

ภาคผนวกที่ 29

S1 Emergency Response Plan

---



**PTTEP**

PTT Exploration and Production Public Company Limited

---

## **S1 Emergency Response Plan**

---

**Document Code: 13247-PDR-SSHE-501/08-R03**

**November 2019**

### Approval Register

**Document Subject** S1 Emergency Response Plan  
**Document Code** 13247-PDR-SSHE-501/08-R03  
**Document Owner** S1 Production Operations Department (PS1)  
**Prepared by** [REDACTED], SSHE Engineer  
**Effective Date** November 2019

### Review and Approve

	Name	Signature	Date
<b>Document Custodian</b>	[REDACTED] PS1/S	[REDACTED]	21/11/19
<b>Technical Reviewer</b>	LKU Production Superintendent		
	PS1/P	[REDACTED]	21/11/19
	[REDACTED] PS1/O	[REDACTED]	21/11/19
	[REDACTED] PS1/L	[REDACTED]	21/11/19
	[REDACTED] PTN/A	[REDACTED]	22/11/19
	[REDACTED] HRC/O	[REDACTED]	21/11/19
	[REDACTED] PLG/M	[REDACTED]	21/11/19
	[REDACTED] ETN <i>CETN Workshop</i>	[REDACTED]	25/11/19
<b>Document Owner</b>	[REDACTED] PS1	[REDACTED]	13/12/19
<b>Approval Authority</b>	[REDACTED] PS1	[REDACTED]	13/12/19

THIS DOCUMENT WILL BE REVIEWED EVERY 5 YEARS FROM DATE OF APPROVAL OR REVISED EARLIER IF NECESSARY.

## TABLE OF CONTENTS

<b>INTRODUCTION</b>	<b>1</b>
1. PURPOSE.....	1
2. SCOPE.....	2
<b>REQUIREMENTS</b>	<b>4</b>
3. EMERGENCY MANAGEMENT .....	4
3.1 PTTEP EMERGENCY AND CRISIS CLASSIFICATION.....	4
3.2 S1 EMERGENCY RESPONSE TEAM ORGANIZATION.....	6
3.3 ROLES AND RESPONSIBILITIES .....	17
3.4 EMERGENCY RESPONSE ACTION .....	33
3.5 COMMUNICATION DURING EMERGENCY .....	34
3.6 MUSTER POINT .....	37
3.7 FACILITIES .....	38
3.8 PRESS RELEASE .....	43
3.9 DEACTIVATION AND POST EMERGENCY ACTIONS.....	44
3.10 TRAINING AND EXERCISE .....	46
3.11 S1 DUTY ROSTER GUIDELINE .....	46
<b>APPENDICES</b>	<b>51</b>
APPENDIX A: EMERGENCY CALL MESSAGE FROM LKU TELECOM OFFICER .....	51
APPENDIX B: INITIAL EMERGENCY REPORT FORM.....	52
APPENDIX C: EMERGENCY LOG SHEET .....	53
APPENDIX D: LOCATION OF PREDETERMINED MUSTER POINTS .....	55
APPENDIX E: EXAMPLES OF COMMUNICATION TOOLS.....	61
APPENDIX F: EXAMPLE OF S1 DUTY ROSTER.....	65
APPENDIX G: INCIDENT GUIDELINE FOR EMERGENCY SITUATIONS .....	66
<b>ROLES AND RESPONSIBILITIES</b>	<b>67</b>
<b>DEFINITION AND ACRONYMS</b>	<b>68</b>
<b>REFERENCES</b>	<b>71</b>
<b>REVISION HISTORY</b>	<b>72</b>

## INTRODUCTION

### 1. PURPOSE

In the context of S1 Emergency Response Plan (herein referred to as “Plan”), an emergency is any event, happening with or without advance warning, causing, or which may cause, death or injury, damage to property or the environment or disruption to the community and/ or business within PTTEP S1 onshore operation premises.

The plan is developed for guiding S1 asset personnel to clearly understand the roles and responsibilities of the S1 Emergency Response Team (ERT) during an actual or potential emergency that could cause an impact to S1 asset and its associated stakeholders, especially staff, contractors and surrounding communities. The emergency response shall be actioned to align with the plan as well as related Thai laws and regulations. Apart from S1 ERT member roles and responsibilities and their responsive actions outlined in this document, the emergency preparedness, resources, training and competency, drills & exercises, and recovery/mitigation measures should be also included in this document for ensuring effective emergency management.

- The objectives of emergency response are to:-
- prevent fatalities and injuries;
- reduce damage to plants, facilities, and equipment;
- protect the communities and the environment; and
- accelerate the resumption of normal operations.

The development of the Emergency Response Plan (ERP) begins with a vulnerability assessment. The results of study:-

- Identifies the emergency situations likely to occur and threaten life, environment, community, and S1 operations;
- Identifies means and resources necessary for a given emergency situation;
- Defines S1 emergency organization and key personnel involved with their roles & responsibilities;
- Defines the actions to be taken by S1 ERT members for the emergency preparedness and response;
- Defines the actions to be taken by S1 Community & Media Response Team (CMRT) and Relative Response Team (RRT) for emergency preparedness and response;
- Defines the correct and clear lines of command and reporting in an emergency;
- Describes the guidelines for community handlings in an emergency; and
- Defines interface between S1 ERT and PTTEP corporate Emergency Management Team (EMT) and Crisis Management Team (CMT) and other external parties.

The plan should ensure an integrated response at the appropriate level to any related emergency situations and to minimize the potential impact on People, Environment, Legal Compliance, Asset & Property, and Reputation.

The response of S1 ERT at all levels of the organization will follow the following priorities.

1. Protection of People
2. Protection of Environment
3. Protection of Asset and Property (including infrastructure, machinery, equipment, and facilities)
4. Protection of Reputation and Business

## **2. SCOPE**

This plan applies to all emergency situations occurred within PTTEP S1 and L22/43 Operation premises owned or controlled by PTTEP subsidiaries.

This also includes other relevant agencies that may be requested to provide assistance or expertise to cope with PTTEP S1 emergency situations.

Scope of S1 emergency response covers all operating areas of S1 asset and L22/43 concession areas as well as the activities outside the owned premises, but under the responsibility of S1 asset e.g. land or rail transports, accommodating facilities, etc.

The areas which S1 ERP shall cover are:-

- LKU flow station including crude process area, LPG process, spheres & loading area, and LKU crude depot;
- Production sub-stations including NTM-A, STN-A, and NSG-A;
- Active production well locations;
- Non-productive well locations;
- Flow lines connecting to well locations;
- Bung Pra depot;
- S1 well services workshop;
- S1 material yard and material storage locations;
- Chong Non See (CNS) rail tanker inspection and maintenance workshop; and
- PHS housing compounds.

The activities which S1 ERP shall cover are:-

- Production operation;
- Brownfield construction project activities;

- Drilling activities;
- Well service activities;
- Maintenance & inspection activities;
- Land transports including oil movement, materials and personnel transportation; and
- Other emergency situations which may arise e.g. community concerns, security concerns, natural disasters, etc.

Pertaining to other operations in S1 concession area e.g. drilling, greenfield construction, seismic survey, rig camps, etc. within the scope of S1 concessionaire's liability that have their own emergency organization, they shall establish their own On-Scene Commander (OSC) and responsive team.

The OSC shall report all incidents to S1 Emergency Response Team (ERT) primarily via S1 telecom officer. In any case when situation becomes uncontained by site emergency response organization, S1 ERT comes to take over the command. The OSC constantly report to Deputy Emergency Team Leader (DERTL).

Note: All appendices of this document shall cover:-

- Appendix A: Emergency Call Message from LKU Telecom Officer
- Appendix B: Initial Emergency Report Form
- Appendix C: Emergency Log Sheet
- Appendix D: Locations of Predetermined Muster Points
- Appendix E: Examples of Communication Tools
- Appendix F: Example of S1 Duty Roster
- Appendix G: Incident Guideline for Emergency Situations
- Appendix H: Prompt Cards
- Appendix I: Emergency Contact Lists and Numbers

All appendices of this document shall be reviewed and endorsed by the document owner, Vice President (VP) of S1 Production Operations Department. The appendices will be amended and added without requirements for the document's revision and approval endorsement.

## REQUIREMENTS

### 3. EMERGENCY MANAGEMENT

#### 3.1 PTTEP EMERGENCY AND CRISIS CLASSIFICATION

With reference to the 3-Tier definition of Emergency & Crisis in PTTEP Emergency Crisis Management Standard (SSHE-106-STD-500), emergency covers the situations in tier 1 and tier 2; whereas, a crisis situation is classified as and treated by **a tier 3 response level**.

##### Tier 1:

- The situation involves a problem, which has limited impact and minimal potential for escalating, poses a threat to the safety & the environment **and poses no threat to the general public**.
- The situation can be handled by the on OSC with the site operation team and/or intervention team within a reasonable timeframe. Tier 1 emergency response can be totally managed by DERTL, being appointed based on the area affected by an incident. After tier 1 emergency situation can be managed and resumed to normal operation, the situation and response details shall be reported to the duty officer and ERTL respectively.

Examples of tier 1 emergency situations in the S1 operation area are, but not limited to, the following.

- Small manageable fires and/or gas leaks, accidents or safety & security threats;
- No hazard to the public in adjacent areas exists;
- Minor injuries may have occurred (treatable through first aid); and
- Danger to the environment is minimal, however, the potential for escalation exists.

##### Tier 2:

- The situation involves an emergency with greater magnitude and major severity in nature or has the potential to escalate and continue for a significant period of time, or cause a significant impact to public or environment that requires sophisticated implications with external parties.
- The situation involves damage to S1 facilities/assets and/or impact on 3rd parties and may pose a significant threat to safety, environment, and facilities/assets.
- The situation may request external assistance from local authorities in the affected areas i.e. local fire brigade, Sub-district Administrative Office (SAO), local hospital/public health center, Oil Industry Environment Safety Group Association of Thailand (IESG) or the nearby external organizations, and etc.
- The situation may result in the activation of S1 Asset EMT in BKK.



For tier 2 emergency situations, ERT will respond to the emergency site while S1 asset EMT in BKK may be established to manage and provide relevant support to the S1 ERT and/or the affected site.

