



ElectroGas Malta Project

Internal Emergency Plan – Alert and Evacuation

21st September 2016

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Prepared for:
ElectroGas Malta Limited

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1 INTRODUCTION

1.1 Objective

This document describes the requirements for reporting an emergency incident, the immediate actions to be taken in response to an emergency incident, the communications systems, the alarm systems and the evacuation procedures.

1.2 Reference Documents

The reference documents are tabulated below:

Reference	Designation	Issued by	Date
OPS-MALT-ALM-HSE-PLN-0003	Emergency Response Plan Manual	Bumi Armada	10/04/2015
ENEM-SIT-E1-00-RP-ME-00072	SGY Fire Detection, Control and Alarm System CYQ Gas Detection System	Siemens	15/09/2015

Table 1: Reference Documents

1.3 Glossary

BOG	Boil-Off Gas
CCGT	Combined Cycle Gas Turbine
CPD	Civil Protection Department
D3PP/D3PS	Delimara 3 Power Plant/Delimara 3 Power Station
D4PP/D4PS	Delimara 4 Power Plant/Delimara 4 Power Station
EAP	Emergency Assembly Point
EDP	Emergency Depressurization
EGM	ElectroGas Malta Ltd
ESD	Emergency Shut-Down
FG	Fuel Gas
FSGD	Fire, Spill and Gas Detection
FSU	Floating Storage Unit
GRS	Gas Receiving Station
HD / LD	High Duty / Low Duty
IEP	Internal Emergency Plan
IFV	Intermediate Fluid Vaporizers
LFL (LEL)	Lower Flammable (Explosive) Limit
LNG	Liquefied Natural Gas
LNGC	LNG Carrier(s)
MEPA	Malta Environment & Planning Authority
NG	Natural Gas
NVCC	Non Visible Combustion Chamber
OHSA	Occupational Health and Safety Authority
RGU	ReGasification Unit
SAA	Safe Assembly Area
WG	Water Glycol
[TBA]	To Be Attributed
[TBC]	To Be Completed

