
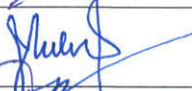


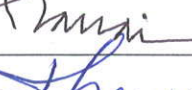

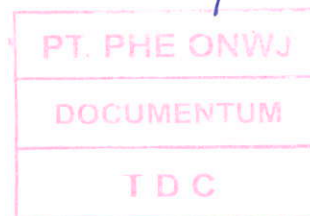
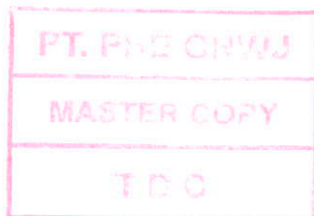


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Author's Org. Operations		Validation: 5 Years
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## FSO ARCO ARDJUNA EMERGENCY RESPONSE PLAN

### Approval Sheet

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2	06-May-2011	GCK	PS	PS	Issued for Approval	
3	1-June-2013	FXSS/T	MLW	HW	Issued for Approval	

## Revision Log Register

Page	Date	Revision	PHE ONWJ Reviewer
<b>Background</b>			
6	15 May 2013	Floating Storage Offloading (FSO) Arco Ardjuna is considered as one of key facilities in PHE ONWJ due to its function of storing all crude oil production with safe load capacity 853MBO and as crude oil custody transfer point. Any fire accident occurred on FSO Arco Ardjuna will potentially cause a disaster. FSO Arco Ardjuna is single hull terminal and moored to SPM.	Muliawan & AA Team
6	15 May 2013	Paragraph 2: Taking the right decisions during the first minutes of an incident will result in a better opportunity of survivability for all POB, <u>minimize environment pollution and avoid major loss.</u>	Karyani S.M
6	15 May 2013	Paragraph 3: The concept of firefighting shall be interrupted reactions immediately when the first event detected and acknowledged. The steps to follow are: muster, head count, assess whether it is safe to stay, or not to stay (abandon) then act.	Muliawan, AA Team, Sudarwanto
<b>Scope</b>			
6	15 May 2013	This document is relevant to the FSO Arco Ardjuna in stand-alone mode and <u>normal lifting tanker operation</u> with no drilling, well servicing operations or any other SIMOP activity on-going. If a simultaneous operation involving a work-over, drilling, project or diving barge, <u>tandem activity</u> then reliance will also be placed on those group for emergency response arrangements and procedures.	AA Team
<b>Emergency Response Priorities</b>			
7	15 May 2013	1. The protection of people.	AA Team, Hari Widyanto, Karyani
7	15 May 2013	The aim of any emergency response on the FSO Arco Ardjuna is to ensure that the following criteria will be met for all incidents: (Number 1 & 3) 1. Appropriate resources and arrangements are <u>maintained</u> for all reasonably foreseeable emergencies. 3. Suitable and sufficient training <u>include fire fighting</u> for all regular personnel to effectively implement the Emergency Response Plan is in place.	AA Team, Karyani, Process Safety Team
<b>Determination of an Emergency Situation</b>			
7&8	15 May 2013	Adding on An emergency situation is said to exist when one or more of the following events have occurred: (Number 1, 2, 6 & 7) 1. Confirmed fire and gas detection in FSO Arco Ardjuna, hose and SPM. 2. An incident that has the potential to result in the release of significant quantities of hydrocarbons in FSO Arco Ardjuna; hose and SPM.	AA Team, Karyani, Sudarwanto, Hari Widyanto

Page	Date	Revision	PHE ONWJ Reviewer
		6. A vessel impact or a potential vessel impact, vessel collision. 7. FSO Arco Ardjuna drifting	
8	15 May 2013	Note: This list is to provide guidance only and is not to be regarded as exhaustive and anyone who heard saw or involved directly or indirectly in emergency situations mentioned above shall report immediately to the Site Controller/FSOM.	Karyani S.M
<b>Evacuation and Escape</b>			
15 & 16	22 May 2013	Paragraph 2: In the beginning of fire finding ERT shall fight as based on scenario of fire (attachment1). In table.2, adding Satellite Phone (Turaya)	AA Team, Hari Widyanto, Karyani, Taufik Akbar
<b>FSO Arco Ardjuna Alarms</b>			
17	22 May 2013	Paragraph 1: This General Alarm is activated manually and follows with announcement related the information of the emergency situation that happens. Fire and gas sensor will activate automatic local alarm in panel system. Paragraph 2: Radio Operator activates General Alarm follows with announcement, after confirmed that emergency situation happen. In case abandon ship, announcement shall be given by OSC.	AA Team, Hari Widyanto, Karyani, Taufik Akbar
<b>Incident Location Control And Communication</b>			
11	23 May 2013	All other personnel who have not been assigned an emergency duty are classified as 'non-Emergency Response Organization' personnel will be evacuating as decision from OSC. Adding Figure.2 Lay Out Position of FSO Arco Ardjuna Life Boat.	AA Team, Taufik Akbar
<b>FSO Arco Ardjuna Place of Safety</b>			
13	23 May 2013	Adding the FSO Arco Ardjuna areas to be 4 (four) quadrant areas. Adding Figure 4. Area of FSO Arco Ardjuna.	AA Team, Taufik Akbar
14 & 15	23 May 2013	The Muster Station A is located at Q2 on Living Quarter of FSO Arco Ardjuna as the Muster Station. The location is chosen clearer and safer area. The Muster Station B is located at Q2 on Main Deck of FSO Arco Ardjuna as the secondary Muster Station both Muster Station based on SOLAS Chapter 3 Regulation 11 No. 2, 3, and 4. In additional, the Muster Station C is located at Q4 of FSO Arco Ardjuna might be utilized based on OSC consideration. Table 1 FSO Arco Ardjuna Evacuation Guideline	AA Team, Taufik Akbar
<b>Incident Scenario</b>			
27	24 May 2013	Point 5: Medical Evacuation Cases (Serious Injury) Adding boat collision and bad weather in Incident scenario.	AA Team, Taufik Akbar
<b>Attachment 1: On Scene Commander Emergency Checklist</b>			
29-43	24 May 2013	OSC Emergency Checklist	AA Team, Taufik Akbar

Page	Date	Revision	PHE ONWJ Reviewer
<b>Related Document</b>			
9	28 May 2013	Vessel Approach Procedure (PHEONWJ-T-PRC-0006)	Taufik Akbar
<b>Drifting and Collision</b>			
17	28 May 2013	Adding drifting and collision (2.4.4)	AA Team, Karyani, Taufik Akbar
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Cover & All pages	28 May 2013	Change document number from CP-Q-PRC-0002 Rev. 2 to AA-Q-PRC-0015 Rev. 3	Muliawan & AA Team

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## List of Abbreviations

<b>AA</b>	Area Authority	<b>NOK</b>	Next of Kin
<b>ACLS</b>	Advance Cardiac Life Support	<b>OHSAS</b>	Occupational Health and Safety Assessment Series
<b>AGGR</b>	Air to Ground, Ground to Ground Radio	<b>OIM</b>	Offshore Installation Manager
<b>AGT</b>	Authorized Gas Tester	<b>ORF</b>	Onshore Receiving Facility
<b>ATLS</b>	Advance Trauma Life Support	<b>OSC</b>	On-Scene Commander
<b>BA</b>	Breathing Apparatus	<b>PA</b>	Performing Authority
<b>BST</b>	Business Support Team	<b>Pax</b>	Passengers
<b>BTCLS</b>	Basic Trauma Cardiac Life Support	<b>POB</b>	Persons On Board
<b>CoW</b>	Control of Work	<b>PPE</b>	Personal Protective Equipment
<b>DEP</b>	Deputy Commander	<b>PSD</b>	Process Shutdown
<b>ERO</b>	Emergency Response Organization	<b>PT PHE ONWJ</b>	PT Pertamina Hulu Energi Offshore North West Java
<b>ERP</b>	Emergency Response Plan	<b>RO</b>	Radio Operator
<b>ERT</b>	Emergency Response Team	<b>SAR</b>	Search and Rescue
<b>ESD</b>	Emergency Shut Down	<b>SDV</b>	Shut Down Valve
<b>ETA</b>	Estimated Time of Arrival	<b>SOLAS</b>	Safety of Life at Sea
<b>F &amp; G</b>	Fire and Gas	<b>SPM</b>	Single Point Mooring
<b>FSOM</b>	Floating Storage Offloading Manager		
<b>GA</b>	General Alarm		
<b>HC</b>	Hydrocarbon		
<b>HLO</b>	Helicopter Landing Officer		
<b>HVAC</b>	Heating, Ventilation and Air Conditioning		
<b>IC</b>	Incident Commander		
<b>ICT</b>	Incident Control Team		
<b>IMP</b>	Incident Management Plan		
<b>IMT</b>	Incident Management Team		
<b>LEL</b>	Lower Explosive Limit		
<b>LQ</b>	Living Quarters		
<b>MC</b>	Muster Controller		
<b>MOB</b>	Man Overboard		

# 1. Introduction

## 1.1. Purpose

The purpose of the Emergency Response Plan is to set out:

- The emergency response organization and arrangements.
- The roles and responsibilities of all personnel who have an emergency duty.
- The specific actions to be taken during a particular type of emergency.

## 1.2. Background

Floating Storage Offloading (FSO) Arco Ardjuna is considered as one of key facilities in PT PHE ONWJ due to its function of storing all crude oil production with safe load capacity 853 MBO and as crude oil custody transfer point. Any fire accident occurred on FSO Arco Ardjuna will potentially cause a disaster. FSO Arco Ardjuna is a single hull terminal and moored to SPM.

The ERP is aiming to ensure that the FSO Arco Ardjuna has sufficient resources and empowerment to enable the On Scene Commander (OSC) to take the right decisions in timely manner when facing any emergency events for the initial actions such as evacuation, muster and abandon the FSO Arco Ardjuna. Taking the right decisions during the first minutes of the incident will result in a better opportunity of survivability for all Persons on Board (POB), and minimize environment pollution and avoid major loss.

The concept of firefighting shall be interrupted reactions immediately when the first event detected and acknowledged. The steps to follow are: muster, head count, assess whether it is safe, or not to stay (abandon) then act. But in each "Step" implementation, OSC shall make assessment about what happened, current situation and incident escalation on their facilities.

## 1.3. Scope

This Emergency Response Plan (EPR) applies to incidents that threaten the safety of any personnel on the FSO Arco Ardjuna. This ERP also:

- Addresses the major hazards identified in the FSO Arco Ardjuna from hydrocarbon and non-hydrocarbon events.
- Takes account of the installation hazards and design in order assist in the decision-making process during an emergency.
- To comply with all relevant legislation.
- For use during an emergency and as support during training exercises.
- Interfaces with the PT PHE ONWJ Incident Management Plan (IMT).

This document is relevant to the FSO Arco Ardjuna in stand-alone mode and normal lifting tanker operation with no drilling, well servicing operations or any other SIMOP activity on-going. If a simultaneous operation involving a work-over, drilling, project or diving barge, tandem activity, then in place reliance will also be placed on those group for emergency response arrangements and procedures. A bridging document will be developed to establish issues such as primacy of control onshore and offshore lines of communication, the function of individual company representatives that provide an interface between PT PHE ONWJ and Contractor.

## 1.4. Emergency Response Priorities

The priorities of Emergency Response Plan (ERP) as Incident Management Plan (IMP) described in IMP as follows:

1. **The protection of people.**
2. **The protection of the environment.**
3. **The protection of property.**
4. **The protection of business.**



Therefore the protection of life will always be the highest priority in any emergency and when responding to incidents. No personnel will be exposed to a hazard to an extent that it threatens their safety or health in order to protect the environment, property or the business only.

The aim of any emergency response on the FSO Arco Ardjuna is to ensure that the following criteria will be met for all incidents:

1. Appropriate resources and arrangements are maintained for all reasonably foreseeable emergencies.
2. Response arrangements and safety systems are in place and maintained to protect against identified hazards.
3. Suitable and sufficient training include fire fighting for all regular personnel to effectively implement the Emergency Response Plan is in place.
4. The FSO Arco Ardjuna Incident Control Team (ICT) will cooperate, liaise and communicate with all appropriate parties, internal and external, in the event of an emergency.

### 1.5. Determination of an Emergency Situation

An emergency shall result in the mobilization of the FSO Arco Ardjuna - the Emergency Response Organization, as described within this ERP, and the initiation of any predetermined actions detailed in the relevant checklists contained in Attachment 1 and 2.