S1 asset EMT members should include the top management/authorized person of the S1 asset and other key positions from various disciplines that are, but not limited to, the following.

1. EMT Leader – Thai Onshore Asset Senior Vice President (SVP) acts as EMT Leader;
2. Common members such as BKK S1 asset duty, logistic duty, SSHE duty, corporate RRT duty, communication team, IT duty, administration team duty, event logger, etc.
3. Specific members such as drilling duty, construction duty, well operation duty, etc.

Examples of tier 2 emergency situations in S1 operation area are the followings:

- Employees, contractors, service providers, visitors, community, the environment, property, facilities (or any combination of these) are exposed to a significant hazard.
- Non-essential personnel in adjacent areas of S1 operating areas such as LKU flow station, production sub-stations, active well sites, flow lines, BPR depot and etc will need to be evacuated.
- Deaths, and/or multiple serious injuries may have occurred (ambulance and/or medivac may be required).
- There may be significant environmental impacts such as the large volume of hydrocarbon leaks to site surrounding areas.

### **Tier 3:**

- Involves a catastrophic scenario resulted in multiple injuries, fatalities, major fires, environmental damage, toxic gas release, significant business interruption and poses a significant threat to the environment or damage to PTTEP assets and finally brings in significant media attention.
- Requests external assistance from aboard or international resources i.e. the Oil Spill Response Limited Company (OSRL) and the East Asia Response Limited Company (EARL), etc.
- Results in the activation of CMT.

The CMT members consist of the PTTEP top management at the Corporate Level and other supporting functions. Their responsibilities and procedures are defined in the PTTEP CMP (12148-PDR-SSHE-501).

PTTEP Risk Assessment Matrix (RAM) demonstrated in appendix D of PTTEP SSHE risk management standard (11038-STD-SSHE-401) can be used as a guideline to consider the initial appropriate levels of response to any particular event.

### 3.2 S1 EMERGENCY RESPONSE TEAM ORGANIZATION

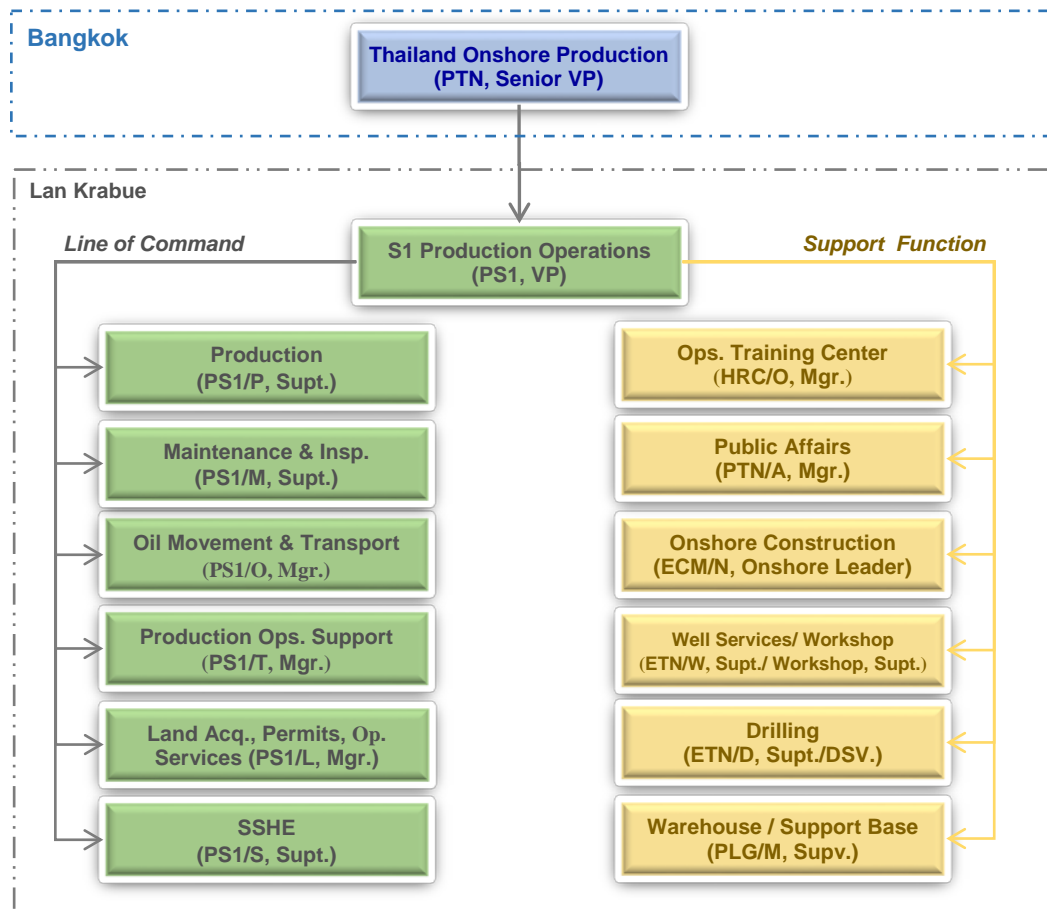
S1 production operations are governed by Vice President (VP) of S1 Production Operations Department with a total of six (6) sections of the followings:

1. Production Section (PS1/P);
2. Maintenance Section (PS1/M);
3. Oil Movement and Transportation Section (PS1/O);
4. Production Operations Support Section (PS1/T);
5. Land Acquisition, Permits & Operation Services Section (PS1/L); and
6. Safety, Security, Health, and Environment (SSHE) Section (PS1/S).

Additionally, there are eight (8) support functions providing supports to S1 production operations. These support functions consist of:

1. Public Affairs Section (PTN/A)
2. Operations Training Center Section (HRC/O)
3. Onshore Construction Execution Section (ECM/N)
4. Drilling Operations Section (ETN/D)
5. Well Services Section (ETN/W)
6. Well Services Workshop (ETN)
7. Lan Krabue Support Base Section (PLG/M)
8. Lifting Equipment & Services (PLG/L)

An organigram of S1 production operations is illustrated in **Figure 1**.



**Figure 1: Organigram of S1 production Operations**

S1 production operations management team including VP, section heads and representatives from support functions specified in the above organigram is assigned to take roles and responsibilities in ERT depicted in the following paragraphs of this document.

ERT is lead by VP and consists of staff with roles and responsibilities necessary for responding to emergency situations likely to occur in S1 production operations as well as with the conjoined activities e.g. drilling, well workover, project construction, road transport, etc.

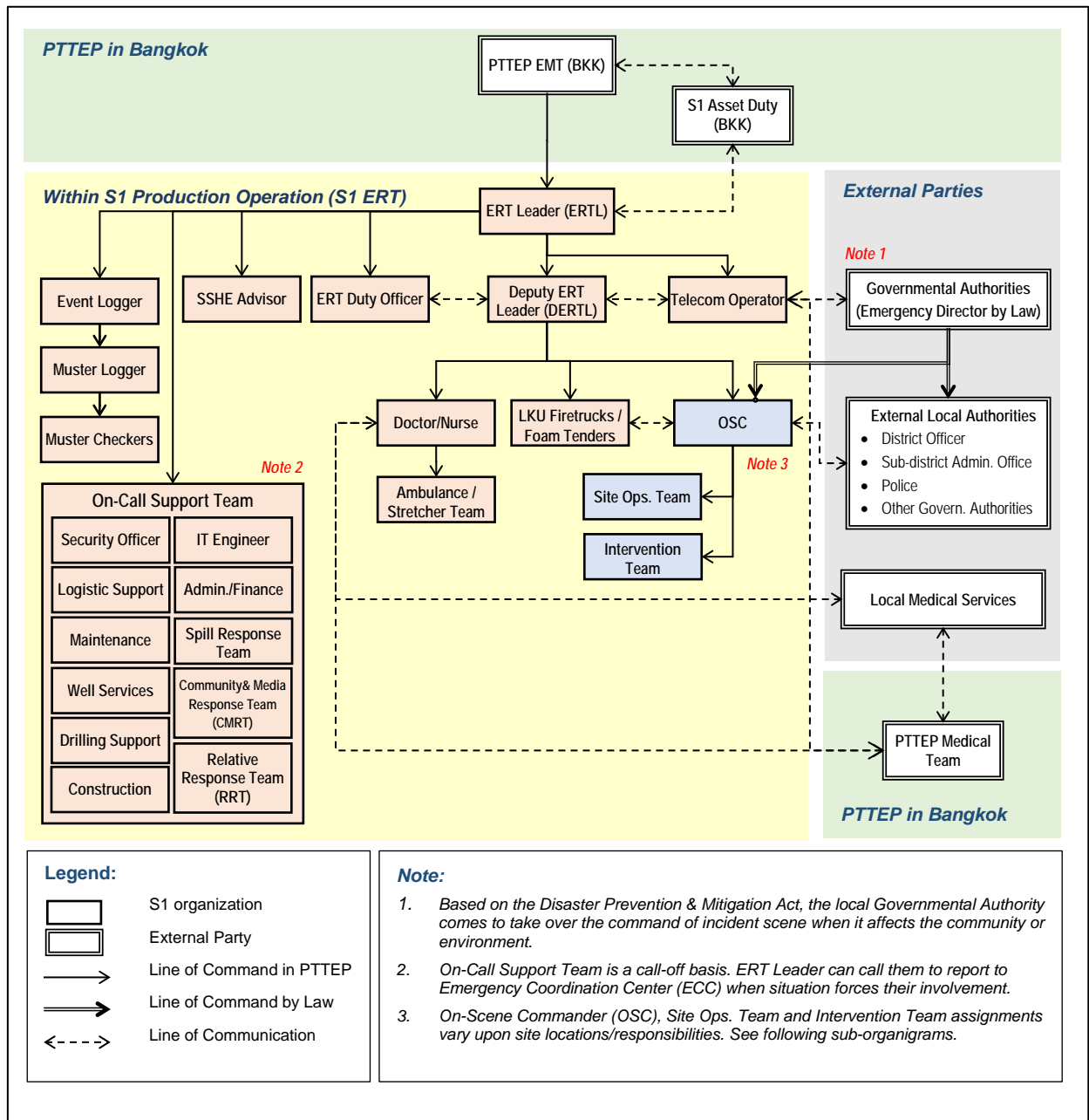
ERT assesses the occurring emergency situation & consequences, then determines & prioritize the potential impacts and responsive actions to ensure that emergency operations are conducted in a safe manner while the given emergency situation is sufficiently contained and controlled. To do so, ERT directs, supports and collaborates with the on-scene responsive team, concerned external parties e.g. local authorities, local communities, media, staff's relatives, contractors, customers, etc. In parallel, ERT communicates and collaborates with S1 asset duty person and EMT.