2 EMERGENCY ALERT AND IMMEDIATE ACTIONS

2.1 General Alert Scheme

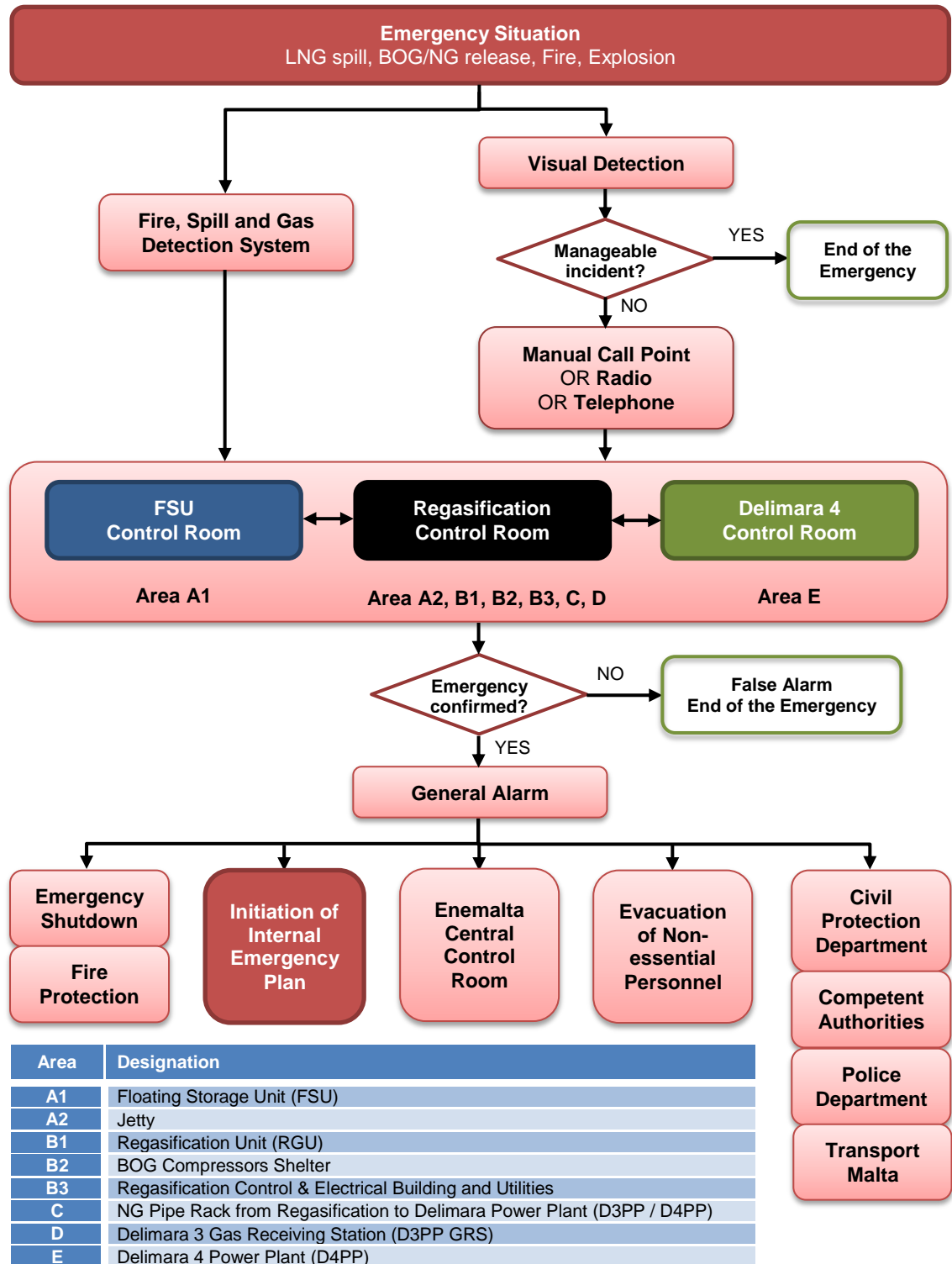


Figure 1: General Alert Scheme

2.2 Reporter Responsibility (How to Report an Emergency)

Upon discovery of an emergency incident (i.e. LNG spill, gas release, plant fire, building fire, medical emergency/incident, etc.), immediately report the situation to the concerned Control Room following the steps outlined in the table below:

Step	Action
1	Get to a safe location and warn others around you.
2	Immediately call the emergency telephone number from any plant telephone or mobile phone or call Control Room on radio channel, or use a Manual Call Point.
3	By phone or radio, identify the nature of the emergency incident (for instance LNG spill, gas release, plant fire, building fire, medical emergency/incident, etc.).
4	Give the location of the emergency incident.
5	Give your name and function.
6	Stay on the telephone or radio until message is understood by Control Room and you are instructed to close the line.

Table 2: How to Report an Emergency

2.3 Immediate Actions

2.3.1 Plant-Wide Emergency Incidents

Emergency incidents are those which have the potential of harming personnel and or involving other plant facilities, including the FSU, the LNG Terminal, the CCGT Plant as well as Enemalta Plant, i.e. LNG spill, flammable gas/vapour release and fire and/or explosion.

Upon direct notification of any plant-wide incident, by automatic FSGD System or reporter, the Control Room shall follow the steps outlined below:

Step	Action
1	Answer the call from the emergency telephone or radio.
2	Write down the information.
3	Activate the proper Plant Alarm as per the situation.
4	Activate the proper Emergency Shutdown System and Fire Protection System.
5	Initiate the Internal Emergency Plan.

Table 3: Immediate Actions at the Control Room in the case of Plant-Wide Emergency Incidents

2.3.2 Building Fire

This incident is for instance a fire in a building or building local alarm activated due to flame/smoke detection.

Upon direct notification of a building fire, the Control Room shall follow the steps outlined in § 2.3.1.

2.3.3 Medical Emergency Incidents

Medical Emergency Incidents are severe or life threatening injuries or illness to one or more persons.