An emergency situation is said to exist when one or more of the following events have occurred:

1. Confirmed fire and gas detection in FSO Arco Ardjuna, hose and SPM.
2. An incident that has the potential to result in the release of significant quantities of hydrocarbons in FSO Arco Ardjuna, hose and SPM.
3. Any report of a casualty or potential casualty.
4. A bomb threat or security alert.
5. A helicopter crash, helicopter ditching on the water or emergency landing.
6. A vessel impact or a potential vessel impact, vessel collision.
7. FSO Arco Ardjuna drifting.
8. A direct report from one of the FSO Arco Ardjuna associated personnel or Stand by Vessel, of a fire, serious loss of containment, man overboard for FSO Arco Ardjuna personnel or any other emergency situation.

**Note:** This list is to provide guidance only and is not to be regarded as exhaustive and anyone who heard or saw or involved directly or indirectly in emergency situations mentioned above shall report immediately to the Site Controller/ FSOM.

### 1.6. Emergency Response Plan Document Custodian

The Floating Storage Offloading Manager (FSOM) as the OSC is the document custodian of the ERP document which responsible for the maintenance and amendment of this ERP. To achieve this he/she shall ensure that:

- Exercises are undertaken at appropriate intervals to test the FSO Arco Ardjuna ERP and its interface with other emergency procedures.
- The ERP is updated to comply with changes in legislation and company policy.
- The ERP is reviewed and updated as necessary to address any change in operational conditions.
- The ERP implementation is audited regularly through OHSAS 18001 audit.

### 1.7. Emergency Response Plan Exercise

An exercise program is in place to ensure that the ERP is tested to an appropriate level. The system will ensure that the ERP is tested by:

- Utilizing exercises that address credible scenarios which will be revised periodically.
- Confirming areas for improvement are identified and acted upon.

- Giving personnel effective debriefs on the scenarios identified.
- Confirming sufficient personnel are trained in ERP and equipment use.
- Ensuring sufficient backup personnel is available to cover different positions on the Emergency Response Organization.
- Involving as much personnel stay at FSO Arco Ardjuna.
- Confirming availability of ERP equipment in terms of quantity, conditions and assigned location.

The frequency and type of such exercises will be scheduled to ensure that the various scenarios are frequently exercised to ensure the competence of all relevant personnel.

Exercise types fall in to three categories as follows:

1. Table Top Exercise: This involves a group discussion of the Emergency Response Organization (ERO) or at least the Incident Control Team (ICT) based on a realistic scenario identified by FSO Arco Ardjuna personnel that may follow a scripted series of events following a time sequence or take the form of an open discussion.
2. Intermediate Exercise: This involves a real-time, live exercise with the participation of as many FSO Arco Ardjuna personnel as possible, and is based on a realistic scenario that addresses a foreseeable event. It includes inform Chief of Operations who will notify the Incident Management Team (IMT), without deployment.
3. Major Exercise: This involves a real-time, live exercise with the participation of all FSO Arco Ardjuna personnel and the PT PHE ONWJ IMT. The IMT may request involvement of external agencies such as the local emergency services and military, and is based on a realistic scenario that addresses a foreseeable event.

During all exercises, regardless of category, the relevant checklists in Attachment1 and 2 should be examined for relevance, accuracy and clarity, ensuring that they provide appropriate response instructions and guidance relevant to the exercise scenario. The OSC or IMT shall appoint an observer to examine the exercise and the observer shall give a recommendation for improvement at the end of the exercise.

## 1.8. Related Documents

The following is a list of documents that were utilized in the development of this ERP and should be considered for review or consultation during any review or amendment of this ERP.

- PHEONWJ-Q-PRC-0218 Incident Management Plan.
- PHEONWJ-F-SFT-0001 Fire and Explosion Study and Risk Ranking for ONWJ Flow station.
- PHE-ONWJ-G-PRC-0008 ONWJ Offshore Manning.
- PHEONWJ-O-SPE-0019 PHE ONWJ Risk Acceptance Criteria.
- AA-U-SDY-0001 Fire Risk Assessment for FSO Arco Ardjuna.
- PHEONWJ-T-PRC-0006 Vessel Approach Procedure.

## 2. Emergency Response Organization & Arrangements

### 2.1. Purpose

The previously stated emergency priorities will be achieved by:

- Preventing or minimizing escalation of an incident.
- Providing safe means of access/ egress to a place relatively safe.
- Providing suitable means of evacuation or escape.
- Providing appropriate support facilities.
- Providing suitable information to personnel as appropriate.

## 2.2. Function of the Emergency Response Organization

The Emergency Response Organization is arranged to allow for rapid:

- Mustering of and accounting for personnel.
- Assessment and control of the incident.
- Deployment of FSO Arco Ardjuna personnel and resources.
- Requesting and utilizing external resources (within PT PHE ONWJ).
- Assistance to personnel in danger.
- Notifying PT PHE ONWJ IMT to inform external agencies and IMT to coordinate external resources.
- Evacuation or down-manning of the installation if required.

## 2.3. FSO Arco Ardjuna Emergency Response Organization

The FSO Arco Ardjuna emergency response organization consists of four distinct emergency teams under the control of the OSC. These teams are:

1. Incident Control Team (ICT).
2. Emergency Response Team (ERT).
3. Medical Response Team (MRT).
4. Stand by vessel.

### 2.3.1. Incident Control Team

Incident Control Team (ICT) consists of:

- On-Scene Commander.
- Deputy Commander.
- Forward Commander
- Radio Operator.
- Muster Controller.

The OSC has overall authority in an emergency for the actions and safety of all personnel on board, as defined within the PT PHE ONWJ Crisis Management Framework information pack.

The ICT supports the OSC in managing the emergency, controlling the installation responses and coordinating external resources from the Control Room or Muster Station. In FSO Arco Ardjuna, Radio Operator function was held by Cargo Control.

### 2.3.2. Emergency Response Team (ERT)

- Forward Commander.
- ERT Members.

The 'incident location response' such as incident assessment and casualty rescue for incidents occurring on the FSO Arco Ardjuna is performed by the ERT under the control of the Forward Commander. The Forward Commander is directly subordinate to the Deputy Commander and is responsible for the control and safety of all personnel at the incident location.

### 2.3.3. Medical Response Team

Medical Response Team consists as minimum of:

- Paramedic.
- First-Aiders.

The Medical Response Team under the direction of the paramedic is responsible for the treatment of casualties. The Medical Response Team may be supplemented by stretcher parties, organized by utilizing personnel from the muster station in order to transport casualties from the incident scene to the sickbay, or other location, for treatment and/ or evacuation.

Although the paramedic has ultimate authority for casualty treatment, when at the incident location the Medic and Medical Response Team act under direction of the Forward Commander in order to maintain their safety and the overall efficiency of the incident location response.

#### 2.3.4. Incident Location Control and Communication

The emergency response organization and lines of communication together with the interfaces with the PT. PHE ONWJ IMT, for FSO Arco Ardjuna incident are shown in Figure 2.

In case of Hydrocarbon (HC) event, the OSC shall decide location as Command Centre, whether at Muster Station, Radio Room or other else. The assessment shall consider the hazard may present from the escalation of the event, such as smoke egress, heat radiation and or blast exposure.

In order to simplify communications and prevent conflicting information, all communications from the incident location should be routed through the Forward Commander. However, under some circumstances the Medic may require to talk to the Deputy Commander directly to ensure an accurate transfer of information regarding casualties.

Similarly, during helicopter incidents, HLO controls the initial incident location response. However overall control of the incident location is passed to the Forward Commander on arrival and the HLO then acts under Forward Commander's direction and provides advice and expertise when necessary. During non-helicopter incidents when the helideck is being used to evacuate casualties or to bring additional resources on board, the HLO and the helideck Team acts independently of the Forward Commander and maintains contact with the Radio Room via the Radio Operator.

All other personnel who have not been assigned an emergency duty are classified as 'non-Emergency Response Organization' personnel will be evacuated as decision from OSC.

**Note:** More detailed information regarding the roles and responsibilities of personnel with emergency duties is provided in section 3 of this plan.



Figure 1 - FSO Arco Ardjuna Life Boat Position

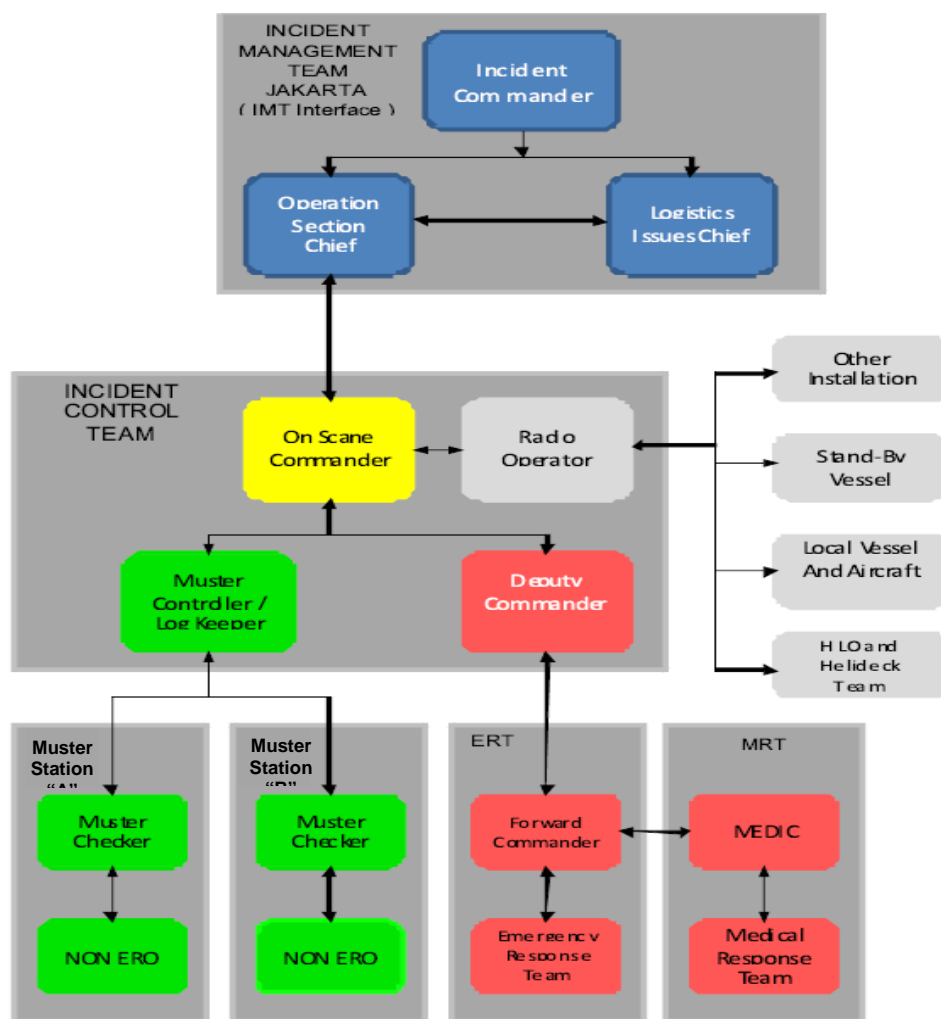


Figure 2 – Emergency Response Organization and Line of Communication FSO Arco Ardjuna

## 2.4. Protection of Personnel

The following is a brief description of the FSO Arco Ardjuna design and safety and evacuation systems. More detailed information is available in the FSO Arco Ardjuna Safety Equipment and Escape Layout and the FSO Arco Ardjuna Operations Manual.

### 2.4.1. FSO Arco Ardjuna Design and Construction

The FSO Arco Ardjuna comprises of single floating crude storage structure; consists of nine separated crude tanks with accommodation and equipment building on top of the tanks. Hydrocarbons are always present including diesel fuelled power generation. FSO Arco Ardjuna is affected by a number of potential hazard consequences that could cause serious damage to the FSO Arco Ardjuna and immediately threaten the safety or personnel present. These are:

- An explosion over pressure due to the ignition of crude inside the storage tank that is capable of inflicting damage in some extent to FSO Arco Ardjuna living quarters and due to the over pressure effects or the impact of flying objects.
- Radiated heat due to a long duration hydrocarbon fire from FSO Arco Ardjuna that would generate high heat flux levels on the FSO Arco Ardjuna main deck and eventually cause high temperature levels indirectly exposed internal areas.
- Smoke egression and pool fire due to condensate and crude fire. Crude fire may produce smoke cloud that may impact impair of air quality inside the LQ due to smoke egression through Heating, Ventilation and Air Conditioning (HVAC) system.

An emergency shutdown system is not available that will initiate an isolation of all of the top-side hydrocarbon inventories. Complete isolation of the system from hydrocarbon inventory will increase survivability during emergency evacuation.