ERT members are:-

1. Emergency Response Team Leader (ERTL) – Vice President of S1 production operations department;
2. Deputy Emergency Response Team Leader (DERTL) – appointed by ERTL, by default the top authority of the area affected by the given emergency situation otherwise specifically appointed by ERTL;
3. Duty Officer – S1 production superintendent otherwise specifically appointed by ERTL;
4. S1 SSHE Advisor – S1 SSHE superintendent or his delegate;
5. Event Logger – S1 production engineer;
6. Muster Logger / Deputy Muster Checker – S1 SSHE officer (operational safety);
7. Muster Checkers – the trained persons assigned to the given muster points;
8. On-scene Commander (OSC) – appointed persons in charge of site location affected by the given emergency situation;
9. Site Operation Team – Normally regular staff who are working at site location;
10. Intervention Team/Firefighting Team – Trained staff who are competent in emergency, fire and rescue operations appointed by ERTL;
11. Medical Team – LKU Doctor/Nurse, Ambulance, and Stretcher Team;
12. LKU Telecommunication Officer (24/7); and
13. On-call Support Team – includes transportation/logistic, drilling, well service, construction, maintenance, IT/Telecom, spill response team, medical response team (CMRT), relative response team (RRT), security, and administration & finance.

The organigram of S1 ERT is illustrated in **Figure 2**.

ERT member assignments for the areas under S1 premise are illustrated in **Table 1 - 5**.



**Figure 2: Overall S1 Emergency Response Team Organization**

**Table 1: ERT Assignment for LKU Flow Station, Workshops and Offices**

ERT Assignment for LKU Flow Station, Workshops and Offices		
Role	Assigned to:	Primary Master Point
ERT Leader	VP, S1 Production Operations	ECC
ERT Duty Officer	Production Superintendent	ECC
Deputy ERT Leader	Production Superintendent Workshop Superintendent (Well Service Workshop)	ECC
SSHE Advisor	SSHE Superintendent	ECC
Telecom Operator	On duty telecom Operator	Telecom Room
Event Logger	Production Engineer	ECC
<u>LKU Flow Station and Offices</u>		
On-Scene Commander (OSC)	LKU Plant Supervisor	LKU CCR
Main Muster Logger	SSHE Officer (operation safety)	ECC
Muster Checker 1	Wellsite Supervisor 2	Main Muster Point @ Fire station
Muster Checker 2	Public Affairs Officer	Muster Point #2 @ PNEC Building
Muster Checker 3	LKU Plant Foreman	Muster Point #3 @ LKU CCR
<u>Well Services Workshop</u>		
On-Scene Commander (OSC)	Workshop Supervisor	Well Services Workshop
Area Muster Logger	Workshop Team Leader	Well Services Workshop
Muster Checker	Snr. Tech. (Workshop and General Services)	Muster Point @ In front of the workshop
<u>Material Yard and Material Storage Locations</u>		
On-Scene Commander (OSC)	LKU Support Base Supervisor	Material Yard
Area Muster Logger	Warehouse & Material Yard Team Leader	Material Yard
Muster Checker	Snr. Store Keeper	Muster Point @ In front of the material yard
ERT Assignment Details		
Doctor/Nurse	Doctor/Nurse	Clinic
Ambulance	On duty Ambulance Driver	Clinic
LKU Fire Truck FT01	SSHE Officer (Emergency)	Fire Station
LKU Fire Truck FW01	SSHE Senior Tech. (Emergency)	Fire Station
LKU Foam Tender Truck 1	LKU Depot Operator #1	LKU Depot
LKU Foam Tender Truck 2	LKU Depot Operator #2	LKU Depot
<b>Site Operations Team:</b> <ul style="list-style-type: none"> <li>- Production Supervisor</li> <li>- Power Plant Operator</li> <li>- Panel Operator</li> </ul>	LKU Plant Supervisor Maintenance Power Plant Operator Lead Production Operator (CCR) Senior Production Operator (CCR)	LKU CCR LKU Switchgear Room LKU CCR LKU CCR

ERT Assignment for LKU Flow Station, Workshops and Offices		
<b>Intervention Team:</b>  Fire Chief  Fireteam Leader 1 - Fireteam 1 member - Fireteam 1 member  Fireteam Leader 2 - Fireteam 2 member / Crude/LPG Fire Pump - Fireteam 2 member  Fireteam Leader 3 (Backup – F/S) - Fireteam 3 member - Fireteam 3 member  Fireteam Leader 4 (Backup – West Well Sites) - Fireteam 4 member - Fireteam 4 member  Fireteam Leader 5 (Backup – East Well Sites) - Fireteam 5 member - Fireteam 5 member - Fireteam 5 member	Lead Production Operator (LKU Flow Station)  On-duty Production Operator #1 On-duty Production Operator #2 On-duty Production Operator #3 On-duty Production Operator #4 On-duty Production Operator #5 On-duty Lab Technician  Off-duty Production Operator #1 Off-duty Production Operator #2 Off-duty Production Operator #2  On-duty Production Operator #1 On-duty Production Operator #2 On-duty Production Operator #3  On-duty Production Operator #1 On-duty Production Operator #2 On-duty Production Operator #3 On-duty Production Operator #4	LKU CCR  LKU Flow Station LKU Flow Station LKU Flow Station LKU Flow Station LKU Flow Station LKU Flow Station  LKU Accommodation LKU Accommodation LKU Accommodation  West Well Sites West Well Sites West Well Sites  East Well Sites East Well Sites East Well Sites East Well Sites
<b>On-Call Support Team:</b>  - Security Officer - IT Engineer - Logistics Support - Admin./Finance - Construction - Maintenance - Spill Response Team - Community & Media Response Team - Relative Response Team	GGI security Supervisor IT and Telecommunications Supervisor Oil Movement and Transportation Manager Cost Coordination Officer Onshore Execution Team Leader Maintenance Superintendent BRK Intertransport Co., Ltd. Public Affairs Manager Operations Training Center Manager	LKU Gate 1 Officer  Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station BRK Office Main Muster Point @ Fire Station Main Muster Point @ Fire Station

**Table 2: ERT Assignment for Well Sites and MPFs (West, East & North)**

<b>ERT Assignment for Well Sites and MPFs (West, East &amp; North) including DDC training center</b>		
<b>Role</b>	<b>Assigned to:</b>	<b>Primary Master Point</b>
ERT Leader	VP, S1 Production Operations	ECC
ERT Duty Officer	Production Superintendent	ECC
Deputy ERT Leader	Production Superintendent	ECC
SSHE Advisor	SSHE Superintendent	ECC
Telecom Operator	On duty telecom Operator	Telecom Room
Event Logger	Production Engineer	ECC
Muster Logger	SSHE Officer (operation safety)	ECC
Muster Checker	Assigned Operator	Affected Well Site / MPF
Doctor/Nurse	Doctor/Nurse	Clinic
Ambulance	On duty Ambulance Driver	Clinic
LKU Fire Truck FT01 LKU Fire Truck FW01	SSHE Officer (Emergency) SSHE Senior Tech. (Emergency)	Fire Station
LKU Fire Truck FT02 LKU Fire Truck FW02	Fire Truck Driver (Emergency) Fire Truck Driver (Emergency)	NTM-A
LKU Foam Tender Truck 1 LKU Foam Tender Truck 2	LKU Depot Operator #1 LKU Depot Operator #2	LKU Depot LKU Depot
On-Scene Commander (OSC)	Affected Area Supervisor (Field Supervisors – North, East, West)	LKU Office
<b>Site Operations Team:</b> - Production Supervisor - Production Operator - LKU CAO Operator - NTM CCR Operator - STN CCR Operator	Field Supervisors (North including NTM-A & STN/A, East, West) Affected Area Operators (MPFs) Lead Production Operator (CAO) Production Operator (CAO) Production Operator (NTM-A) Production Operator (STN-A)	LKU Office Affected Well Site / MPF CAO Room NTM-A STN-A
<b>Intervention Team (Well Sites):</b> - Fire Chief - Fireteam Leader 1 - Fireteam 1 member - Fireteam 1 member - Fireteam Leader 2 (Back-up – Well Sites) - Fireteam 2 member - Fireteam 2 member - Fireteam 2 member - Fireteam Leader 3 (Back-up – Well Sites) - Fireteam 3 member	<b>Well Sites in a radius of 30 km from LKU Flow Station including DDC training center</b> Lead Production Operator (Well Sites) On-duty Production Operator #1 On-duty Production Operator #2 On-duty Production Operator #3 On-duty Production Operator #1 On-duty Production Operator #2 On-duty Production Operator #3 On-duty Production Operator #4	Affected Well Sites Affected Well Sites Affected Well Sites Affected Well Sites Other Well Sites Other Well Sites Other Well Sites Other Well Sites LKU Accommodation