Upon direct notification of any medical emergency incident, the Control Room shall follow the steps outlined in the next table.

Step	Action
1	Answer the call from the emergency telephone or radio.
2	Write down the information.
3	Contact the Clinic at Enemalta or the Hospital at the FSU.

Table 4: Immediate Actions at the Control Room in the case of Medical Emergency Incidents

2.3.4 Minor Incidents

Minor Incidents are localised fires e.g. small trash can fire, or a small fire in a process area, or a small scale leak from a valve stem or small flange, etc., where the operators have experience of its magnitude and methods of control.

Upon direct notification of any minor incident, the Control Room shall follow the steps outlined below:

Step	Action
1	Answer the call from the emergency telephone or radio.
2	Write down the information.
3	Contact the Plant Superintendent / Shift Supervisor for acknowledgement.
4	Wait for order whether to activate the Plant Alarm or not. If the decision is to activate the Plant Alarm, follow the plant-wide incident actions.

Table 5: Immediate Actions at the Control Room in the case of Minor Incidents

2.3.5 Bomb Threat (CONFIDENTIAL)

2.3.6 Bomb Threat Fact Sheet (CONFIDENTIAL)**Table 7: Bomb Threat Fact Sheet**

2.3.7 Bomb Discovery (CONFIDENTIAL)

3 EMERGENCY COMMUNICATIONS SYSTEMS (CONFIDENTIAL)

4 ALARM SYSTEMS AND PROCEDURES

4.1 FSU

4.1.1 Alarm System

The FSU is provided with an Engine Alarm and a General Alarm System, which can be manually or automatically activated.

4.1.2 Response to Alarm

The alarm protocol for all personnel on board the installation is as follows:

Step	Action
1	Make your jobsite safe and proceed to your designated Muster Station
2	Turn your T-Card, sit down, stay calm and quiet.
3	Team leaders to check that all the T-Cards have been turned, then count the number of both T-cards and the personnel and make sure both quantities match.
4	If a T-Card has not been turned, then check the numbers of both T-cards and personnel to make sure that someone has not forgotten to turn his T-Card. If there is a missing person then report it to the main muster checker in the Cargo Control Room with the relevant information, name, room number etc.
5	Once your count is completed report the numbers to the Emergency Controller.
6	If you are a member of the Emergency Response Team, respond safely for your duty.

Table 10: Response to Alarm at the FSU

4.2 Delimara LNG Regasification Terminal and Power Plant

4.2.1 Alarm Systems at the Regasification Plant

At the Delimara LNG Regasification Terminal, the FSGD System is equipped with a General Alarm System (beacons and sirens outdoors).

The outdoors equipment can also be operated by manual activation and reset by the Main Operator in the Control Room. If there is more than one event type detected, the alarm corresponding to the most serious detection will sound: order from least serious to more serious is spill, gas, fire.

Sirens are installed outdoors in the main Regasification Facility Building (12CYE50 EG001/EG002) and in the Jetty Building (12CYE10 EG001). The sirens will operate simultaneously and will generate specific sound signals corresponding to the relevant FGSD.