## 2.

### 2.4.1.

### 2.4.2. FSO Arco Ardjuna Place of Safety

A single place of guaranteed safety is not possible during all potential incidents due to the presence of hydrocarbons on all platforms. However, the advantage is taken of the FSO design and numbers of different muster stations are utilized depending on the incident type and its location. Special for this FSO Arco Ardjuna design and as per Biro Klasifikasi Indonesia (BKI) class requirement, there is allocation, called Muster Station, where shall be used during non-hydrocarbon event such as Serious Injury and Man Overboard events. During hydrocarbon event, Radio Operator will announce Muster Station that shall be used during specific event and people will go directly to the Muster Station without gathering to Muster Station. The intention is to get earliest as possible personnel mustering at the safer Muster Station.

FSO Arco Ardjuna is divided into 4 (four) areas i.e. (Shown in figure 3):

- Q1 (Quadrant 1) located at Port Forward.
- Q2 (Quadrant 2) located at Starboard Forward.
- Q3 (Quadrant 3) located at Starboard Aft.
- Q4 (Quadrant 4) located at Port Aft.

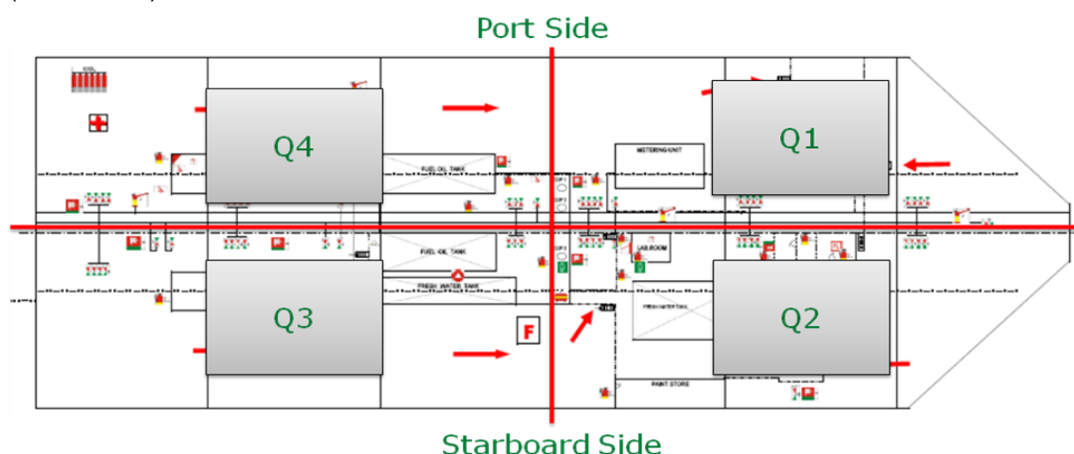


Figure 3 - Area of Arco Ardjuna

The Muster Station A is located at Q2 on Living Quarter of FSO Arco Ardjuna as the main Muster Station. The location is chosen to give clearer and safer area, based on SOLAS Chapter 3. Regulation 11 No. 2, 3, and 4. It is utilized during most process safety events excluding event that occur on Living Quarter of FSO Arco Ardjuna.

The Muster Station B is located at Q2 on Main Deck of FSO Arco Ardjuna as secondary Muster Station. It is utilized during most process safety events excluding event that occur on Starboard Forward Deck of FSO Arco Ardjuna. Both Muster Stations are determined also based on SOLAS Chapter 3 Regulation 11. No. 2, 3, and 4 (shown in figure 4).

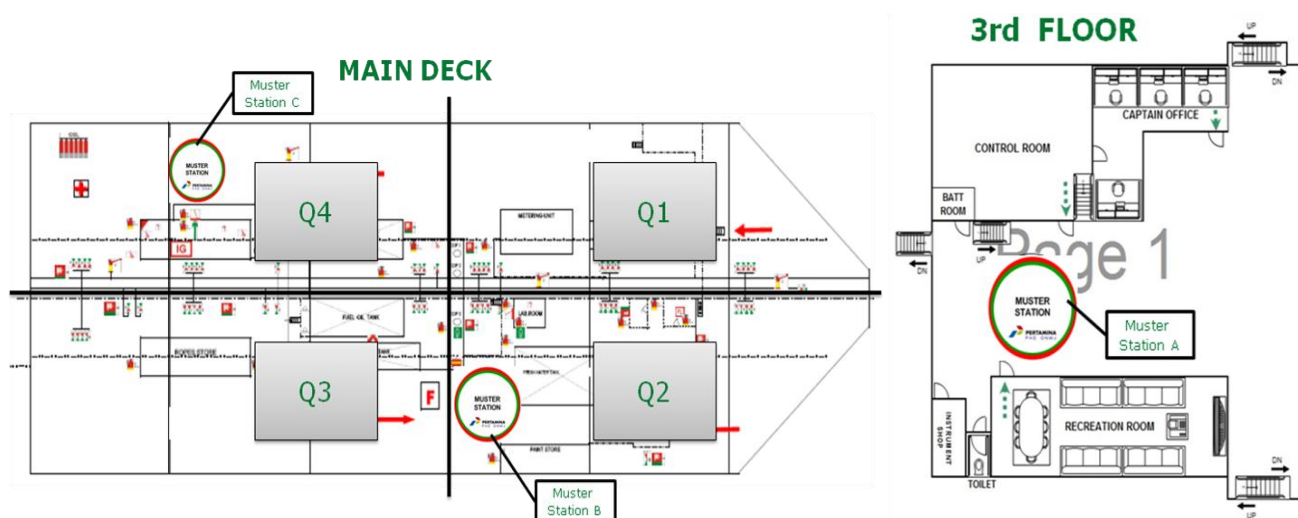


Figure 4 – FSO Arco Ardjuna Muster Station Assignments

In addition, The Muster Station C is located at Q4 of FSO Arco Ardjuna might be utilized based on OSC consideration.

The applicable concept dictates that if there is a hydrocarbon event in FSO Arco Ardjuna all POB will follow the guidelines set in Table 1 FSO Arco Ardjuna Evacuation Guidelines as the first Emergency Response action to take.

Table 1 - FSO Arco Ardjuna Evacuation Guideline

EVENT LOCATION	PEOPLE LOCATION					
	LIVING QUARTER	Q1 Deck	Q2 Deck	Q3 Deck	Q4 Deck	ENGINEER ROOM
LIVING QUARTER	Muster Station B	Muster Station B	Muster Station B	Muster Station B	Muster Station B	Muster Station B
Q1 Deck	Muster Station B	Muster Station B	Muster Station B	Muster Station B	Muster Station B	Muster Station B
Q2 Deck	Muster Station C	Muster Station C	Muster Station C	Muster Station C	Muster Station C	Muster Station C
Q3 Deck	Muster Station A	Muster Station A	Muster Station A	Muster Station A	Muster Station A	Muster Station A
Q4 Deck	Muster Station A	Muster Station A	Muster Station A	Muster Station A	Muster Station A	Muster Station A
ENGINEER ROOM	Muster Station A	Muster Station A	Muster Station A	Muster Station A	Muster Station A	Muster Station A

#### 2.4.3. Evacuation and Escape

During an emergency event, all personnel shall go to the safest muster station at earliest stage of the event. Any evacuation or abandoning from FSO Arco Ardjuna shall be instructed by OSC. However, there is potential for a small number of personnel to become trapped on the Stern of FSO Arco Ardjuna should a hydrocarbon incident occurring on this FSO. Therefore, the safest way to evacuate is by donning the life jacket and abandons the FSO by descending the ladder nearby life raft to abandon.

The strategic response to all hydrocarbon incidents is to evacuate the affected deck to a place of relative safe. In the beginning of fire finding ERT shall fight as based on scenario of fire (attachment 1).



At Starboard Side and port side, it shall be provided with adequate capacity of evacuation equipment, either life boat and or life raft. At starboard side 25 pax capacities available on life raft 1 including the 52 packs capacities on the life boat 1. At port side 35 pax capacities are available on life raft 2 including the 52 pax capacities on the life boat 2 (Figure Table 5).

Evacuation methods generally based on the safety and preference levels can be sorted as follows;

- Stand-By Vessel (SBV).
- Life boat.
- Life raft.

The following equipment is supplied at Muster Station A and B with sufficient equipment, where appropriate, for the whole POB at Muster Station A, B, and C.

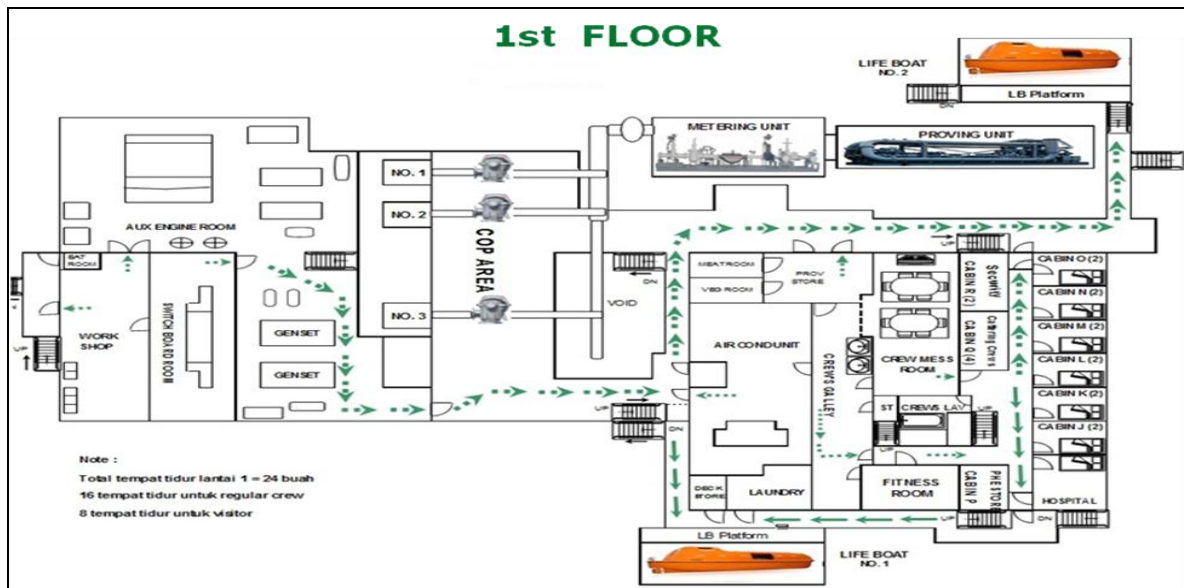


Figure 5 - Lay Out of FSO Arco Ardjuna Life Boat Position

It is provided with several safety evacuation equipment to provide survivability for the personnel, such as smoke hoods and water bottle. The life jackets and smoke hood are located on each room, muster station and survival kit bags, to provide personnel to safe evacuate to safer location through dense smoke. The objective of water is to cool down the head and body prior penetrating to hot area to go to the safer location.

A Satellite Phone is brought by the OSC and RO to support communications with external aids. The phone shall be kept in a fully charged and in a weather proof location in order to maintain its reliability.

Table 2 - FSO Arco Ardjuna Evacuation Equipment Arrangement

Area	Port Side	Starboard Side
Evacuation Equipment	Life Boat 52 Pax (1) Life Raft 35 Pax (1) Emergency Light (1) 1 Box consists of: Life jacket, First Aid, UHF Radio, Update ERP Manual & Checklist, and Satellite phone (Turaya).	Life Boat 52 Pax (1) Life Raft 25 Pax (1) Emergency Light (1) 1 Box consists of: Life jacket, First Aid, UHF Radio, Update ERP Manual & Checklist, Satellite phone (Turaya).
Bed Room, Radio Room, Office, Kitchen and Laundry	The location shall be provided for every routine occupant with 1 grab bag containing: smoke hood (1), cyalume chemical candles (1), & bottle (1).	



#### 2.4.4. Drifting and Collision

- **Drifting**

Actions that can be taken to prevent drifting from FSO Arco Ardjuna:

- Ensure the wire is in good condition and if necessary add the securing wire.
- Monitor Marine weather forecast.
- Stand by tug at near FSO Arco Ardjuna.
- Ensure maintenance procedures require inspections of the winch brakes prior.

- **Collision**

FSO Arco Ardjuna is single hull type. The potential risk of a fire or other hazards resulting from a collision between FSO Arco Ardjuna with the other vessel is very high. To minimize hazard of collision then used 500 meters based on vessel arrival checklist from PHEONWJ-T-PRC-0006 Vessel Approach Procedure, to ensure two ways radio communication in good performance between FSO Arco Ardjuna and with an approaching vessel and weather forecast. Vessels will lean, shall be on space provided where system is located fender. Furthermore, it shall be comply with maneuver speed rule.