ERT Assignment for Well Sites and MPFs (West, East & North) including DDC training center		
<ul style="list-style-type: none"> <li>- Fireteam 3 member</li> <li>- Fireteam 3 member</li> </ul>	Off-shift duty Production Operator #1  Off-shift duty Production Operator #2  Off-shift duty Production Operator #3  Off-shift duty Production Operator #4	LKU Accommodation  LKU Accommodation  LKU Accommodation
<b>Intervention Team (NTM-A):</b> <ul style="list-style-type: none"> <li>- Fire Chief</li> <li>- Fireteam Leader 1 <ul style="list-style-type: none"> <li>- Fireteam 1 member</li> <li>- Fireteam 1 member</li> <li>- Fireteam 1 member</li> <li>- Fireteam 1 member</li> </ul> </li> <li>- Fireteam 2 member</li> </ul>	Lead Production Operator (NTM-A) On-duty Production Operator #1 Off-shift duty Production Operator #1 Off-shift duty Production Operator #2 Off-shift duty Production Operator #3 Off-shift duty Production Operator #4 Operators assigned to LKU Flow Station, E&W well sites	NTM-A NTM-A NTM-A Accommodation NTM-A Accommodation NTM-A Accommodation NTM-A Accommodation LKU Flow Station, East/West Well Sites
<b>Intervention Team (STN-A):</b> <ul style="list-style-type: none"> <li>- Fire Chief</li> <li>- Fireteam 3 member</li> </ul>	On-duty Production Operator #1 Production Operators assigned to NTM-A, east & west well sites	STN-A East/West Well Sites, NTM-A
<b>Intervention Team (MPFs):</b>	Request support by nearby production hub and/or external local authorities	The other production hub
<b>On-Call Support Team:</b> <ul style="list-style-type: none"> <li>- Security Officer</li> <li>- IT Engineer</li> <li>- Logistics Support</li> <li>- Admin./Finance</li> <li>- Construction</li> <li>- Maintenance</li> <li>- Spill Response Team</li> <li>- Community &amp; Media Response Team</li> <li>- Relative Response Team</li> </ul>	GGI security Supervisor IT and Telecommunications Supervisor Oil Movement and Transportation Manager Cost Coordination Officer Onshore Execution Team Leader Maintenance Superintendent BRK Intertransport Co., Ltd. Public Affairs Manager Operations Training Center Manager	LKU Gate 1 Officer Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station BRK Office Main Muster Point @ Fire Station Main Muster Point @ Fire Station

**Table 3: ERT Assignment for Bung Pra (BPR) Depot**

ERT Assignment for Bung Pra (BPR) Depot		
Role	Assigned to:	Primary Master Point
ERT Leader	VP, S1 Production Operations	ECC
ERT Duty Officer	Production Superintendent	ECC
Deputy ERT Leader	Oil Movement and Transportation Manager	ECC
SSHE Advisor	SSHE Superintendent	ECC
Telecom Operator	On duty telecom Operator	Telecom Room
Event Logger	Production Engineer	ECC
Main Muster Logger	SSHE Officer (operation safety)	ECC
Affected Area Muster Logger	BPR Depot Operator	BPR Depot
Muster Checker (Road Side)	BPR Depot Senior Security Guard	Muster Point @ In front of T-904
Muster Checker (Rail Side)	BPR Depot Security Guard	Muster Point @ In front of security guardhouse
Doctor/Nurse	Doctor/Nurse	Clinic
Ambulance	On duty Ambulance Driver	Clinic
LKU Fire Truck FT01 LKU Fire Truck FW01	SSHE Officer (Emergency) SSHE Senior Tech. (Emergency)	Fire Station
NTM Fire Truck FT02 NTM Fire Truck FW02	Fire Truck Driver (Emergency) Fire Truck Driver (Emergency)	NTM-A
LKU Foam Tender Truck 1 LKU Foam Tender Truck 2	LKU Depot Operator #1 LKU Depot Operator #2	LKU Depot LKU Depot
On-Scene Commander (OSC)	BPR Depot Supervisor	BPR Depot
<b>Site Operations Team:</b> - Depot Supervisor	BPR Depot Supervisor	BPR Depot
<b>Intervention Team:</b> - Fire Chief - Fireteam Leader 1 - Fireteam 1 member - Fireteam 1 member - Fireteam 1 member - Fireteam 1 member - Fireteam Leader 2 - Fireteam 1 member - Fireteam 1 member - Fireteam 1 member - Fireteam 1 member - Fire Water Pump Operator - First Aider	BPR Depot Operator Rail Side Loader Foreman Rail Side Loader North #1 Rail Side Loader North #2 Rail Side Loader North #3 Rail Side Loader North #4 Rail Side Loader South #1 Rail Side Loader South #2 Rail Side Loader South #3 Rail Side Loader South #4 Road Side Loader Road Side Loader Foreman Tractor Driver	BPR Depot BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Rail Side) BPR Depot (Road Side) BPR Depot (Rail Side)
<b>On-Call Support Team:</b> - Security Officer	GGI security Supervisor	LKU Gate 1 Officer

ERT Assignment for Bung Pra (BPR) Depot		
- IT Engineer	IT and Telecommunications Supervisor	Main Muster Point @ Fire Station
- Logistics Support	Oil Movement and Transportation Manager	Main Muster Point @ Fire Station
- Admin./Finance	Cost Coordination Officer	Main Muster Point @ Fire Station
- Construction	Onshore Execution Team Leader	Main Muster Point @ Fire Station
- Maintenance	Maintenance Superintendent	Main Muster Point @ Fire Station
- Spill Response Team	BRK Intertransport Co., Ltd.	BRK Office
- Community & Media Response Team	Public Affairs Manager	Main Muster Point @ Fire Station
- Relative Response Team	Operations Training Center Manager	Main Muster Point @ Fire Station

**Table 4: ERT Assignment for CNS Rail Tanker Inspection and Maintenance Workshop**

ERT Assignment for CNS Rail Tanker Inspection and Maintenance Workshop		
Role	Assigned to:	Primary Master Point
ERT Leader	VP, S1 Production Operations	ECC
ERT Duty Officer	Production Superintendent	ECC
Deputy ERT Leader	Oil Movement and Transportation Manager	ECC
SSHE Advisor	SSHE Superintendent	ECC
Telecom Operator	On duty telecom Operator	Telecom Room
Event Logger	Production Engineer	ECC
Main Muster Logger	SSHE Officer (operation safety)	ECC
Affected Area Muster Logger	CNS Site Manager (contractor)	CNS
Muster Checker	CNS Safety Officer (contractor)	Muster Point @ In front of security guardhouse
Doctor/Nurse	Doctor/Nurse	-
On-Scene Commander (OSC)	Depot Supervisor (BCP/ TOC/ PTTGC) or CNS Site Manager (contractor)	CNS
Intervention Team	Request support by external local authorities such as BKK metropolitan officer, sub-district office, local medical services, police and/or other government authorities	External local authorities
<b>On-Call Support Team:</b> <ul style="list-style-type: none"> <li>- Security Officer</li> <li>- IT Engineer</li> <li>- Logistics Support</li> <li>- Admin./Finance</li> <li>- Construction</li> <li>- Maintenance</li> <li>- Spill Response Team</li> <li>- Community &amp; Media Response Team</li> <li>- Relative Response Team</li> </ul>	GGI security Supervisor IT and Telecommunications Supervisor Oil Movement and Transportation Manager Cost Coordination Officer Onshore Execution Team Leader Maintenance Superintendent BRK Intertransport Co., Ltd. Public Affairs Manager Operations Training Center Manager	LKU Gate 1 Officer Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station BRK Office Main Muster Point @ Fire Station Main Muster Point @ Fire Station

**Table 5: ERT Assignment for PHS Housing Compounds**

ERT Assignment for PHS Housing Compounds		
Role	Assigned to:	Primary Master Point
ERT Leader	VP, S1 Production Operations	ECC
ERT Duty Officer	Production Superintendent	ECC
Deputy ERT Leader	Production Superintendent	ECC
SSHE Advisor	SSHE Superintendent	ECC
Telecom Operator	On duty telecom Operator	Telecom Room
Event Logger	Production Engineer	ECC
Main Muster Logger	SSHE Officer (operation safety)	ECC
Affected Area Muster Logger	Security Guard	PHS Housing Compounds
Muster Checker	Security Guard	Muster Point @ In front of security guardhouse
Doctor/Nurse	Doctor/Nurse	Clinic
Ambulance	On duty Ambulance Driver	Clinic
LKU Fire Truck FT01 LKU Fire Truck FW01	SSHE Officer (Emergency) SSHE Senior Tech. (Emergency)	Fire Station
NTM Fire Truck FT02 NTM Fire Truck FW02	Fire Truck Driver (Emergency) Fire Truck Driver (Emergency)	NTM-A
On-Scene Commander (OSC)	Operation Services Supervisor	LKU office
Intervention Team	Request support by external local authorities such as district officer, -sub-district office, -local medical services, -police and/or -other government authorities	External local authorities
<b>On-Call Support Team:</b> <ul style="list-style-type: none"> <li>- Security Officer</li> <li>- IT Engineer</li> <li>- Logistics Support</li> <li>- Admin./Finance</li> <li>- Construction</li> <li>- Maintenance</li> <li>- Spill Response Team</li> <li>- Community &amp; Media Response Team</li> <li>- Relative Response Team</li> </ul>	GGI security Supervisor IT and Telecommunications Supervisor Oil Movement and Transportation Manager Cost Coordination Officer Onshore Execution Team Leader Maintenance Superintendent BRK Intertransport Co., Ltd. Public Affairs Manager Operations Training Center Manager	LKU Gate 1 Officer Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station Main Muster Point @ Fire Station BRK Office Main Muster Point @ Fire Station Main Muster Point @ Fire Station

### 3.3 ROLES AND RESPONSIBILITIES

This section advises each S1 ERT member of their roles and responsibilities in dealing with emergency situations.