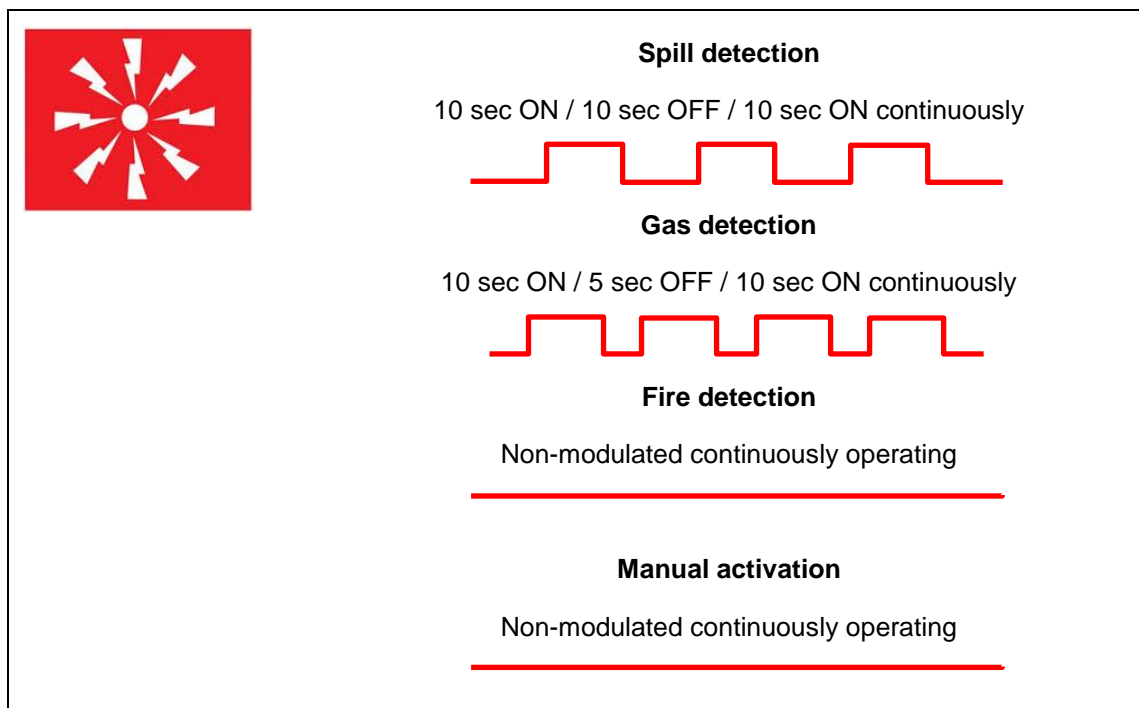


Figure 2: General Audible System at the Delimara LNG Regasification Terminal

4.2.2 Alarm Systems at the CCGT Plant

At the CCGT Plant, the fire detection, control and alarm system (50SGY) is provided to detect a fire, to control remote released fire extinguishing systems, and to warn personnel in the case of a fire. The gas detection system (50CYQ) is provided to detect gas leakages and to warn personnel in the case of a leak.

The Main Fire Alarm Panel is situated in the Central Control Room (50UYC0210). Alarm devices (horns, sirens, strobe lights) are provided inside of buildings and at outdoor facilities to warn personnel in case of a fire alarm or gas detection.

4.2.3 Response to Plant Alarm

Whenever a plant alarm sounds, all personnel shall follow the steps outlined in the table below:

If you are inside a Building

Step	Action
1	Do not panic.
2	Immediately go to the nearest Safe Assembly Area (SAA) as per the Building Evacuation Plan or as directed by the Building Marshal or Warden (if any).
3	If you are not in your normal work locations SAA, call your SAA and inform them of your present location.
4	Stay at the SAA until "All Clear" is sounded or released by the Building Marshal or Warden (if any).
5	If you are a member of the Emergency Response Team, respond safely for your duty after notifying the Building Marshal or Warden (if any).

Table 11: Response to Plant Alarm, inside a Building

If you are in the Field

Step	Action
1	Do not panic.
2	Stop and secure work immediately.
3	Check the wind sock direction for Safe Route.
4	Go cross-wind to the nearest Safe Assembly Area (SAA) or Emergency Assembly Point (EAP). <div style="text-align: center;"> <p>The diagram illustrates the concept of cross-wind. A vertical black arrow points upwards, labeled 'Wind Direction'. A horizontal green double-headed arrow is positioned below it, labeled 'Cross Wind'.</p> </div>
5	Report to the Building Marshal or Warden (if any).
6	If you are not in your SAA, call your normal work location's SAA and inform them of your present location.
7	Stay at the Safe Assembly Area until "All Clear" is sounded or released by the Building Marshal or Warden (if any).
8	If you are a member of the Emergency Response Team, respond safely for your duty after notifying the Building Marshal or Warden (if any).