### 2.5. FSO Arco Ardjuna Alarms

There is only one type of emergency alarm in FSO Arco Ardjuna that called General Alarm (GA). This General Alarm is activated manually and follows with announcement related the information of the emergency situation that happens.

Fire and gas sensor will activate automatic local alarm in panel system. Radio Operator activate General Alarm follows with announcement, after confirmed that emergency situation happen. In case abandon ship, announcement shall be given by OSC.

When the GA is activated, all personnel are expected to implement the following actions:

- Stop all works immediately.
- Make their works site safe.
- Return the Permit to Work to Area Authority.
- Listen for the public address or from the radio room and act on the instructions given.
- Evacuate the affected area and proceed to the designated muster station announced through public addressor.
- Report to the relevant Muster Checker.

Personnel with emergency duties must proceed to their emergency muster location unless otherwise instructed by the OSC via Radio Operator.

### 2.6. Accounting for Personnel

#### 2.6.1. Administration

The Radio Operator is responsible for the day-to-day administration of the mustering system and adjusting the POB list on real time basis. Each Muster Checker shall have an updated POB list. In FSO Arco Ardjuna, the existing T-Card system shall keep being used as a manner to count missing head count at Muster Station A, which require re-confirming those missing head count to Muster Checker at Muster Station B, and Muster Station C as well.

It is emphasized that each personnel shall receive induction covering the emergency response plan, prior to give T-Card. Each personnel shall put the T-Card into the T-Card Board at Muster Station A.

## 2.6.2. Muster Procedure

As the Muster Checker may be at one of any different locations during an incident i.e. the radio room or muster station. The muster checker must be able to headcount from any of these locations. When a general alarm is initiated by OSC utilizing predetermined scenario specific public address or to direct personnel to designated muster station.

At the Muster Station A, personnel shall pick his/ her T-Card from the T-Card Board. Muster Checker will count personnel missing on Muster Station A from any left T-Card on the T-Card Board. The Muster Checker verifies through accounting for any personnel at the Muster Station A and identifies any missing personnel from the POB List.

At the Muster Station B, Muster Checker conducts personnel accounting for personnel who muster at the Muster Station B. The Muster Checker identifies any personnel present from the POB List.

The Radio Operator calls the Stand-By Vessel Captain to observe using its binocular and flood light to check and verify any possibility missing or trapped personnel on the FSO and on the sea. Any personnel found and observed not on either Muster Station A and Muster Station B is categorized as missing personnel. The Radio Operator identifies number of any missing personnel.

All Muster Checkers report to the Muster Controller and this confirming information from all Muster Checkers will be used to identify any missing personnel. The information from the Radio Operator related number of any missing personnel will confirm potential location and condition of the missing personnel.

### Mustering Examples

**Hydrocarbon Incident on Port Side FSO Arco Ardjuna (Q1 area)** → all personnel are directed to Muster Station A on FSO Arco Ardjuna Starboard; no personnel should attempt to utilize Muster Station B. The Muster Controller is able to identify any missing personnel by direct face-to-face communication with all personnel present on FSO Arco Ardjuna.

**Hydrocarbon Incident on FSO Arco Ardjuna Starboard Side (Q3 area)** → Personnel are directed mainly to Muster Station A on FSO Arco Ardjuna Accommodation/ Living Quarter; Muster Control will be organized from Muster Station A and the Muster Controller is able to identify any missing personnel by direct face-to-face communication with personnel at Muster Station A and by radio contact with Muster Controller present at Muster Station B. If the assigned Muster Controller is not present at Muster Station A then a suitably competent person will be instructed to take over his role.

**Non-Hydrocarbon Incidents (Q2)** → In general Non-Emergency Response Organization and the Medical Response Team utilize the Muster Station in FSO Arco Ardjuna Accommodation. During helicopter incidents and some fires on FSO Arco Ardjuna Accommodation, personnel are directed mainly to Muster Station B on FSO Arco Ardjuna Q2 Deck.

## 2.7. Emergency Checklists

### 2.7.1. Checklist Function

Attachments 1, 2, and 3 of this ERP contain emergency checklists that are designed to provide assistance during an incident. They provide instructions regarding the initial actions to be taken and guidance to prompt and assist in subsequent decision making. Attachment 1 is a scenario of a fire in FSO Arco Ardjuna

## 2.7.2. On Scene Commander Emergency Checklists (Attachment 2)

Attachment 2 contains scenario specific emergency checklists for use by the OSC. They contain predetermined initial actions associated with the incident type and location, an indication of which ICT member, including the OSC, is to perform each action, and potential follow-up actions and considerations.

The use of the checklist by the Deputy Commander gives the OSC time to assess the incident escalation potential and to maintain an overview of the incident while the Deputy ensures the implementation of the predetermined initial actions and provides necessary report to the OSC regarding the actions that have been done according to the checklist. A set of Pocket size Attachment 2 Checklist is to be kept by the OSC at all times in the FSO Arco Ardjuna. Separate copies of Attachment 2 shall be kept in the radio room and at the Muster Station.

## 2.7.3. Radio Operator Emergency Checklists (Attachment 3)

Attachment 3 contains checklists for the Radio Operator that provide predetermined actions based on specific scenarios that cover the initial actions of the Radio Operator during the first minutes of an incident.

A set of Pocket size Attachment 3 Checklist is to be kept by the Radio Operator at all times while in the FSO Arco Ardjuna.

Attachment 3 checklists shall be kept in the radio room and stored utilizing a method that makes them immediately available to Radio Operator with this copy provided with a separate copy number.

## 2.8. Additional Support

### 2.8.1. Incident Management Team

The onshore-based PT PHE ONWJ Incident Management Team (IMT), located at the PT PHE ONWJ head office in Jakarta, provides onshore support in the event of an emergency to all offshore installations. Once established the IMT provides technical and logistical support.

Additionally response procedures are provided in the PT PHE ONWJ Incident Management Plan, which details the involvement and actions performed by IMT and Business Support Team in such aspects as the involvement of external emergency services e.g. Police, Military and Medical Services. Also the IMT manages other issues such as public and media enquiries and provides information and support to the next of kin of personnel on board.

Initial contact from offshore is established by OSC to Duty Incident Commander (#0811844911) or PHE-ONWJ's 24-hour emergency telephone (# 7854 3888) or Operations Section Chief as the second option, who is an IMT member; this person then collates the information about the incident and passes this to the Incident Commander providing technical advice at the same time. The Incident Commander then decides the level of call out of the IMT which will depend on the nature of the incident and the amount and type of support required.

The Incident Commander or Operations Section Chief then establishes direct contact with the OSC, however the frequency and length of subsequent information updates is controlled by the OSC.

Further information regarding the IMT is available in the PT PHE ONWJ Incident Management Plan.

### 2.8.2. Local Support

Once the IMT is established the Logistics Section chief within the IMT coordinates vessels, aircraft and other available assets and personnel in support of the incident on the FSO Arco Ardjuna at the request of the OSC via the Radio Operator.

However, in the early stages of an incident, before the IMT is fully established, the OSC can order the Deputy Commander to coordinate local vessels and has the authority to mobilize a helicopter via the duty Aviation/ Vessel Unit Leader without the sanction of the duty Incident Commander or the Operations Section Chief.

### 3. Roles and Responsibilities

#### 3.1. On-Scene Commander

The OSC is in overall command and control of the installation during an emergency and achieves this by leading and coordinating the actions of the ICT. The OSC's role is to manage the actions taken during the emergency to safeguard personnel, the environment and property.

The OSC's main responsibilities are to:

- Make any decisions regarding the need to evacuate entire or partially personnel on board the FSO Arco Ardjuna
- Ensure all personnel are accounted for.
- Ensure that the Deputy Commander follows the appropriate emergency checklist in every action.
- Ensure appropriate instructions are given to the response teams and the appropriate strategy and tactics are implemented.
- Ensure all response team members receive adequate support.
- Ensure the correct information is being transmitted to outside contacts.
- Ensure all non-emergency personnel are kept updated by paging announcements or face-to-face briefings as appropriate.
- Hold regular team timeouts to ensure that the ICT is kept updated and is aware of the actions required.
- Monitor ICT members from signs of stress.
- Provide information updates to the Incident Commander and Incident Management Team.
- Request an Incident Management Team mobilization when appropriate.

This role is normally fulfilled by the Floating Storage Offloading Manager (FSOM). However circumstances might occur where the OSC is directly affected by the incident or is in a location from which it is not possible to control an incident. If this occurs the role of OSC will be taken by Deputy Commander, in order both commanding officers are restricted by the emergency conditions, the most senior person present in the radio room or at Muster Stations will take over the duty as appropriate.

#### 3.2. Deputy Commander

The Deputy Commander is responsible for utilizing the relevant scenario specific emergency checklist, ensuring the relevant initial actions are implemented and advising the OSC regarding the contents of the checklist. The Deputy Commander is also responsible for incident location communications between the ICT and the Forward Commander who controls the Emergency Response and Medical Response Teams. When the ICT is located in the radio room, the Deputy Commander is also responsible for maintaining the incident location plans and casualty tracking status board.

The Deputy Commander's main responsibilities are to:

- Utilize the relevant Emergency Checklist and ensure that the initial actions are implemented.
- Advise the OSC regarding the emergency checklist contents and completion.
- Establish and maintain communications with the Forward Commander, Emergency Response Team (ERT) and Medical Response Team.
- Liaise with any available operators regarding the status of the FSO Arco Ardjuna systems.
- Brief the Forward Commander regarding the incident details.
- Update the incident location plan.
- Track the name, status and location of casualties and reconcile this with the names of missing persons.
- Update the casualty tracking status board.

- Mobilize the Emergency Response and Medical Response Team when instructed by the OSC or as per the relevant emergency checklist.
- Monitor the actions and locations of personnel at the incident location with regard to their safety and receive feedback from the stand-by vessel on hydrocarbon events progress as "External Eyes".
- Ensure the OSC is aware of the reports coming from the incident location.
- Advise the Forward Commander regarding any instructions from the OSC.
- Brief the Medic regarding the incident details.
- Liaise with the Muster Controller regarding missing persons and pass information to the Forward Commander and the Medic.
- In the event of an evacuation, gather all necessary recorded material and maintain possession of a portable radio communication.

### 3.3. Radio Operator

The Radio Operator normally provides the first response to an incident and takes the necessary actions to ensure that all personnel are made aware of the incident nature and location and which Muster Station or Muster Stations to use. Additionally the Radio Operator ensures that all emergency personnel are suitably mobilized, any attendant vessels are notified. The Radio Operator is also responsible for obtaining and recording available logistic resources and mobilizing these resources as instructed by the OSC.

The Radio Operator's main responsibilities are to:

- Respond to any initial emergency communications
- Initiate the General Alarm (GA), if appropriate, or confirm automatic initiation.
- Utilize the relevant emergency checklist and implement the actions detailed within the checklist including the initial paging and radio announcement.
- Notify any attendant vessels regarding the incident and ensure that the Stand-By Vessel is mobilized if not already on scene.
- Instruct the Stand-By Vessel Master to obtain information regarding local vessel availability and feedback on hydrocarbon events progress as "External Eyes".
- Record the initial incident details.
- When appropriate ensure the Forward Commander is mobilized to the incident scene (emergency checklist instruction).
- Request mobilization of resources as detailed in the relevant scenario specific emergency checklist or as instructed by the OSC.
- Notify the onshore Operations Section Chief and pass the known incident details.
- Utilize and maintain the logistics and notifications status boards if the ICT is located in the radio room.
- Advise the OSC regarding available resources.
- Remind the OSC regarding timeouts.
- Collect information regarding every PTW prior incident and liaise with Muster Controller to identify and locate missing person based upon PTW evidence.
- Maintain contact with all vessels and aircraft in the vicinity area.
- If helideck is being utilized, establish direct contact with HLO and notify the Stand-By Vessels.
- Once the IMT is established, maintain contact with the Logistics Section Chief and liaise regarding the availability and mobilization of any resources.

### 3.4. Muster Controller

The Muster Controller is responsible for accounting for personnel in the event of a General Alarm (GA) being initiated. He is also responsible for organizing the life boat and life raft abandonment of the FSO Arco Ardjuna when instructed by the OSC. Ensures that the POB list is updated on a timely basis when changes occur, and the POB list copies are posted in each Muster Stations and also at Radio Room and meeting Room.