<b>Emergency Response Team Leader (ERTL)</b>	
Responsible Person	Vice President of S1 Production Operations Department
Work Station	S1 LKU Emergency Coordination Centre (ECC) room
Responsibilities	<p>Protect life, environment, plant, production, and reputation by taking effective actions; managing the S1 ERT and collaborating with PTTEP EMT and necessary external parties to ensure the potential for escalation and risk of injury and damage is minimised. S1 ERT leader shall:-</p> <ul style="list-style-type: none"> <li>• Ensure all ERT, CMRT &amp; RRT have received adequate training to cope with their assignments;</li> <li>• Maintain a state of readiness;</li> <li>• Assess the situation;</li> <li>• Take effective actions;</li> <li>• Maintain communication;</li> <li>• Delegate authorities to act;</li> <li>• Manage team performance; and</li> <li>• Deal with stress.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>• Establish early contact with PTTEP EMT and S1 asset duty persons;</li> <li>• Consider to activate Emergency Coordination Centre (ECC) and call in the ERT members and the On-Call Support Team as deemed necessary.</li> <li>• Manage and coordinate the activities of all S1 ERT members;</li> <li>• Develop an incident response strategy;</li> <li>• Control the incident to prevent escalation;</li> <li>• Maintain communications with PTTEP EMT, SVP of S1 asset, and necessary external parties;</li> <li>• Minimize risk to personnel including intervention team, S1 staff, contractors, and 3<sup>rd</sup> parties;</li> <li>• Minimize impact on the environment;</li> <li>• Ensure sufficient resources are available to support all response teams;</li> <li>• Plan the delegations of ERT members for rests if the emergency situation has been prolonged;</li> <li>• Plan and prepare for safe evacuation when necessary;</li> <li>• Keep closely informed and monitor the emergency situation, response, and recovery;</li> <li>• Provide any advice and support requested by the operating site;</li> </ul>

Emergency Response Team Leader (ERTL)	
	<ul style="list-style-type: none"> <li>Be a focal point to report and update the emergency situation to BKK S1 Asset Duty by phone as specified in the S1 weekly duty roster or direct report to BKK PTTEP EMT;</li> <li>Maintain records of events through Event Logger;</li> <li>Utilise "Time Outs" to update EMT of ongoing situation including: <ul style="list-style-type: none"> <li>The exact status of the event at the accident scene and evacuation details.</li> <li>Status and priority of supports provided to the site such as firefighting, medical evacuation, transportation, etc.</li> <li>Brainstorming and resolving key issues/problems faced.</li> </ul> </li> </ul> <p>For Tier 2 and 3 other than above:</p> <ul style="list-style-type: none"> <li>Activate S1 Emergency Coordination Center (ECC) and call in all ERT members and necessary On-Call Support Team.</li> </ul> <p>In case of a press release to local media or communities:</p> <ul style="list-style-type: none"> <li>Call in CMRT to support in dealing with media and community;</li> <li>Consult with the Crisis Communication Team (CCT) Leader on the general approach to be taken when speaking to the media;</li> <li>Be a spokesperson for disclosure of information and public statement to local media or communities;</li> <li>Represent the company externally, in interviews, and at a press conference;</li> <li>Ensure aid materials (charts, maps, etc) &amp; Technical Advisor are available;</li> <li>Assess the effectiveness of the press conference with the CCT Leader; and</li> <li>Log own actions, messages on communication, involved party, and time on the log sheet and pass it to event logger.</li> </ul>

ERT Duty Officer	
Responsible Person	The person appointed by ERTL, or by default, the S1 Production Superintendent
Responsibilities	<ul style="list-style-type: none"> <li>Take a role and responsibility as ERTL until his/her arrival (see ERTL responsibility); and</li> <li>Keep ERTL informed of the emergency situation, response, and recovery.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>Act as ERTL until his/her arrival (see Roles and Responsibilities of ERTL);</li> <li>Share workloads of ERTL as directed; and</li> <li>Direct and approve for the mobilization of ambulance, firetrucks, and Spill Response Team.</li> </ul>

Deputy Emergency Response Team Leader (DERTL)	
Responsible Person	<p>The person appointed by ERTL based on the area affected by an incident.</p> <ul style="list-style-type: none"> <li>PS1/P for LKU flow station, well sites, MPF locations, workshops, offices, material yard and material storage locations, PHS housing compounds and DDC training center.</li> <li>PS1/O for BPR depot in Phitsanulok Province and CNS rail tanker inspection and maintenance workshop in BKK.</li> </ul>
Responsibilities	<ul style="list-style-type: none"> <li>Minimise injury, environmental pollution, asset/property damage and reputation;</li> <li>Assist ERTL to manage and direct actions of the emergency response team, medical team, and incident support function to contain and control the emergency situation;</li> <li>Collaborate with local external parties; and</li> <li>Coordinate with RRT and CMRT when necessary.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>Update the situation with OSC and assess for the effective response strategy;</li> <li>Provide the resources e.g. manpower, fire/foam trucks, spill response team, financial support, etc. required for the emergency response to OSC, medical team and affected area;</li> <li>Provide technical advice to OSC, ERTL/ERT Duty Officer;</li> <li>Closely report to and take constant directions from ERTL/ERTL Duty Officer for uninterrupted and effective management of the emergency situation.</li> <li>Communicate, directly or through Telecom Operator, with local external parties e.g. governmental authorities, community, etc involving in the emergency situation;</li> <li>Support in collaboration between OSC and external parties;</li> <li>Communicate and collaborate with CMRT and RRT when the situation requires; and</li> <li>Log own actions, messages on communication, involved party, and time on the log sheet and pass it to event logger.</li> </ul>

On-scene Commander (OSC) or Deputy OSC		
Responsible Person	The person appointed by DERTL based on the area affected by an incident.	
	<b>Location</b>	<b>OSC</b>
	LKU flow station, workshops, offices	LKU Plant Supervisor
	Well sites and MPFs including DDC training center	Affected Area Supervisors (Field Supervisors – West, East & North)
	Well services workshop	Workshop Supervisor
	Material yard and material storage locations	LKU Support Base Supervisor
	BPR Depot	BPR Depot Supervisor
	CNS rail tanker inspection and maintenance workshop	Depot Supervisor (BCP/ TOC/ PTTGC) or CNS Site Manager (contractor)
	PHS housing compounds	Operation Services Supervisor
Responsibilities	<ul style="list-style-type: none"> <li>• Protect personnel including staff, contractors, community, intervention &amp; medical teams;</li> <li>• Minimise the impact to environment and community in the vicinity;</li> <li>• Assess the situation and establish the tactical response;</li> <li>• Take commands of all immediate responsive activities on the incident scene;</li> <li>• Report to and provide constant updates of the situation to DERTL;</li> <li>• Collaborate with involving local authorities; and</li> <li>• Maintain records of events.</li> </ul>	
Key Actions	<ul style="list-style-type: none"> <li>• Assess the current emergency situation, associated hazards, impacts, and their potentials;</li> <li>• Establish tactical response plan e.g. isolation, blowdown, spill containment, evacuation, intervention, etc;</li> <li>• Command the site operation, intervention &amp; medical teams on the scene;</li> <li>• Provide necessary resources to site operation, intervention and medical teams;</li> </ul>	



On-scene Commander (OSC) or Deputy OSC	
	<ul style="list-style-type: none"> <li>• Ensure all personnel are adequately protected against arising hazards, especially site operation and intervention teams;</li> <li>• Regularly call “time out” to update and assess the current status of the situation and changes, then direct site operation, intervention, &amp; medical teams as appropriate;</li> <li>• Initiate site evacuation if necessary;</li> <li>• Provides necessary initial information to immediate local authority e.g. SAO, police, hospital, etc;</li> <li>• In consultation with PTN/A (public affairs), assess the impacts and inform the nearby community as necessary;</li> <li>• In consultation with DERTL, consider community evacuation if situation deemed dangerous or has potential to cause danger;</li> <li>• Plan the staff change over for site operation, intervention and medical teams if the situation is prolonged;</li> <li>• Keep DERTL updated with situation, changes, progress, and potentials; and</li> <li>• Log own actions, messages on communication, involved party, and time on the log sheet and pass it to event logger.</li> </ul> <p>According to the “Disaster Prevention and Mitigation Act”, when emergency situation poses or has potential to pose the significant danger to community and environment, the governmental authority of the affected area will overtake the command of overall emergency response as “Emergency Director”.</p> <ul style="list-style-type: none"> <li>• When a situation deemed as in the above condition, provides initial information on the emergency situation to the local authority;</li> <li>• When local authority comes to take over the command, report to Emergency Director, and in parallel collaborate with ERT for effective emergency response and recovery; and</li> <li>• Provide necessary technical advice to the Emergency Director and teams.</li> </ul>

Site Operation Team	
Responsible Person	The staff assigned by OSC to operate and/or control the affected facility and area. In an emergency, they assist OSC to recover or make safe the facility and area by operating the facility, isolating & removing the arising hazards and providing necessary supports to the intervention team to contain the situation.
Responsibilities	<ul style="list-style-type: none"> <li>• Be under command of the OSC;</li> <li>• Operate/control/stabilize the affected facility and area; and</li> <li>• Support the intervention and medical teams.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>• Provide detailed current status of facility and area to the OSC e.g. process &amp; area condition, process safety system, F&amp;G system, firefighting system, etc;</li> <li>• Control and stabilize the facility and area e.g. shutdown, isolation, blowdown, inhibit/override of system, removal of hazards, etc;</li> <li>• Maintain safe conditions of facilities and area throughout emergency situation;</li> <li>• Notify hazards associated with process, facility, and area to OSC and intervention team;</li> <li>• Keep OSC updated with changes in conditions of the process, facilities, and area; and</li> <li>• Log own actions, messages on communication, involved party, and time on the log sheet and pass it to event logger as applicable.</li> </ul>

<b>Intervention Team Leader (ITL)</b>	
Responsible Person	The person assigned to lead the intervention team and direct tactical intervention activities e.g. firefighting, rescue, recovery of distressed personnel, etc.
Responsibilities	<ul style="list-style-type: none"> <li>• Provide a frontline response to the incident scene as directed by OSC;</li> <li>• Lead intervention team in coordination with site operation and medical teams.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>• Update the status of situation and potential with OSC and intervention team;</li> <li>• Take priority on the safety of the intervention team and others;</li> <li>• Consider the hazards and potentials of a gas cloud, oil spill, fire, boil over, BLEVE, collapse of structure &amp; vessel, traffic, etc.;</li> <li>• Size up the situation and establish tactical frontline action plan;</li> <li>• Utilize automatic system e.g. fire pumps, monitor, deluge, etc.</li> <li>• Ensure adequate and effective communication amongst the intervention team and with others;</li> <li>• Establish the forward control point for intervention and medical teams as necessary;</li> <li>• Collaborate with other supporting teams e.g. site operation &amp; medical team, and others e.g. fire brigade, police, etc.;</li> <li>• Brief the intervention team on the situation, potentials, target of achievement, and tactical action plan;</li> <li>• Direct the intervention team to accomplish the tactical action plan;</li> <li>• Monitor closely the intervention actions and assess the result. The intervention action plan may change upon the upcoming changes with the situation;</li> <li>• Make regular contact with the intervention team and OSC for updates and changes; and</li> <li>• Request external supports and resources when necessary.</li> </ul>