Table 12: Response to Plant Alarm, in the Field

If you are in a Vehicle

Step	Action
1	Do not panic
2	Immediately park the vehicle in a safe location ensuring it is not blocking access.
3	Turn off the ignition and leave keys in vehicle.
4	Check the wind sock direction for Safe Route.
5	Go cross-wind to the nearest Safe Assembly Area or Emergency Assembly Points. <div style="text-align: center;"> <p>The diagram illustrates the concept of cross-wind. A vertical black arrow points upwards, labeled 'Wind Direction'. A horizontal green double-headed arrow is positioned below it, labeled 'Cross Wind'.</p> </div>
6	Report to the Building Marshal or Warden (if any).
7	If you are not in your SAA, call your normal work location's SAA and inform them of your present location.
8	Stay at the Safe Assembly Area until "All Clear" is sounded or released by the Building Marshal or Warden (if any).
9	If you are a member of the Emergency Response Team, respond safely for your duty after notifying the Building Marshal or Warden (if any).

Table 13: Response to Plant Alarm, in a Vehicle

Note: Evacuation should be done crosswinds and using main roadways, as shown on evacuation routing maps. Never use short-cuts through process units.

4.2.4 Response to Building Fire Alarm

Whenever a building fire alarm sounds, all personnel shall follow the steps outlined in the table below:

Step	Action
1	Do not panic.
2	Calmly evacuate the building as directed by the Building Evacuation Plan or as instructed by the Building Marshal or Warden (if any).
3	Turn off the lights and close your office door before leaving the building.
4	Walk to the Emergency Assembly Point (EAP) outside the building as per the Building Evacuation Plan or to a safe location as instructed by the Building Marshal or Warden (if any).
5	If you are a member of the Emergency Response Team, respond safely for your duty after notifying the Building Marshal or Warden (if any).

Table 14: Response to Building Fire Alarm

4.3 Weekly Test

Weekly test shall be conducted on a regularly basis (same day, same hour). If an emergency occurs during the testing time, the plant alarm will be sounded 2 times.

5 ESCAPE ROUTES AND EVACUATION PROCEDURES

The escape route plans are provided in **APPENDIX 2**.

5.1 FSU

At the FSU, the Safe Assembly Area is located in the Emergency Control Room (Reference H).

If the access to the jetty is not possible during the emergency, the FSU is equipped with two (2) life boats at the port and starboard side, adjacent to the Accommodation Block. Each of these life boats can accommodate 40 personnel i.e. sufficient for the maximum personnel on board. The primary means of evacuation from the FSU are the life boats while the secondary means of evacuation are the life rafts. Life rafts are also provided at port side and starboard side adjacent to the Accommodation Block. The total capacity of these life rafts is sufficient for 100% of maximum personnel on board. Further life rafts are also provided forward to enable evacuation if the escape routes along the Main Deck are obstructed or impaired.

5.2 Delimara LNG Regasification Terminal and Power Plant

5.2.1 Safe Assembly Area (SAA)

Safe Assembly Areas are located indoor as referenced in the following table:

Reference	Area	Location
F	EGM / Regasification	Regasification Electrical and Control Building
G	EGM / Delimara 4 CCGT	CCGT Administrative and Control Building

Table 15: Location of Safe Assembly Areas

5.2.2 Emergency Assembly Point (EAP)

The Emergency Assembly Points are located outside the buildings or in the process units where there is no SAA available, as referenced in the following table:

Reference	Area	Location
A	Enemalta / Administration, Visitors, Third Party and Contractors EGM / Delimara 4 CCGT	Main Gate
B	Enemalta / Workshop and Stores	Outside Workshop Main Door
C	Enemalta / Phase I and Phase IIB Operations	Phase IIA / John Brown LCR
D	Enemalta / Phase III and Fuel Tanks Operators	DO Centrifuge
E	EGM / Regasification Plant	Secondary Gate

Table 16: Location of Emergency Assembly Points

Operations staff will report to their area of duty, unless their area is endangered.