The Muster Controller's main responsibilities are to:

- Account for the ICT muster.
- Receive the muster result from the Muster Checker and/ or account for personnel directly from each Muster Station.
- Establish the number and names of missing personnel and pass this information to the OSC and Deputy.
- Attempt to establish possible locations for missing personnel Liaise with the Radio Operator regarding all permits relevant to the incident location and adjacent locations and determine their relevance to the incident. Additionally liaise with supervisors or team and establish the room numbers of any missing personnel.
- If the ICT is located in the radio room, complete and maintain the muster status board and subsequently the key events and actions status board and prompt the OSC regarding updates to the IMT and personnel on board.
- Prepare any written reports regarding the details of casualties or personnel transfers as instructed by the OSC.
- Maintain the incident log book.

### 3.5. Forward Commander

On behalf of the OSC, the Forward Commander controls all activities at the actual "incident location" with due regard to the safety of personnel and the overall effectiveness of the emergency response. In this regard he is directly in charge of the Emergency Response Team (ERT) but also has responsibility for the safety of the Medic, First Aiders, Stretcher Parties and all other personnel sent to the incident location.

The Forward Commander's main responsibilities are to:

- Respond to the incident location as instructed by the Deputy Commander or OSC, i.e. respond to incident location for low hazard events that require an immediate incident location assessment, and respond to the relevant Muster Station for high hazard events and await instructions.
- Establish direct communications with the Deputy Commander as soon as possible.
- Provide an immediate visual assessment of the incident from a safe distance.
- Once responding to the incident location, establish a Forward Control Point at a safe distance from the incident and, if necessary, behind any available protective structure.
- Coordinate the actions of the Emergency Response Team (ERT) in securing the incident location.
- Assess the need for additional equipment and personnel at the incident location, and request they are directed to the Forward Control Point.
- Advise the Deputy Commander on the operation and isolation of any relevant firefighting systems.
- Coordinate search activities and the rescue of any casualties.
- Respond to the Medic's requests for assistance, and act as communications link between the Deputy Commander and the Medic when this is advisable.
- Provide regular updates regarding the incident status.
- Act as the communications link at the incident location.
- Organize the loading and launching of life rafts as instructed by the OSC.

### 3.6. Emergency Response Team (ERT) Member

Each Emergency Response Team (ERT) member has responsibility for assisting the Forward Commander in the assessment and control of an incident.

Emergency Response Team member's main responsibilities are to:

- Respond to the incident location as directed by the Forward Commander.
- Implement the orders of the Forward Commander with due regard to their safety and the safety of others.
- Inform the Forward Commander of any information relevant to the incident situation and the emergency response.
- Carry out control actions as directed by the Forward Commander.

- Carry out search and rescue activities as directed Forward Commander.
- Maintain communication with the Forward Commander at all times.

### 3.7. Medic

The FSO Arco Ardjuna Medic is responsible for organizing the treatment of all casualties whether at the incident location, or in the sickbay/meeting room. The Medic also liaises with onshore medical teams and prepares casualties for transfer off the FSO Arco Ardjuna.

The Medic's main responsibilities are to:

- Direct first aiders and stretcher parties attending the incident location.
- Stabilize and treat recovered casualties.
- Maintain communications via the Forward Commander or directly with the Deputy Commander when this is more appropriate.
- When required, liaise directly with the onshore medical advisor.
- Supervise and direct the assessment and treatment of casualties, assessing the situation, priorities, and organize treatment using first aiders when necessary and identify any additional requirements.
- Update Forward Commander or Deputy on the status of casualties and any further requirements.
- Prepare casualties for evacuation and liaise with the Deputy or OSC regarding the evacuation requirements.
- Oversee evacuation of casualties ensuring they are accompanied by all necessary records.
- Prepare status reports for the OSC and any onshore specialist.

### 3.8. Assigned First Aiders

Each First Aider has responsibility for assisting the Medic in the assessment and treatment of all casualties.

The First Aider's main responsibilities are to:

- Prepare the sickbay when directed by the Medic, OSC or Deputy Commander.
- If sent to the incident location, follow the instructions of the Medic or Forward Commander with due regard to personal safety and effectiveness.
- Assist in the assessment and treatment of all casualties.
- Assist in the preparation of casualties for evacuation.
- Assist in the preparation of any documentation relevant to the treatment and transportation of casualties.

### 3.9. Helicopter Landing Officer

The Helicopter Landing Officer has two distinct functions; to coordinate the initial response to an FSO Arco Ardjuna helicopter incident and to control the activities on the helideck during the use of helicopters to support a general incident response.

The Helicopter Landing Officer's main responsibilities are to:

#### 3.9.1. Helicopter Incidents

- Initiate the pre-planned helicopter crash response.
- Coordinate the actions of the Helideck Team with due regard to their safety and effectiveness.
- Control the initial removal of any casualties from the helideck, pending the arrival of other helicopters.
- Provide a situation report to the Radio Operator.
- Maintain contact with the radio room initially until the arrival of the Forward Commander.
- Once the Forward Commander is at the incident location, provide him with a situation report, act under his control and continue to provide advice and support.

### 3.9.2. General Incidents

- Control the operations of the helideck regarding medical evacuation or the arrival of additional resources.
- Maintain contact with the Radio Operator regarding the arrival and departure of aircraft.
- Report the movement of personnel arriving at and departing from the helideck to the Radio Operator.
- If necessary request an escort for personnel arriving on the FSO Arco Ardjuna.

### 3.10. Helideck Team Member

The Helicopter Team Members have two distinct functions; to implement the initial response to an FSO Arco Ardjuna helicopter incident and to assist in the controlling of the activities on the helideck during the use of helicopters to support general incident response.

The helideck teams collective responsibilities are to:

#### 3.10.1. Helicopter Incidents

- Implement the pre-planned helicopter crash response.
- Secure any ignited or un-ignited helicopter fuel.
- Ventilate the affected aircraft and extinguish any internal fire.
- Assist any 'walking wounded' away from the helideck.
- Ensure that any trapped passengers are breathing.
- Maintain a foam blanket on exposed fuel.
- Electrically isolate the aircraft.

#### 3.10.2. General Incidents

- Assist the HLO in the safe and effective operation of the helideck.
- If necessary act as an escort for personnel arriving on the FSO Arco Ardjuna.

### 3.11. Muster Checker

The Muster Checkers have responsibility for the accounting for and controlling personnel at the non-essential Muster Stations.

Each Muster Checker's responsibilities are to:

- Establish direct contact with the Muster Controller.
- Ensure personnel are checked in on arrival at the Muster Station.
- Report the number and identification number of all personnel present to the Muster Controller.
- Provide direct updates to personnel if instructed.
- Assist in the organization of additional Stretcher Parties and other support when instructed.

## 4. Incident Scenario

Emergency incidents will vary according to location and existing conditions. To facilitate the act then constructed a scenario that could present a possible variation of events can occur in the FSO Arco Ardjuna Area as follows:

- Hydrocarbon Release/ Fire.
- Living Quarters/ Building Fire.
- Helicopter Crash or Emergency Landing on FSO Arco Ardjuna.
- Helicopter Ditching/ Crash in the Sea.
- Medical Evacuation Cases.
- Man Overboard.
- Switch Room and Local Control Room Incident.
- SBM or Anchor Failure Incident.
- Boat Collision



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## **ATTACHMENT 1: SCENARIO OF FIRE**

## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 1

## Scenario of Fire

No.	Scenario	Mustering	Action
1.	Fire at Living Quarter, CCR or Recreation Room	a. Port Side Muster Point. b. Use Life Jacket.	a. Personnel shall perform firefight using portable fire extinguisher safely when fire is considered can be handled. b. If fire escalate: <ul style="list-style-type: none"> <li>• OSC to order Emergency Response Team (ERT) to shutdown electricity and machinery equipment.</li> <li>• OSC to order ERT to initiate firewater pump.</li> <li>• OSC to order NGL to close SDV on pipeline to AA.</li> <li>• Evacuate all personnel to standby vessel.</li> <li>• ERT member to perform firefighting using fire hose or fire monitor.</li> <li>• Evacuate all ERT members if fire is no longer manageable and ask standby vessel to support safe evacuation.</li> <li>• Standby Vessel perform firefighting to prevent fire escalation and extinguish fire.</li> </ul>
2.	Fire at Top deck	a. Muster opposite where the fire occurs. b. Use Life Jacket.	a. ERT shall perform firefight using portable fire extinguisher safely when fire is considered can be handled. <b>Note:</b> This action is only performed when fire occurs on all equipment at topside deck with exception of fuel oil tank. For fuel tank in fire, skip this action to step “b”. b. OSC to order ERT to shutdown electricity and machinery equipment. c. OSC to order NGL to close SDV on pipeline to AA. d. OSC to order ERT to initiate firewater pump. e. Evacuate all personnel to standby vessel. f. ERT member to perform firefighting using fire hose or fire monitor. <b>Note:</b> <i>Special for fuel oil tank in fire, foam system shall be initiated prior fighting performed</i> g. Evacuate all ERT members if fire is no longer manageable and ask standby vessel to support safe evacuation. h. Standby Vessel perform firefighting to prevent fire escalation and extinguish fire.
3.	Fire at Engine Room	a. Port Side Muster Point. b. Use Life Jacket.	a. OSC to order ERT to shutdown electricity and machinery equipment. b. OSC to order NGL to close SDV on pipeline to AA. c. OSC to order ERT to initiate firewater pump and activate foam system. <b>Note:</b> If electric motor driven firewater pump is not available due to genset failure,

No.	Scenario	Mustering	Action
			<p>operator shall initiate diesel engine driven firewater pump manually from firewater pump local panel. If safe access to firewater pump room is not available:</p> <ul style="list-style-type: none"> <li>• Ask for standby vessel firewater system to supply water to AA firewater system via International Shore Connection (ISC).</li> <li>• Activate AA foam system.</li> <li>• Open valve from foam header to engine room.</li> </ul> <p>d. Evacuate all personnel to standby vessel.</p> <p>e. Evacuate all ERT members if fire is no longer manageable and ask standby vessel to support safe evacuation.</p> <p>Standby vessel perform firefighting to prevent fire escalation and extinguish fire.</p>
4.	Fire at Tank	<p>a. At any muster opposite where the fire occurs.</p> <p>b. If personnel unable to access the muster point, other escape means such as life raft or fixed ladder shall be used.</p> <p>c. Use Life Jacket</p>	<p>a. OSC to ask stand by vessel for evacuation.</p> <p>b. OSC to order all personnel including ERT member evacuate immediately.</p> <p>c. OSC to order NGL to close SDV on pipeline to AA.</p> <p>d. OSC to ask standby vessel to support safe evacuation and start fighting using foam once all personnel have been safely evacuated.</p>
5.	Fire at Pump Room	<p>a. At nearest muster point.</p> <p>b. Use Life Jacket.</p>	<p>a. OSC to order ERT to shutdown electricity and machinery equipment.</p> <p>b. ERT team to close isolation valve from diesel oil tank to diesel firewater pump diesel day tank.</p> <p>c. OSC to order NGL to close SDV on pipeline to AA.</p> <p>d. OSC to ask for standby vessel firewater system to supply water to AA firewater system via International Shore Connection (ISC).</p> <p>e. ERT Team to activate AA foam system.</p> <p>f. ERT team to open valve from foam header to pump room.</p> <p>g. Evacuate all personnel to standby vessel.</p> <p>h. Evacuate all ERT members if fire is no longer manageable and ask standby vessel to support safe evacuation.</p> <p>i. Standby vessel perform firefighting to prevent fire escalation and extinguish fire.</p>
6.	Fire at due to Ship Collision	<p>a. Muster opposite where the ship hit AA.</p> <p>b. Use Life Jacket.</p>	<p>a. OSC to ask standby vessel for evacuation.</p> <p>b. OSC to order all personnel including ERT member evacuate immediately.</p> <p>c. OSC to order NGL to close SDV on pipeline to AA.</p> <p>d. OSC to ask standby vessel to support safe evacuation and start fighting using foam once all personnel have been safely evacuated.</p>

No.	Scenario	Mustering	Action
7.	Fire at mast Riser and Inert gas System (IGS)	a. Port side Muster point. b. Use Life Jacket.	a. OSC to order ERT to shutdown electricity and machinery equipment. b. OSC to order NGL to close SDV on pipeline to AA. c. OSC to order Crude Oil Pump (COP) to shutdown (stop oil transferring). d. OSC to order IGS system to be shutdown. e. OSC to order Oil Tanker to be disconnected from Single Buoy Mooring (SBM) and move to safe point. f. OSC to order ERT to initiate firewater pump and activate foam system. <b>Note:</b> If electric motor driven firewater pump is not available due to genset failure, operator shall initiate diesel engine driven firewater pump manually from firewater pump local panel. If safe access to firewater pump room is not available: <ul style="list-style-type: none"> <li>Ask for standby vessel firewater system to supply water to AA firewater system via International Shore Connection (ISC).</li> <li>Activate AA foam system.</li> <li>Open valve from foam header to engine room.</li> </ul> g. ERT to activate CO2 cylinder provided at mast riser. h. Evacuate all personnel to standby vessel. i. Evacuate all ERT members if fire is no longer manageable and ask standby vessel to support safe evacuation. j. Standby vessel perform firefighting to prevent fire escalation and extinguish fire.
8.	Fire at Heli Deck	a. Port side Muster point. b. Use Life Jacket.	a. Activate firewater pump and foam system. b. Helicopter landing officer to perform firefighting at helideck. c. If fire escalate: <ul style="list-style-type: none"> <li>OSC to order Emergency Response Team (ERT) to shutdown electricity and machinery equipment.</li> <li>OSC to order NGL to close SDV on pipeline to AA.</li> <li>Evacuate all personnel to standby vessel.</li> <li>Evacuate all Helicopter landing officers if fire is no longer manageable and ask standby vessel to support safe evacuation.</li> </ul>
9.	Fire at Switch Gear Room/MCC Room	a. Starboard side Muster point. b. Use Life Jacket.	a. Personnel shall perform firefight using portable fire extinguisher safely when fire is considered can be handled. b. OSC to order Emergency Response Team (ERT) to shutdown electricity and machinery equipment.