<b>Intervention / Fire Team Member</b>	
Responsible Person	The persons assigned as an intervention team member shall be adequately trained and competent to conduct the hand-on intervention activities e.g. firefighting, rescue, oil spill response, etc.
Responsibilities	<ul style="list-style-type: none"> <li>• Ensure the safety of own and others;</li> <li>• Under command of ITL</li> <li>• Provide frontline responsive actions on the emergency situation as directed.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>• Wear adequate and proper PPE to conduct the assigned task e.g. firefighting, rescue, chemical intervention, oil spill, etc.;</li> <li>• Receive a briefing on the situation, hazards, preventive measures and responsive action plan from ITL;</li> <li>• Conduct the actions assigned by ITL in a safe manner that may involve: <ul style="list-style-type: none"> <li>- Reconnaissance of incident scene;</li> <li>- Operating the automatic firefighting device;</li> <li>- Conducting firefighting task;</li> <li>- Conducting rescue, extraction, recovery, and handling of casualties; and</li> <li>- Assisting in control of traffic and access.</li> </ul> </li> </ul>

<b>Medical Team</b>	
Responsible Person	Medical Team consists of <ol style="list-style-type: none"> <li>1. LKU Doctor/Nurse</li> <li>2. Ambulance Driver</li> <li>3. Off-shift Duty Ambulance Driver</li> <li>4. Stretcher Team</li> </ol>
Responsibilities	<ul style="list-style-type: none"> <li>• Safety of own and others;</li> <li>• Size up the situation and activate the appropriate medical procedure;</li> <li>• Stabilize the casualties and initiate the transfer of casualty to hospital/medical centre in a safe manner as necessary;</li> <li>• Assess the extents of injuries and provide advice to the DERTL and/or OSC for appropriate treatment and further supports and resources required;</li> <li>• Assist in arranging medical evacuation/referral;</li> <li>• Coordinate with the PTTEP medical team and casualty-receiving hospitals; and</li> <li>• Log all actions, communication made, detail &amp; number of injury, time, etc. on the log sheet.</li> </ul>

<b>Medical Team</b>	
Key Actions	<p><b>LKU Nurse</b></p> <ul style="list-style-type: none"> <li>• Make ready, at all times, the medical equipment, and supplies at the clinic, in portable packs, and on the ambulance required for emergency response;</li> <li>• Size up the situation and take appropriate actions and give adequate first aid/initial medical treatment;</li> <li>• Utilize the available supporting staff in casualty handling e.g. intervention team, stretcher team, etc.;</li> <li>• For multiple casualties, consider to activate triage procedure and request for support from the selected hospital and medical service centre;</li> <li>• Seek advice from PTTEP medical team when necessary;</li> <li>• Assess and advise on the appropriate medical evacuation/referral to OSC and/or DERTL;</li> <li>• Coordinate with PTTEP medical team and hospital receiving the casualty to ensure the appropriate treatment and followup; and</li> <li>• Keep records of casualties and treatments.</li> </ul> <p><b>On-Duty Ambulance Driver</b></p> <ul style="list-style-type: none"> <li>• Have undergone the defensive driving and advanced first aid training courses;</li> <li>• Have ensured the ambulance is in ready &amp; clean condition with adequate fuel (minimum half a tank);</li> <li>• Get familiarized with the routes for transport;</li> <li>• Drive the ambulance in a safe manner based on defensive driving principle;</li> <li>• Assist the handling of casualties under supervision of doctor/nurse; and</li> <li>• Make entries into a driving log. This information includes injured persons'/ patients' names and addresses, trip times, mileage, and services performed.</li> </ul> <p><b>Off-Duty Ambulance Driver</b></p> <ul style="list-style-type: none"> <li>• Assist doctor/nurse to provide first aid treatment and handling of casualties.</li> </ul> <p><b>Stretcher Team</b></p> <ul style="list-style-type: none"> <li>• Assist medical team in manual transfer of casualty.</li> </ul> <p>Remark: In case of PTTEP ambulance absence, a back-up van having medical equipment as equal to the ambulance should be available.</p>

<b>SSHE Advisor</b>	
Responsible Person	Superintendent, SSHE of S1 Asset or his delegation
Responsibilities	<ul style="list-style-type: none"> <li>• Advise ERTL, DERTL, ERT duty officer, OSC, etc on SSHE matters and procedures relevant to emergency response &amp; management;</li> <li>• Observe the situation, taken actions, deficiencies, gaps for improvement, and advise ERTL &amp; ERT duty officer;</li> <li>• Ensure the procedure and actual practice are consistent and appropriate to regulations; and</li> <li>• Collect all information for the summary report to be further issued.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>• Evaluate the hazards and potentials of the incident and impacts;</li> <li>• Provide necessary information to ERTL, ERT duty officer and other members in ECC room;</li> <li>• Observe the ERP, relevant legislations, and the actual actions taken along with the emergency response process, then identify discrepant and deficiency and inform ERTL and/or DERTL;</li> <li>• Take note of all observations;</li> <li>• Support and liaise with event logger to ensure all necessary information and correct timeline are logged;</li> <li>• Ensure personnel accountability including those deployed to the emergency scene;</li> <li>• Provide technical advice on equipment, resources, and method to control, contain, and prevent the emergency situation, escalation &amp; impact;</li> <li>• Communicate with and seek advice from corporate SSHE division as necessary;</li> <li>• Call in other members of S1 SSHE staff to support as necessary;</li> <li>• After the emergency is over, collect all information, papers, photographs, other evidence of the emergency and response process. Compile a summary report for Vice president of S1 production operations department; and</li> <li>• Log own actions, messages on communication, involved party, and time on the log sheet and pass it to event logger.</li> </ul>

Telecom Officer	
Responsible Person	Telecommunication Operator
Responsibilities	<ul style="list-style-type: none"> <li>Be available, at all times, to receive an emergency call;</li> <li>Make accurate communication with internal and external parties as specified in ERP and instructed by ERTL; and</li> <li>Record details of all calls made in and out with the timeline.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>Maintain up-to-date emergency contact numbers for all internal and external parties;</li> <li>Make weekly call tests with S1 duty roster numbers;</li> <li>Ensure all telecommunication equipment in telecommunication room is readily available at all times;</li> <li>Upon receiving the emergency information, immediately report to ERT duty officer, ERTL, OSC, SSHE duty respectively;</li> <li>Upon confirmation from ERTL or ERT duty officer, report to EMT duty person;</li> <li>Upon request from ERTL or ERT duty officer, call in ERT members to report to ECC room;</li> <li>Support ERT in making calls to internal and external parties; and</li> <li>Log details of calls received and made on the log sheet.</li> </ul>

Event Logger	
Responsible Person	S1 Production Engineer
Responsibilities	<ul style="list-style-type: none"> <li>Log details of the situations and actions on the event log boards/sheets; and</li> <li>Ensure the logged information logged are accurate and adequate with what, when, where, who, whom &amp; how questions principle.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>Liaise with all ERT members to obtain significant and accurate information;</li> <li>Observe and listen to the communication made in ECC and take necessary information;</li> <li>Avoid interrupting ERT members when they are occupied with work;</li> <li>Log the received information in the chronological order on the event log boards/sheets in an accurate and clear manner;</li> <li>Update the status board e.g. mustering, mobilization of firetrucks &amp; other resources, etc.;</li> <li>Maintain the trailing records and update the current information of the situation; and</li> <li>Assist ERTL or ERT duty officer to feed necessary information in "time out".</li> </ul>

Muster Logger / Deputy Muster Checker	
Responsible Person	S1 SSHE Officer (Operational Safety)
Responsibilities	<ul style="list-style-type: none"> <li>Obtain and consolidate the personnel counts from each muster point (muster checkers);</li> <li>Communicate with muster points;</li> <li>Monitor and record the movements of personnel when called for duty;</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>Communicate with all muster checkers to obtain personnel counts;</li> <li>Together with muster checkers, identify the missing person;</li> <li>Update status of personnel counts to event logger;</li> <li>Coordinate with muster checkers for evacuations;</li> <li>Log own actions, messages on communication, involved party, and time on the log sheet and pass it to event logger; and</li> <li>Assist event logger for event logs.</li> </ul>

Muster Checker	
Responsible Person	Persons appointed to responsible muster points
Responsibilities	<ul style="list-style-type: none"> <li>Personnel counts at the designated muster point;</li> <li>Identifying missing person;</li> <li>Ensure safety and order of personnel at the muster point to be in order;</li> <li>Control and lead the evacuation of the designated muster point; and</li> <li>Communicate with a muster logger.</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>Ensure the mustered personnel are safe and remain in order;</li> <li>If the designated muster point is not safe, coordinate with muster logger for alternative muster point;</li> <li>Take a headcount of personnel at the designated muster point and report the result to muster logger;</li> <li>Identify the missing person with muster logger;</li> <li>Observe the mustered personnel for illness or injury and provide necessary supports;</li> <li>Coordinate with muster logger for personnel called from muster point for duty during an emergency;</li> <li>Encourage mustered personnel to calm down and be positive;</li> <li>Release persons for specific duty as requested by ER Team Leader and Muster Logger informed of this update/change; and</li> </ul>



Muster Checker	
	<ul style="list-style-type: none"> <li>Ensure all personnel remains at muster point during an emergency, it is not safe or receives instruction from ERTL, ERT duty officer or DERTL.</li> </ul>

Fire Warden (Building)	
Responsible Person	Persons working in building assigned to take the role of fire warden.
Responsibilities	In evacuation, ensure all personnel leaves area in a safe manner to muster points
Key Actions	<ul style="list-style-type: none"> <li>Direct all personnel in the designated area to leave the area for musters in a safe manner using appropriate routes and exits;</li> <li>Assist handicaps e.g. elderlies, children, injured, pregnant, disable, etc.</li> <li>Check all accessible spaces in their area, including the bathroom, store, pantry, etc, to make sure everyone has evacuated – this should be done on the way out of the building so that the fire warden does not put himself/herself at risk by re-entering the evacuated area;</li> <li>Close doors to help suppress or hinder the fire;</li> <li>Guide personnel to the muster points and assist in checking personnel having arrived safely at muster points; and</li> <li>Update with the list of staff stationed in the building given by PS1/S (emergency team).</li> </ul>

