection in BOG KO drum • Gas detection in BOG compressors	• Initiation of ESD1(voting 2/n)
	• Gas detection in D3PP/GRS	• Initiation of ESD3(voting 2/n)
	• Gas detection in D4PP/GRS	• Initiation of ESD3
	• Gas detection in regasification building air intakes	• Stop of HVAC to Regas building • Stop of transformer cooling system
Spill detection	• Spill detection in flare KO drum pit	• Activation of flare KO drum foam unit • Stop of flare KO drum pit drainage pumps • Initiation of ESD1(voting 2/n)

	• Spill detection in Regasification impounding basin	• Activation of impounding basin foam unit • Closure of impounding basin drainage valve • Initiation of ESD1(voting 2/n)
	• Spill detection in suction drum • Spill detection in LNG pumps • Spill detection in IFV	• Initiation of ESD1(voting 2/n)
ESD-1: Plant shutdown	• Fire, Spill and Gas Detection System (FSGDS) at Regasification Compound, Gas Receiving Station of Delimara 3 and Delimara 4 (CCGT), jetty area and FSU, with consistent voting functionality	• Isolate the sub-fire zones to minimize the release of hydrocarbon (LNG, BOG/NG) • Initiate automatically the emergency depressurization (EDP) functions: EDP of high pressure BOG from the common discharge line of all three (3) BOG compressors through blow down valve 12EEKG15 AA0552, EDP of high pressure gas from the common line before distributing gas to the two (2) GRS through blow down valve 12EKG17 AA051
ESD-2: Process shutdown	Monitored essential process parameters: • Local emergency push buttons at Control Room, IFVs area and jetty platform • Activation of 2oo3 high high pressure switches 12EGA12 CP301/302/303 at the LNG pipeline from FSU • Activation of 2oo3 low low level switches (12EEGA10 CL304/305/306) of LNG pumps suction drum (12EGA10 BB0001) • Activation of 2oo3 high high level switches (12EEGA10 CL301/302/303) of LNG pumps suction drum (12EGA10 BB0001) • Activation of high high pressure switches at the send out line of IFV1 or IFV2 (12EGA80/90 CP302/303/304) • IFV1 or IFV2 emergency trip • Gas Receiving Station (GRS) of Delimara 3 or Delimara 4 emergency trip	• Stop the processing and transfer operations in order to prevent a specific hazard occurring • Isolate and determine the process system which caused the incident and should be investigated
ESD 3: Local plant equipment or operation shutdown	Monitored essential process parameters: • Local emergency push buttons at Control Room to trip IFV1, IFFV2, BOG handling, Delimara 3 or Delimara 4 GRS • Local emergency push button at Delimara 3 or Delimara 4 GRS control cabinet	In this case, depending on the ESD-3 function, a different process system which is involved in the incident is shutdown and isolated to prevent damage and to determine the cause of the incident. The other processing and transfer operations remain in operation.

	• Trip of IFVs due to low water glycol flow (12PGA76/77 CF0002), high propane pressure (12EGA80/90 CP002/003), low propane pressure (12EGA80/90 CP002/003), low intermediate NG temperature (12EGA80/90 CT301/302/303) or low send out NG temperature (12EGA80/90 CT304/305/306)	

Table 3: ESD System at the Regasification Terminal

When ESD-1 is initiated, then all lower ESD-2 and ESD-3 functions are activated. ESD-1 and ESD-2 signals are transferred to the FSU safety system via the SSL system.

Note: Delimara 3 Gas Receiving Station is owned and operated by Reganosa / ElectroGas.

2.3.2.3 Delimara 4 Power Plant

Emergency Stop System at the Delimara 4 Power Plant is structured as follows:

Equipment	Initiation	Action
Gas Receiving Station (container)	• Emergency Stop Push Button	• Immediate closure of ESD valves • After 5 seconds, the DCS starts to trip the Gas Turbines sequentially, at an interval of 5 seconds. • The Steam Turbine remains on line until its normal reverse power shutdown takes place.
Gas Turbine 51	• Emergency Stop Push Button	• Trip of GT51
Gas Turbine 52	• Emergency Stop Push Button	• Trip of GT52
Gas Turbine 53	• Emergency Stop Push Button	• Trip of GT53
Steam Turbine 50	• Emergency Stop Push Button	• Trip of ST50 • All running GT units switch automatically to open cycle mode by closing the diverter damper.

Table 4: Emergency Stop System at the Delimara 4 Power Plant

6.1 Appendix 1 - Emergency Call Log Proforma

EMERGENCY CALL LOG PROFORMA

Date & Time			
Callers Name and Position			
Caller Location			
Emergency 112 call requested services (circle)	FIRE (CPD)	POLICE	AMBULANCE
	Other (Specify)		
Address of Delimara 4 Power Plant including Post Code			
Category of Incident (circle)	CATEGORY A LOCAL STANDBY	CATEGORY B	CATEGORY C
DETAILS OF INCIDENT			
1. Location on-site			
2. Incident Description			
(what is involved)			
(area of facility involved)			
3. Special Hazards			
4. Persons Missing			
RVP TO BE USED (circle)	MAIN GATE	Other (specify)	

6.2 Appendix 2 – RVP Control Personnel Evacuation roll call

RVP CONTROL – Personnel Evacuation Roll Call

NAME	DEPT	ONSITE YES / NO	DETAILS **E** - Evacuated from site **C** - Committed to task onsite and location **U** - Unaccounted for

6.3 Appendix 3 – Emergency response Attendance register

RVP CONTROL – Emergency Response Attendance Register

SERVICE	OFFICER IN CHARGE	VEHICLE	CREW	DATE / TIME		LOCATION
FIRE/POLICE/ AMBULANCE	OIC	TYPE/REG NO.	NO. AND ROLE	ARRIVE	DEPART	**RVP** – On standby at RVP Holding Area **C** - Commited to task onsite and location **D** – Left incident and departed from site

6.5 Appendix 5 – OHSA Notification form

It can be accessed through the OHSA online portal on:
https://eforms.gov.mt/pdfforms.aspx?fid=wes059e

e-form

Accident Notification Form

Form should reach OHSA (email: ohsa@gov.mt) within seven (7) days after the accident in terms of LN 52/1986 Article 22.2(b)

Employer's Name			
ID Card No.			
Company Name			
Company Registration No. *(MFSA Reg. No.)*			
Postal Address			
Type of Industry			
Email			
Telephone			
Date of Accident		No. of Persons involved	
Place / Address of Accident			
Days out of Work *(working days)*			

Person filing the Accident Notification