No.	Scenario	Mustering	Action
			c. If fire escalate: <ul style="list-style-type: none"> <li>• OSC to order ERT to initiate firewater pump if required</li> <li>• OSC to order NGL to close SDV on pipeline to AA.</li> <li>• Evacuate all personnel to standby vessel.</li> <li>• ERT member to perform firefighting using fire hose or fire monitor.</li> <li>• Evacuate all ERT members if fire is no longer manageable and ask standby vessel to support safe evacuation.</li> <li>• Standby vessel perform firefighting to prevent fire escalation and extinguish fire.</li> </ul>
10.	Fire at Kitchen	a. Port side Muster point. b. Use Life Jacket.	a. Personnel shall perform firefight using portable fire extinguisher safely when fire is considered can be handled. b. OSC to order Emergency Response Team (ERT) to shutdown electricity and machinery equipment. c. If fire escalate: <ul style="list-style-type: none"> <li>• OSC to order ERT to initiate firewater pump.</li> <li>• OSC to order NGL to close SDV on pipeline to AA</li> <li>• Evacuate all personnel to standby vessel.</li> <li>• ERT member to perform firefighting using fire hose or fire monitor.</li> <li>• Evacuate all ERT members if fire is no longer manageable and ask standby vessel to support safe evacuation.</li> <li>• Standby vessel perform firefighting to prevent fire escalation and extinguish fire.</li> </ul>
11.	Fire at Crane	a. Muster opposite where the fire occurs. b. Use Life Jacket.	a. OSC to order ERT to initiate firewater pump and foam system. b. OSC to order ERT to fight fire using available foam/fire monitor/ hose. c. OSC to order to shutdown electricity and machinery equipment. d. OSC to order NGL to close SDV on pipeline to AA. e. Evacuate all personnel to standby vessel. f. Evacuate all ERT members if is no longer manageable and ask standby vessel to support safe evacuation. g. Standby vessel perform firefighting to prevent fire escalation and extinguish fire.
12.	Fire at SBM	a. Starboard side Muster point. b. Use Life Jacket.	a. If fire occurs at SBM during Oil transferring <ul style="list-style-type: none"> <li>• OSC to order Crude Oil Pump (COP) to shutdown (stop oil transferring).</li> <li>• OSC to order IGS system to be shutdown.</li> <li>• OSC to order Oil Tanker to be disconnected from Single Buoy Mooring (SBM) and move to safe point.</li> </ul>

No.	Scenario	Mustering	Action
			<ul style="list-style-type: none"> <li>• OSC to request standby vessel to perform firefighting on fire at SBM.</li> <li>• If fire escalated to AA top deck, refer to Scenario 2 "Fire at Top Deck".</li> </ul> <p>b. If fire occurs at SBM not during oil transferring, OSC to request Standby vessel to perform firefighting on fire at SBM.</p>
13.	Fire on nearby Vessel located at the vicinity of AA	<p>a. Muster opposite where the fire occurs.</p> <p>b. Use Life Jacket</p>	<p>a. OSC to order ERT to initiate firewater pump system.</p> <p>b. OSC to order ERT to use fire monitor or hose to cool down crude oil tank where heat radiation from vessel in fire have effect to prevent ship hull rupture/ collapse.</p> <p>c. OSC to ask standby vessel to evacuate personnel.</p> <p>d. OSC to ask standby vessel to assist firefight on vessel in fire.</p> <p>e. If fire causing ship hull rupture/breaks leading to fire, refer to Scenario 4 "Fire at Tank".</p>

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Attachment 2:  
ON SCENE COMMANDER - EMERGENCY CHECKLIST

## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 2

## On Scene Commander - Emergency Checklist No 2

## Helicopter Crash or Emergency Landing on FSO ARCO ARDJUNA

INITIAL ACTIONS	
Paging announcement	OSC
<i>(Attention, attention, this is your OSC on FSO Arco Ardjuna. It has been occurred an emergency situation in the form ..... at..... All personnel instructed to Muster Station ..... at .....as well as for those who cannot go to the Muster Station..... Is instructed to Muster Station ..... at ..... - 3X)</i>	
Confirm ESD initiated and all electricity and equipment shut down.	DEP
Confirm NGL facilities to close SDV to Arco Ardjuna	DEP
Call any Crude Tanker to stop loading and Emergency Situation in Arco Ardjuna	DEP
<b>If safe to do so.</b> HDA to active fire monitor with foam to spray on to the wrecked helicopter and evacuate any passengers to safest place with help from Medics Response Team	
Establish wind and Current Direction, looks for any spill or sea pool fire	RO
Notify Duty Incident Commander (first initiation) then Operation Section Chief for further update on events. Including the incident and request for IMT activation for any support required	OSC
Consider Hazards associated with Helicopter Incidents. Confirm Aircraft is secure, such as: <ul style="list-style-type: none"> <li>Aircraft is in a stable position with no potential for further movement.</li> <li>Foam blanket applied around aircraft and one person standby on hydrant.</li> <li>Ensure aircraft is ventilated - all doors and windows are open.</li> <li>Extinguish any internal fire.</li> <li>Aircraft battery is isolated.</li> <li>Water/foam has been applied to fuselage breakages / wrecked helicopter.</li> </ul>	DEP
Identify Missing Personnel and Establish possible location - Ask Muster Checker and team	MC
Make an initial report to The Incident Commander IMT and agree on future time frequency report	OSC
Place Medical Team on Standby and Organise Two to Six Man Stretcher Parties	MC
Establish if Aircraft Crashed Take-Off or Landing and Obtain Relevant Pax List - Ensure the Number of Crew is Recorded	OSC
Silence Alarm once Final Muster Result is Achieved	OSC

PERSONS MISSING	
<b>If safe to do so</b> while mustering in A and or B and or C initiate a search on Muster Station <b>Search Teams shall monitor for gas : Maximum Exposure = 5% LEL</b>	DEP
<b>If safe to do intiate a Search on the sea.</b> Standby Vessel can provide that support by remaining stay at least 150 meters from fire location. In upwind position and being aware of propeller hazard. <b>The decision to rescue persons within this distance rests with the OSC</b>	OSC

DEPRESSIRISATION IS COMPLETE AND ALL FIRES ARE BURNED OUT	
<b>If safe to do so</b> a search shall consider the integrity of structure and any hot surface post fire. <b>Person Missing</b> - Consider search of Boe, Stern, port, and starboard side. <b>Search Teams shall monitor for gas : Maximum Exposure = 5% LEL</b>	OSC
ONGOING ACTIONS AND CONSIDERATIONS	
Maintain regular updates to Personnel On Board and the IMT	OSC



## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 2

## On Scene Commander - Emergency Checklist No 3

**Helicopter Ditching/Crash in the Sea**

INITIAL ACTIONS		
Paging announcement	OSC	
<i>(Attention, attention, this is your OSC on FSO Arco Ardjuna. It has been occurred an emergency situation in the form ..... at..... All personnel instructed to Muster Station ..... at .....as well as for those who cannot go to the Muster Station..... Is instructed to Muster Station ..... at ..... - 3X)</i>		
Establish aircraft location - liaise with Radio Operator	DEP	
Consider the need for an ESD and muster. <b>Especially if the crash or ditching within 150 meters boundary</b>	OSC	
Nominate the Master of an On-Scene Vessel to coordinate the sea search - Liaise with the Radio Operator	OSC	
Consider to conduct sea recovery as soon as possible by launching life raft and life ring	OSC	
If the incident happen within 150 meters boundary, obtain a report from helideck Team on aircraft location - floating or sinking and persons in water	DEP	
Place Medical Team on standby and organize two stretchers parties	MC	
Notify Duty Incident Commander (first initiation) then Operation Section Chief for further update on events. Including the incident and request for IMT activation for any support required	OSC	
Identify Missing Personnel and Establish possible location - Ask Muster Checker and team	MC	
Make an initial report to The Incident Commander IMT and agree on future time frequency report	OSC	
<b>Silence Alarm once Final Muster Result is Achieved</b>	OSC	
PERSONS MISSING		
Pass Muster Result to Medic	OSC	
Consider Initiating a Search of Possible Locations	OSC	
ONGOING ACTIONS AND CONSIDERATIONS		
Consider Transferring Medical Assistance to a Vessel - Liaise with Medic	OSC	
Maintain regular updates to personnel on Board and The IMT	OSC	

## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 2

## On Scene Commander - Emergency Checklist No 4

**Medical Evacuation (Serious Injury)**

INITIAL ACTIONS		
Paging announcement	OSC	
<i>(Attention, attention, this is your OSC on FSO Arco Ardjuna. It has been occurred an emergency situation in the form ..... at..... All personnel instructed to Muster Station ..... at .....as well as for those who cannot go to the Muster Station..... Is instructed to Muster Station ..... at ..... - 3X)</i>		
Confirm no Fire & Gas detection at incident location - send ERT to casualty location	DEP	
Consider need for a General Alarm and Muster	OSC	
Consider need for an equipment shutdown/isolation or ESD	OSC	
<b>If safe to do so</b> - Mobilize Medical Response Team to Incident Location	DEP	
Notify Duty Incident Commander (first initiation) then Operation Section Chief for further update on events. Including the incident and request for IMT activation for any support required	OSC	
Establish names of all personnel at the incident location - Ensure that only Essential Personnel are Present	DEP	
<b>General Alarm Initiated</b> - Identify Missing Personnel and Establish possible location - Examine Permits. Examine location log book and speak to supervisors and team. Identify if On-Shift or Off-Shift and establish Cabin Numbers	MC	
Make an initial report to The Incident Commander IMT and agree on future time frequency report	OSC	
<b>Silence Alarm once Final Muster Result is Achieved</b>	OSC	

PERSONS MISSING		
Pass Muster Result to Medic and Forward Commander	DEP	
Consider Initiating a Search of Possible Locations	OSC	
Consider a Sea Search Close to the FSO Arco Ardjuna	OSC	

ONGOING ACTIONS AND CONSIDERATIONS		
Maintain regular updates to personnel on Board and The IMT	OSC	

## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 2

## On Scene Commander - Emergency Checklist No 5

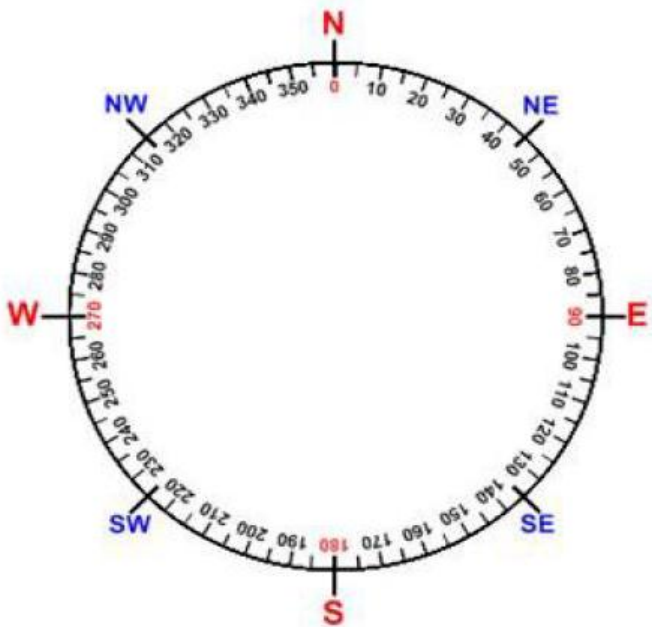
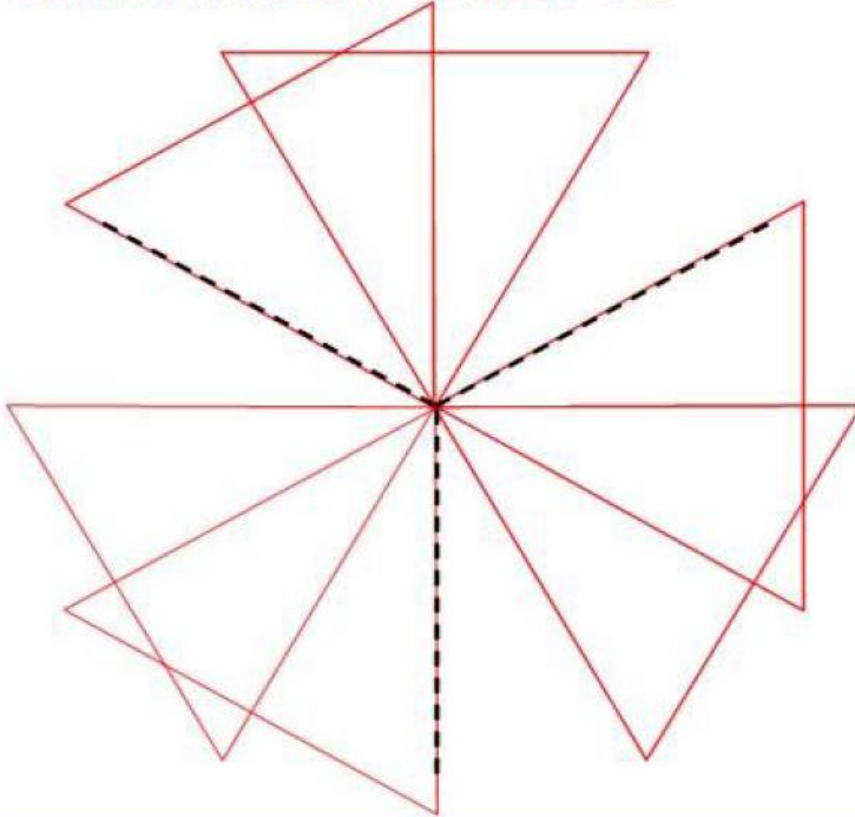
**Man Overboard – MOB**

INITIAL ACTIONS		
Paging announcement	OSC	
<i>(Attention, attention, this is your OSC on FSO Arco Ardjuna. It has been occurred an emergency situation in the form ..... at..... All personnel instructed to Muster Station ..... at .....as well as for those who cannot go to the Muster Station..... Is instructed to Muster Station ..... at ..... - 3X)</i>		
Send Operators to MOB last location - Operators to establish contact with Vessel Performing or Coordinating the Search	DEP	
Consider need for a General Alarm and Muster	OSC	
Assess the Effects of wind and Current Velocity	DEP	
Notify Duty Incident Commander (first initiation) then Operation Section Chief for further update on events. Including the incident and request for IMT activation for any support required	OSC	
<b>General Alarm Initiated</b> - Identify Missing Personnel and Establish possible location - Examine Permits. Examine location log book and speak to supervisors and team. Identify if On-Shift or Off-Shift and establish Cabin Numbers	MC	
Make an initial report to The Incident Commander IMT and agree on future time frequency report	OSC	
Consider Transferring Medic to Searching Vessel	OSC	
Silence Alarm once Final Muster Result is Achieved	OSC	
CASUALTY NOT VISIBLE		
Send additional Personnel to Act as Look-Outs	DEP	
Agree Datum Position with Searching Vessel - Based on MOB Expected Location	OSC	
Establish Search Pattern	OSC	
CASUALTY RECOVERED TO VESSEL		
Discuss Casualty Transfer with Medic and Vessel Master	OSC	
PERSONS MISSING		
Pass Muster Result to Medic and Forward Commander	DEP	
Consider Initiating a Search of Possible Locations	OSC	
ONGOING ACTIONS AND CONSIDERATIONS		
Maintain regular updates to personnel on Board and The IMT	OSC	

PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 2

On Scene Commander - Emergency Checklist No 5

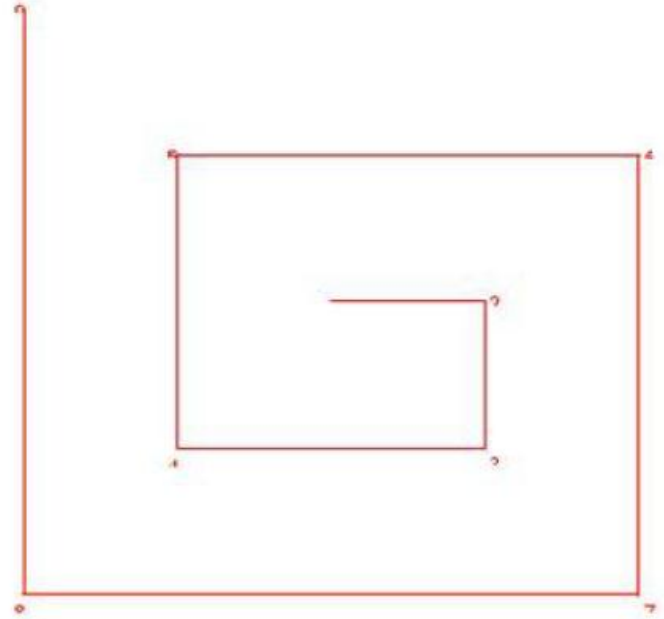
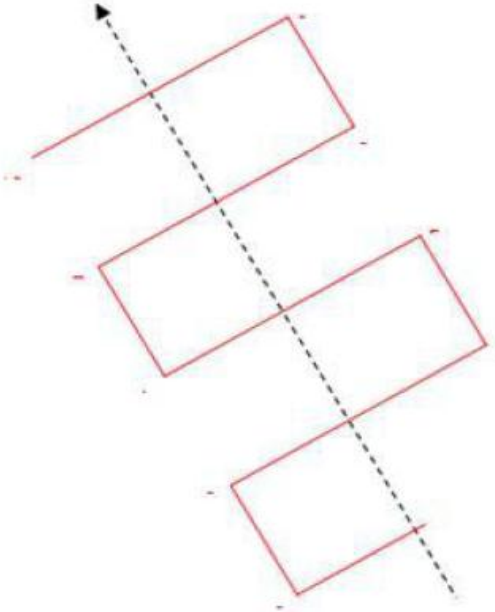
**Man Overboard – MOB**

SEARCH PATTERNS	
<p><b>Note:</b> Search Patterns will be centred around or lead off from a 'Datum Point'. This will be the Platform initially but may change if the initial search has been delayed and will then depend on the drift speed and direction and the estimated time since the casualty entered the sea.</p> 	<p><b>SECTOR SEARCH</b> Utilised when Drift is unknown - to be used when search area is large, search area can be subdivided between different vessels.</p> 

PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 2

On Scene Commander - Emergency Checklist No 5

Man Overboard – MOB

SEARCH PATTERNS	
<div><p><b>SQUARE SEARCH</b></p><p>Utilised when Drift is unknown - To be used when search area is small and a single vessel is utilised. Not suitable when more than one vessel is searching the area due to collision risk</p></div>	<div><p><b>PARALLEL TRACK SEARCH</b></p><p>Utilised when Drift is known (330° Drift as an example) - Drift is usually a combination of wind and current vectors. However, for a person nearly totally submerged, the wind will have almost no effect and the main drift influence will be due to current.</p></div>

## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 2

## On Scene Commander - Emergency Checklist No 6

## Switch Room and Local Control Room Incident

INITIAL ACTIONS		
Paging announcement	OSC	
<i>(Attention, attention, this is your OSC on FSO Arco Ardjuna. It has been occurred an emergency situation in the form ..... at..... All personnel instructed to Muster Station ..... at .....as well as for those who cannot go to the Muster Station..... Is instructed to Muster Station ..... at ..... - 3X)</i>		
Confirm an Emergency Response Team is at the Incident Location	DEP	
Initiate Electrical Isolation of Affected Switch Room (Initiate an ESD) or Control Room – <b>NO TEAMS TO ENTER UNTIL COMPLETE</b>	DEP	
Initiate Operation of Fire Pumps at FSO Arco Ardjuna	DEP	
Mobilize Medical Team to Incident Location - OSC Decision	DEP	
Operators to Ventilate Affected Area once Fire Extinguished by Manual Means	DEP	
Notify Duty Incident Commander (first initiation) then Operation Section Chief for further update on events. Including the incident and request for IMT activation for any support required	OSC	
Identify missing personnel and establish possible location	MC	
Make an initial report to The Incident Commander IMT and agree on future time frequency report	OSC	
Silence Alarm once Final Muster Result is Achieved	OSC	
PERSONS MISSING		
Pass Muster Result to Operation Team	DEP	
Pass Muster Result to Medic and Send to Incident Location	DEP	
Consider Initiating a Search of Possible Locations	OSC	
ONGOING ACTIONS AND CONSIDERATIONS		
All Personnel are accounted for - Consider closing up affected area and allowing any fire to burn out	OSC	
Maintain regular updates to personnel on Board and The IMT	OSC	

## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 2

## On Scene Commander - Emergency Checklist No 7

**SBM or Anchor Failure Incident**

INITIAL ACTIONS		
Paging announcement	OSC	
<i>(Attention, attention, this is your OSC on FSO Arco Ardjuna. It has been occurred an emergency situation in the form ..... at..... All personnel instructed to Muster Station ..... at .....as well as for those who cannot go to the Muster Station..... Is instructed to Muster Station ..... at ..... - 3X)</i>		
Confirm ESD initiated and all electricity and equipment shut down.	DEP	
Confirm NGL facilities to close SDV to FSO Arco Ardjuna	DEP	
Call downwind adjacent stations and place in standby and closely monitor if any potential boat collision	DEP	
Call any Crude Tanker to stop loading and Emergency Situation in Arco Ardjuna	DEP	
<b>Note - No Personnel are to attempt to fight fire of hydrocarbon process safety event without depp assessment of the situation by the OSC - System should be left to depressurize. Fire left to burn out and gas left to disperse</b>		
Obtain a report from Operators and/or Standby Vessel regarding possible leak/fire location	DEP	
Monitor wind and Current Direction, looks for any spill or sea pool fire	RO	
Notify Duty Incident Commander (first initiation) then Operation Section Chief for further update on events. Including the incident and request for IMT activation for any support required	OSC	
Identify Missing Personnel and Establish possible location - Ask Muster Checker and his team	MC	
Make an initial report to The Incident Commander IMT and agree on future time frequency report	OSC	
Silence Alarm once Final Muster Result is Achieved	OSC	

PERSONS MISSING		
<b>If safe to do so</b> while mustering in A and or B and or C initiate a search on Muster Station <b>Search Teams shall monitor for gas : Maximum Exposure = 5% LEL</b>	DEP	
<b>If safe to do initiate a Search on the sea.</b> Standby Vessel can provide that support by remaining stay at least 150 meters from fire location. In upwind position and being aware of propeller hazard. <b>The decision to rescue persons within this distance rests with the OSC</b>	OSC	

DEPRESSIRISATION IS COMPLETE AND ALL FIRES ARE BURNED OUT		
<b>If safe to do so</b> a search shall consider the integrity of structure and any hot surface post fire. <b>Person Missing</b> - Consider search of Boe, Stern, port, and starboard side. <b>Search Teams shall monitor for gas : Maximum Exposure = 5% LEL</b>	OSC	
ONGOING ACTIONS AND CONSIDERATIONS		
Maintain regular updates to Personnel On Board and the IMT	OSC	



## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 2

## On Scene Commander - Emergency Checklist No 8

**Boat Collision**

INITIAL ACTIONS		
Paging announcement	OSC	
<i>(Attention, attention, this is your OSC on FSO Arco Ardjuna. It has been occurred an emergency situation in the form ..... at..... All personnel instructed to Muster Station ..... at .....as well as for those who cannot go to the Muster Station..... Is instructed to Muster Station ..... at ..... - 3X)</i>		
Establish vessel/boat collision - Liaise with Radio Operator. Radio operator shall conduct continuous communication the vessel's Master trespassing the restricted area and the consequences collision hazard with oil and gas structure	DEP	
Consider the need for an ESD and Muster. <b>Especially if the impact within 150 meters boundary</b>	OSC	
Nominate the Master of an On Scene Vessel to coordinate the drift trajectory - Liaise with the Radio Operator	OSC	
Consider Hazards associated with the incident. Confirm vessel/boat conditions, such as: <ul style="list-style-type: none"> <li>• Dimension (Long wide, depth). DWT</li> <li>• Passenger</li> <li>• Cargo</li> <li>• Etc.</li> </ul>	DEP	
<b>Need to boat to change trajectory of the vessel to avoid collision to the structure. If possible tugged to safer place with considering the current</b>		
Notify Duty Incident Commander (first initiation) then Operation Section Chief for further update on events. Including the incident and request for IMT activation for any support required	OSC	
Make an initial report to The Incident Commander IMT and agree on future time frequency report	OSC	
<b>Silence Alarm once Final Muster Result is Achieved</b>	OSC	

VESSEL/BOAT/NOT VISIBLE		
Consider initiating in a search using SBV and monitor if any potential driftinh hazard	OSC	

PERSON MISSING		
<b>Consider initiating a Search of Possible Locations</b>	OSC	
ONGOING ACTIONS AND CONSIDERATIONS		
Maintain Regular updates to the drift trajectory and assess if any escalation potential harzard	OSC	
Maintain regular updates to Personnel On Board and the IMT	OSC	



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**ATTACHMENT 3:**  
**RADIO OPERATOR EMERGENCY CHECKLIST**

## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 3

## Radio Operator - Emergency Checklist No 1

**Hydrocarbon Release/Fire**

INITIAL ACTIONS	
Initiate General Alarm	
Notify adjacent Station NGL & BRAVO. Instruct them to obtain Vessel availability and Place Medical Personnel on Standby	
Ask support from available standby vessel	
Instruct <u>All</u> Vessels to Pull Clear of 150 meters limit. Confirm current direction.	
<p>Confirm Standby Vessel (SBV) on route to FSO Arco Ardjuna if not on location mobilize standby Vessel to FSO Arco Ardjuna 150 meters limit - if not on scene - Position vessel in upwind position to provide monitoring and report on Fire/Release progress. If the accident is at night, request support vessel to direct flood lights to incident location to provide emergency lighting support.</p> <p>Obtain from SBV a report regarding :</p> <ul style="list-style-type: none"> <li>• Fire/ Leak Location</li> <li>• Oil in water</li> <li>• Persons in water</li> </ul> <p>Any other visible indications of the incident</p>	
Follow the instruction of the OSC where the safer place to conduct the Incident Command. Bring any Relevant communication equipment and records.	

**PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 3****Radio Operator - Emergency Checklist No 2****Living Quarters/Building Fire**

INITIAL ACTIONS	
Initiate General Alarm	
Notify adjacent Station NGL & BRAVO. Instruct them to obtain Vessel availability and Place Medical Personnel on Standby	
Notify Incident Commander – Obtain Medical Assistance. Aircraft and Vessel availability – Mobilize additional Medical Assistance to FSO Arco Ardjuna.	
Ask support from availability standby vessel.	
Inform any attendant vessel and obtain report regarding visible smoke	
Send ERT to living Quarters Fire Alarm is Operating	
Establish location of First-Up Detection	
Follow the instruction of the OSC where the safer place to conduct the Incident Command. Bring any relevant communication equipment and records.	

**PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 3****Radio Operator - Emergency Checklist No 3****Helicopter Crash on Flow Station or Emergency Landing**

INITIAL ACTIONS	
Initiate General Alarm	
Notify adjacent Station NGL & BRAVO. Instruct them to obtain Vessel availability and Place Medical Personnel on Standby	
Ask support from availability standby vessel.	
Mobilize Standby Vessel (SBV) to FSO Arco Ardjuna if not on scene and initiate a Search of the Sea – Warn SBV of potential for Debris to fall from FSO Arco Ardjuna Helideck.	
Instruct <b><u>ALL</u></b> Vessels to Pull Clear of 150 meters limit in upwind position and confirm current direction.	
Obtain Helicopter Pax List	
Follow the instruction of the OSC where the safer place to conduct the Incident Command. Bring any relevant communication equipment and records.	

## PT PHE ONWJ FSO Arco Ardjuna Emergency Response Plan – Attachment 3

## Radio Operator - Emergency Checklist No 4

**Helicopter Ditching / Crash in the Sea**

INITIAL ACTIONS	
Initiate General Alarm	
Notify adjacent Station NGL & BRAVO. Instruct them to obtain Vessel availability and Place Medical Personnel on Standby	
Ask support from availability standby vessel.	
Mobilize Standby Vessel (SBV) to FSO Arco Ardjuna if not on scene and initiate a Search of the Sea – Warn SBV of potential for Debris to fall from FSO Arco Ardjuna Helideck.	
Instruct <b><u>ALL</u></b> Vessels to Pull Clear of 150 meters limit in upwind position and confirm current direction.	
Establish exact location of Helicopter	
Repeat Paging and Radio Announcement	
Obtain Helicopter Pax List	
Follow the instruction of the OSC where the safer place to conduct the Incident Command. Bring any relevant communication equipment and records.	

## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 3

## Radio Operator - Emergency Checklist No 5

**Serious Injury**

INITIAL ACTIONS	
Initiate General Alarm	
Establish: <ul style="list-style-type: none"> <li>• Number of casualties Involved</li> <li>• Casualties Location (s)</li> <li>• Status of casualties if known</li> </ul> Name(s) of casualties if possible	
Confirm No Fire & Gas Detection at Incident Location.	
Notify adjacent Station NGL & BRAVO. Instruct them to obtain vessels availability and Place Medical Personnel on Standby.	
Ask support from availability standby vessel.	
Send operators to investigate equipped with Portable Gas Detector	
Inform any attendant vessel	
Follow the instruction of the OSC where the safer place to conduct the Incident Command. Bring any relevant communication equipment and records.	

**PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 3****Radio Operator - Emergency Checklist No 6****Man Overboard – MOB**

INITIAL ACTIONS	
Initiate General Alarm	
Confirm MOB Location	
Notify any attendant Vessel	
Ask support from availability standby vessel.	
Mobilize Standby Vessel if not already On Scene – Mobilize Aircraft if needed	
Notify adjacent Station NGL & BRAVO. Instruct them to obtain Vessel availability and Place Medical Personnel on Standby	
Liaise with OSC Regarding Additional Vessel Mobilization	
Pass Muster Result to Searching Vessel(s)	
Obtain wind and current speed and Direction	
Record Incident Start Time or Estimated Time MOB enter the sea if known	
Follow the instruction of the OSC where the safer place to conduct the Incident Command. Bring any relevant communication equipment and records.	

**PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 3****Radio Operator - Emergency Checklist No 7****Switchgear Room and Local Control Room Incident**

INITIAL ACTIONS	
Initiate General Alarm	
Notify adjacent Station NGL & BRAVO. Instruct them to obtain Vessel availability and Place Medical Personnel on Standby	
Ask support from available standby vessel	
Inform any attendant vessel	
Mobilize ERT	
Follow the instruction of the OSC where the safer place to conduct the Incident Command. Bring any relevant communication equipment and records.	



**PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 3****Radio Operator - Emergency Checklist No 8****SBM or Anchor Failure Incident**

INITIAL ACTIONS	
Initiate General Alarm.	
Notify adjacent Station NGL & BRAVO. Instruct them to obtain Vessel availability and Place Medical Personnel on Standby.	
Ask support from available standby vessel.	
Instruct ALL Vessels to Pull Clear of 150 meters limit. Confirm current direction.	
<p>Confirm Standby Vessel (SBV) on route to FSO Arco Ardjuna if not on location mobilize Standby Vessel to FSO Arco Ardjuna 150 meters limit – if not on scene – Position Vessel in up wind position to provide monitoring and report on incident/fire/release progress. If the incident is at night request support vessel to direct flood light to incident location to provide emergency lighting support.</p> <p>Obtain from SBV a Report Regarding:</p> <ul style="list-style-type: none"> <li>• SBM condition/fire/leak location</li> <li>• Oil in water</li> <li>• Persons in water</li> </ul> <p>Any other visible indications of the incident.</p>	
Follow the instruction of the OSC where the safer place to conduct the Incident Command. Bring any relevant communication equipment and records.	

**PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 3****Radio Operator - Emergency Checklist No 9****Boat Collision**

INITIAL ACTIONS	
Initiate General Alarm.	
Notify adjacent Station NGL & BRAVO. Instruct them to obtain Vessel availability and Place Medical Personnel on Standby.	
Ask support from available standby vessel.	
Mobilize Standby Vessel (SBV) to FSO Arco Ardjuna if not scene and initiate a Search to locate the “drifting vessel/boat” at the sea – Warn SBV of “drifting trajectory” and potential impact may occur.	
Instruct ALL Vessels to Pull Clear of 150 meters limit. Confirm current direction.	
Follow the instruction of the OSC where the safer place to conduct the Incident Command. Bring any relevant communication equipment and records.	

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## **ATTACHMENT 4: TRAINING AND COMPETENCY REQUIREMENTS**

## PT PHE ONWJ – FSO Arco Ardjuna Emergency Response Plan – Attachment 4

## Training and Competency Requirements

FUNCTION	TRAINING	COMPETENCY EVALUATION	VALIDATION (Yrs)	AUTHORIZED BY
ON SCENE COMMANDER	ERP Training	Review of training records. Underpinning technical knowledge course evaluation.	3	Authorized Trainer
	ERP Assessment	Provide evidence during Table top or Wet drill at FSO Arco Ardjuna.	3	Authorized Assessor
	Area Authority (AA) as Site Controller	Review of training records. Underpinning technical knowledge. Course evaluation test.	2	Operation Manager
DEPUTY COMMANDER	ERP Training	Review of training records. Underpinning technical knowledge course evaluation. Provide evidence of evaluation during Table Top/Wet drill at Site.	3	FSOM
	Area Authority (AA)	Review of training records. Underpinning technical knowledge. Course evaluation test. Interviewed by FSOM related with ERP implementation.	2	FSOM
RADIO OPERATOR	ERP Training	Review of training records. Underpinning technical knowledge course evaluation. Provide evidence of evaluation during Table Top/Wet drill at Site.	3	FSOM
	AGGR	Assessment by Authorized Assessor.	5	Aviation Officer
	HLO	Assessment by Authorized Assessor.	2	Aviation Officer
MUSTER CONTROLLER	ERP Training	Review of training records. Underpinning technical knowledge course evaluation. Provide evidence of evaluation during Table Top/Wet drill at Site.	3	FSOM
	Area Authority (AA) and Performing Authority (PA)	Review of training records. Underpinning technical knowledge. Course evaluation test. Interviewed by FSOM related with ERP implementation.	2	FSOM
FORWARD COMMANDER	ERP Training	Review of training records. Underpinning technical knowledge course evaluation. Provide evidence of evaluation during Table Top/Wet drill at Site.	3	FSOM
	Area Authority (AA) and Performing Authority (PA)	Review of training records. Underpinning technical knowledge. Course evaluation test. Interviewed by FSOM related with ERP implementation.	2	FSOM
MEDIC	ERP Training	Review of training records. Underpinning technical knowledge course evaluation. Provide evidence of evaluation during Table Top/Wet drill at Site.	3	FSOM
	ATLS	Assessment by Authorized Assessor.	2	Medical Officer
	ACLS	Assessment by Authorized Assessor.	2	Medical Officer
	BTCLS	Assessment by Authorized Assessor.	2	Medical Officer
	Hiperkes	Assessment by Authorized Assessor.	N/A	Medical Officer
EMERGENCY RESPONSE TEAM (ERT)	ERP Training	Review of training records. Underpinning technical knowledge course evaluation. Provide evidence of evaluation during Table Top/Wet drill at Site.	3	FSOM
	Area Authority (AA) and Performing Authority (PA)	Review of training records. Underpinning technical knowledge. Course evaluation test. Interviewed by FSOM related with ERP implementation.	2	FSOM
	AGT	Course evaluation and practical test by a HSE Advisor.	2	FSOM
COXSWAIN	ERP Training	Review of training records. Underpinning technical knowledge course evaluation. Provide evidence of evaluation during Table Top/Wet drill at Site.	3	FSOM
	Coxswain Training	Assessment by Authorized Assessor.	3	FSOM