<b>On-Call Support Team</b>	
Responsible Person	The persons selected are the representatives of each discipline to support ERT when needed.
Responsibilities	<p>The On-Call Support Team comprises of representatives from a number of various disciplines. They are specialized and act as advisors and communication links.</p> <p>The On-Call Support Team consists but not limited to the following members:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Logistic Support;</li> <li><input type="checkbox"/> Well Service;</li> <li><input type="checkbox"/> Maintenance;</li> <li><input type="checkbox"/> Security Supervisor;</li> <li><input type="checkbox"/> Community &amp; Media Response Team;</li> <li><input type="checkbox"/> Relative Response Team.</li> <li><input type="checkbox"/> Drilling;</li> <li><input type="checkbox"/> Construction;</li> <li><input type="checkbox"/> IT/ Telecom Supervisor;</li> <li><input type="checkbox"/> Spill Response Team;</li> </ul>
Key Actions	<ul style="list-style-type: none"> <li>• Be ready on call, able to report to ECC within 2 hours when called by ERTL or ERT duty officer;</li> <li>• Be the link of communication between ERT and their assigned sections, departments, contractors;</li> <li>• Advise ERT on their specialized matters;</li> <li>• Collaborate with the assigned discipline on request;</li> <li>• Execute the task to support emergency response requested by ERT;</li> <li>• Receive briefing from ERTL or delegation;</li> <li>• Advise ERT members on matters relating to their discipline matters;</li> <li>• Call in or consult with other staff in their disciplines as required;</li> <li>• Provide support to ERT members as required; and</li> <li>• Log own actions, messages on communication, involved party and time on the log sheet and pass it to event logger.</li> </ul>

<b>Community &amp; Media Response Team (CMRT)</b>	
Responsible Person	Manager, Public Affairs Section and Team
Responsibilities	<p>Act as a point of contact and advise on all press related issues in supporting ERTL for appropriate communication with media and community.</p> <p>Note: Mobilize the team to Communication &amp; Media Response Room (CMRR) at LKU Building #1 Room #2 when Tier 2 and 3 emergency level is activated.</p>
Key Actions	<ul style="list-style-type: none"> <li>• Establish a proactive media liaison and public affairs strategy;</li> <li>• Seek advice, work closely and maintain communication with PTTEP Crisis Communication Team (CCT) for information review prior to delivering a response to local media and community;</li> <li>• Brief ERTL on local media interest, issues developing and requests from the media for information;</li> <li>• Assist in developing/delivering a response to the local media and community as directed by ERTL;</li> <li>• Maintain a log of media activity identifying the line of questioning being adopted by the media and issues developing and pass this information to ERTL;</li> <li>• Maintain a personal log of events undertaken during the incident life cycle and pass completed log sheets to Event Logger;</li> <li>• Ensure that Event Logger has a record of all contact with authorities;</li> <li>• Establish contact numbers where the media can call for information;</li> <li>• Pass any press releases to ERTL for approval process;</li> <li>• Update ERTL on all media and external affairs issues;</li> <li>• Monitor media related to an emergency; and</li> <li>• Liaise with ERTL if there is a requirement to confront any press interviews/conference.</li> </ul>

Relative Response Team (RRT)	
Responsible Person	Manager, Operations Training Center Section and Team
Responsibilities	<p>Act as a point of contact and advise on all human resources related issues.</p> <p>Provide support for human resource issues handling.</p> <p>Note: Mobilize the team to Relative Response Room (RRR) at LKU Building #2 Meeting Room when Tier 2 and 3 emergency level is activated.</p>
Key Actions	<ul style="list-style-type: none"> <li>• Have information on staff's selected relative's contact number for emergency;</li> <li>• Seek advice, work closely and maintain communication with PTTEP HR department for the information on the status of staff injuries, company welfare, legal concerns, and additional support required;</li> <li>• Advise ERTL on personnel and welfare issues relating to staff.</li> <li>• Hold the information on the status of ERT members, staff and contractors affected by the incident and emergency e.g. injured, deceased, locations, etc.</li> <li>• Coordinate with PTTEP HHR (Human resources) division;</li> <li>• Coordinate with hospitals for treatment of injured persons and provide the additional support required;</li> <li>• Consider mobilising RRT to interface with family or relatives of the impacted staff;</li> <li>• Make a note and maintain a personal log of all relevant information received and the consequential activity performed and pass each note to Event Logger;</li> <li>• Assist the Event Logger in tracking personnel on the status boards and ensure accuracy of information; and</li> <li>• Establish the requirement for counselling services for those affected by the emergency (open to all employees and contractors).</li> </ul>

Each ERT member shall record the details of message/events upon receiving in to the emergency log sheet form (**Appendix C**).

### 3.4 EMERGENCY RESPONSE ACTION

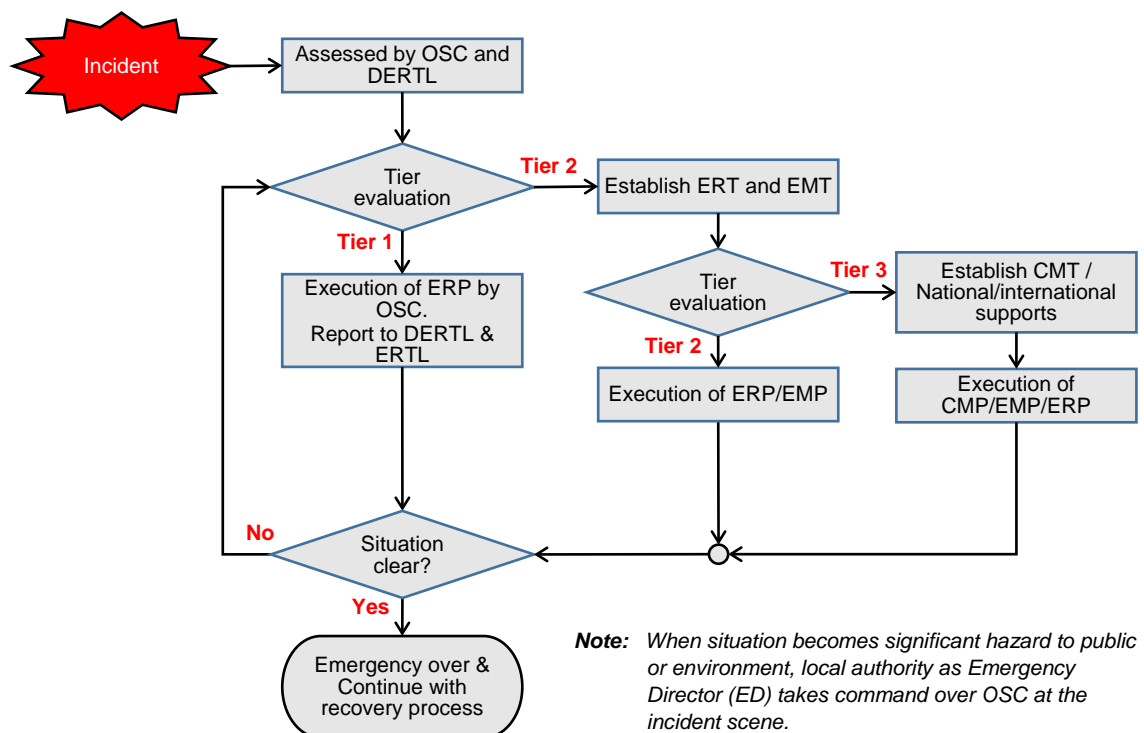
The response action of an emergency situation occurring at S1 operating sites can be summarized in flowing details.

1. When an emergency occurs, OSC with the site operation team and intervention team responds to the emergency situation as soon as possible.
2. OSC will evaluate the tier of emergency in consultation with the ERT duty officer.
  - a. Even though the emergency situation is within tier 1, localized and can be handled by site staff (OSC, site operation, intervention, and medical team), yet OSC shall immediately report to ERT duty officer for further justification;
  - b. If the emergency falls into tier 2,
    - i. Upon receiving the emergency information, ERTL or ERT duty officer shall activate ERT and ECC room. LKU telecom officer shall immediately call the duty persons of S1 ERT (see Section 3.2) to meet together at the S1 ECC room.
    - ii. ERTL or ERT duty officer shall lead ERT, in responding to the emergency situation.
    - iii. ERTL or ERT duty officer shall immediately contact BKK S1 asset duty and/or EMT Leader (SVP.). EMT will be established to manage and provide relevant supports to the asset in the tier 2 emergency situation.
    - iv. ERTL or ERT duty officer reported the emergency situation to the local governmental authority of the affected area.
    - v. DERTL or OSC may establish direct contacts for supports with external parties in the area e.g. SAO, police, hospital, medical service centers, provincial electricity authority, etc.
    - vi. The affected local government authority takeovers the emergency management by acting as Emergency Director (ED) if the emergency significantly affects the community or environment according to the Disaster Prevention and Mitigation Act.
    - vii. Even though OSC takes the command from ED, OSC yet carries on with emergency response on the scene in an effective way. The ED could be the executive chief of affected SAO or higher.
    - viii. OSC, while taking command from ED, collaborates with ERT for supports and information updates.
  - c. If the emergency escalates to tier 3, the situation goes beyond the capability of EMT, ERT & OSC to handle, the CMT shall be established in BKK. Emergency response and management shall be conducted according to PTTEP Emergency and Crisis Management Standard (SSHE-106-STD-500) and Crisis Management Plan (SSHE-106-PDR-501).

In case of emergency with S1 external organization in S1, but not directly under responsibility of S1 production operations department (PS1), e.g. new drilling site, new construction site, seismic survey, etc., the Company Site Representative (CSR) shall act as OSC for their responsible location and report directly to S1 DERTL.

Apart from the normal function line reporting procedure, CSR as OSC shall report all incidents to S1 telecom officer and ERT duty officer.

The Emergency Tier Evaluation & Response Flowchart is shown in **Figure 3**.



**Figure 3: Emergency Tier Evaluation & Response Flowchart**

### 3.5 COMMUNICATION DURING EMERGENCY

During an emergency, communications can be executed by the following methods.