5.2.3 Evacuation Procedures

The Emergency Controller will declare either a Limited Area Evacuation or a Total Evacuation dependent upon the type and location of the emergency situation. The announcement for an evacuation will be made via the communications systems previously described.

5.2.3.1 *Limited Area Evacuation Procedure*

The Safe Assembly Areas and the Emergency Assembly Points will be used for a limited area evacuation.

Assembly Leaders will take a headcount at these assembly zones. The headcount information will be verified and details of the headcount will be provided to the Emergency Controller along with a listing of all on-site personnel.

5.2.3.2 *Total Evacuation Procedure*

If a total evacuation is ordered, personnel will use primary escape routes and will assemble at the Delimara Power Station Main Gate for a headcount that will be taken by the Assembly Leader. In the event that the main gate is not in a safe location, an alternate assembly point will be at the secondary gate.

5.2.3.3 *Missing Personnel*

Upon completion of the headcount(s) by the Assembly Leaders and checks against the listing of all on-site personnel, if it is determined that there are person(s) unaccounted for, then the Emergency Controller and the Emergency Response Team Leader will be informed immediately.

If a person is unaccounted for under normal headcount procedures, the Supervisor for that person will begin to interview other personnel to establish the last known location of the missing person.

Information concerning injured or missing persons will not be given to anyone other than the Emergency Controller or the supervisor of the injured or missing person.

5.2.3.4 *Emergency Evacuation Procedure for Visitors*

All visitors sign in at the Delimara Power Station Security Gate House before entering the plant and will sign out when leaving the plant. This prevents an unnecessary search for individuals who are no longer inside the plant.

Whenever an emergency situation is declared, visitors will be escorted to the appropriate assembly point, from where they will be escorted out of the site after the headcount has been completed by the Assembly Leader(s).

5.2.3.5 *Emergency Evacuation Procedures for Contractors*

The assembly point for contractors will be at the Delimara Power Station Security Gate House and supervisors of contractor personnel will report their headcount to the Emergency Controller.

5.2.3.6 *Re-entry into Previously Evacuated Areas*

Personnel will only return to an evacuated area upon receipt of instructions from the Emergency Controller.

5.3 General Escape Routes



Figure 3: General Escape Routes and Assembly Points

APPENDIX 1: EMERGENCY DIRECTORY

On-Site Personnel Contacts (CONFIDENTIAL)

Off-Site Emergency Services Contacts

Company / Group	Name Function	Telephone	Address
[TBA]	[TBA]	[TBA]	[TBA]
Police Force		112 (+356) 2122 4001 (+356) 2122 4007 (+356) 2122 1111	
Civil Protection Department		112 (+356) 2393 0000	
Fire Brigade		112	
Planning Authority		(+356) 99 21 0404	
Occupational Health and Safety Authority		(+356) 99 49 67 86	
Transport Malta		(+356) 229 14 491 (+356) 229 14 492	
Ambulance Services	Hospital Malta Mater Dei	196	
	St John Ambulance	(+356) 2124 5740	
Hospital	Hospital Malta Mater Dei	112 (+356) 2545 0000	Tal-Qroqq, Msida
	Immediate Medical Care Unit at St James Hospital (Private Hospital)	(+356) 2169 2055	Zabbar
Emergency rescue by helicopter		(+356) 2124 4371	
Emergency rescue by patrol boat		(+356) 2123 8797	

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APPENDIX 2: ESCAPE ROUTE PLANS (CONFIDENTIAL)**FSU**

3954-MM-SD-101-004 01

Escape Route Plan (**CONFIDENTIAL**)**Delimara LNG Regasification Terminal**

[TBC]

Delimara 4 Power Plant

Refer to ENEM-SIT-E1-00-DR-ME-000181: General Layout Fire Protection Plan incl. Hazardous Zones in document [ENEM-AEC-E0-00-RP-SE-00015 Rev01 \(Containment, Detection, ESD, Firefighting\)](#), [APPENDIX 3](#).