- Radio;
- Landline Telephone;
- Mobile Phone;
- E-mail; or
- Fax

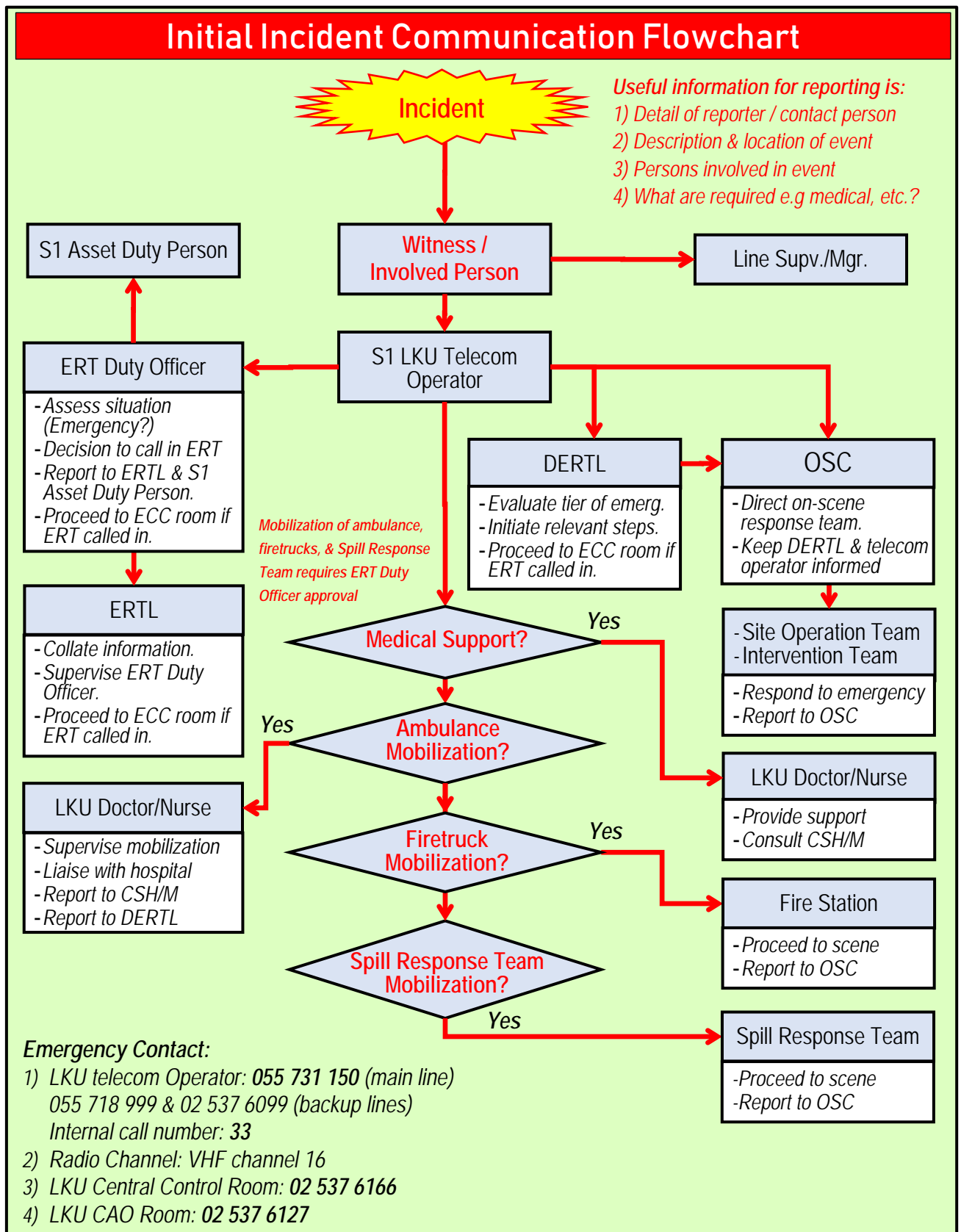
Portable radios (VHF) are provided to S1 operational staff and assigned as the primary option for emergency communication. In normal situations, all handheld radio users are on channel 15. In emergency situations, telecom operator broadcasts to all stations involving an emergency e.g. ERT, OSC, affected site operation, intervention & medical teams to switch to channel 16 for emergency communication. Others not related to emergency may remain on channel 15 for their normal operational communication.

Besides, the external and internal telephone numbers are provided to support both normal and emergency communication. The S1 emergency numbers (external: 055 731 150, internal: 33) are provided at the telecom room which is manned 24 hours every day for all emergency calls from S1 internal and from external parties e.g. community, governmental bodies, etc. Telecom operator is responsible to respond to all calls, take & log precise messages on the given log sheet and relay it to responsible persons (see roles and responsibilities of telecom operator in section 3.3).

The formal emergency call messages that need to be informed to Emergency Response Team, on-call support team and involved parties by LKU Telecom. Operator are shown in **Appendix A**. The emergency report form which will be logged by LKU Telecom. Operator on receiving notification of emergency is illustrated in **Appendix B**.

Email; LKUtelexRoom@pttep.com and fax; 02 537 6212 are available to support informative communication e.g. text, photographs, etc.

Most of the emergency cases, they begin with the incidents then escalate into an emergency. Therefore, the appropriate and timely notification of incidents can improve the responsive actions to the incident and attenuate the situation not to become an emergency. The initial emergency communication flow is illustrated in **Figure 4**.



**Figure 4: S1 Initial Incident Communication Flowchart**



### 3.6 MUSTER POINT

The muster point is the predetermined place where is at a safe distance from the potential hazards and with adequate space for gathering and counting personnel in an emergency situation.

#### 3.6.1 Type of Muster Point

##### a) Primary Muster Point

The primary muster points are for personnel to take an initial assembly when the emergency situation requests to muster e.g. LKU CCR is a primary muster point for flow station operation & intervention teams, ECC room is a primary muster point for ERT, area behind fire station is a primary point for all personnel not involving the emergency response actions. The assigned muster checker (and backup muster checker) shall be present to keep muster in order, for personnel movement control, for personnel counts, and for communication with muster logger.

##### b) Backup Muster Point

The backup muster point is the secondary muster point where personnel gathers in case they cannot safely proceed to the primary muster points. The backup muster point is not always necessary for all locations if alternative escape routes to primary muster point can be assured.

Depending on emergency situation, the predetermined muster points of all S1 locations are displayed in **Appendix D**.

#### 3.6.2 Mustering Action

All personnel at S1 shall be briefed on their designated muster point and action to take at muster point that shall include, but not limited to:

For all personnel:

- On hearing/knowning mustering alarm or notification, make worksite safe proceed to the designated muster point. Walk fast and do not run;
- Observe the safety of the passage. Take the fastest route to proceed to the designated primary muster point. If it is not safe, take an alternative route;
- If there is no safe alternative route, proceed to the predetermined backup muster point, call S1 emergency number 055 731 150 or radio VHF channel 15, and standby for instruction; and
- At the primary muster point, stay calm and keep noise low. Respond to the muster checker and report any information necessary to emergency handling.

Note: Security guards on duty at all gates remain at gates and support access control during emergency otherwise it is not safe to do so.

For muster checker:

- At the muster point, stay calm and take control of the muster;
- Initiate the predetermined personnel count procedure;
- Observe and provide support to the mustered persons e.g. injury, fear, panic, etc.;
- Report the number of mustered persons, missing persons, injury, etc. to the muster logger when requested;
- Maintain muster in order and ensure the comfort of mustered persons as practical. No person should leave the muster point without instruction from ERT. Take record of mustered person movement when called out by ERT;
- When the muster point is deemed unsafe, consult the muster logger to move the muster point to the safe place as practical; and
- Only when the muster logger instructs, release the mustering.

The locations of predetermined muster points, positions of Muster Checker and Muster logger of each S1 operating location are summarized in **Appendix D**.

### **3.7 FACILITIES**

The facilities shall be provided to support activities by the OSC team, ERT, CMRT, and RRT. These facilities shall be adequately equipped for the effective performance of the designed team, especially for communication and information management. All ICT equipment in those rooms shall be well maintained and checked by PS1/M (ICT) to ensure all ICT equipment is always readily available and fully functioning. All materials and documents in those rooms are prepared and made ready for prompt use by the PS1/S section.

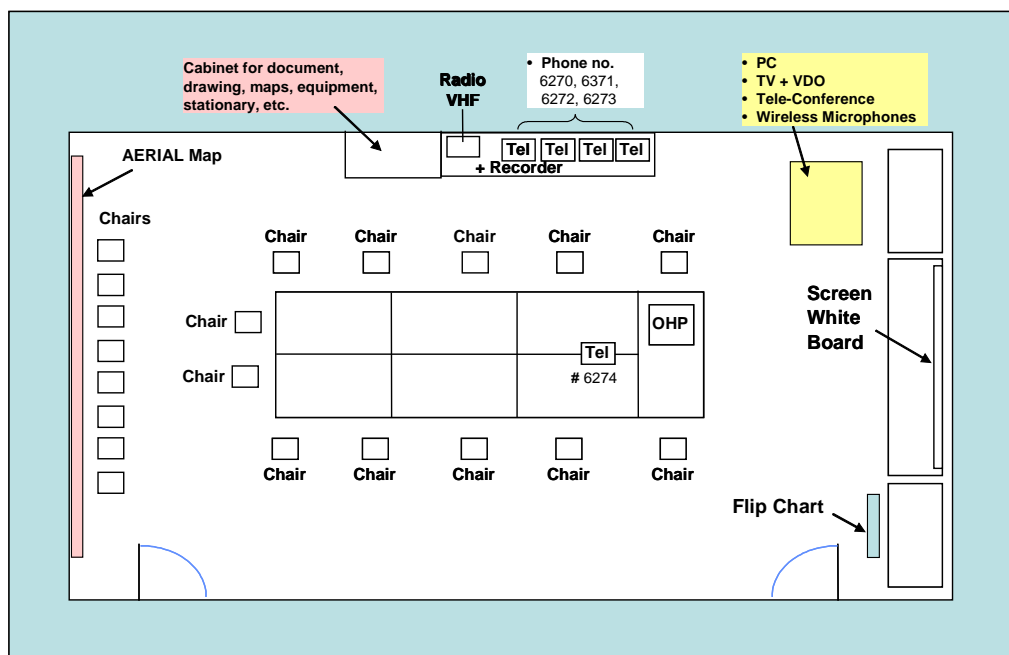
At LKU office, 4 separate rooms are provided for:-

1. Emergency Coordination Centre (ECC) room for ERT to occupy for their duties;
2. Relative Response Room (RRR) for RRT to occupy for their duties;
3. Communication and Media Response Room (MRR) for CMRT to occupy for their duties;  
and
4. Press Release Room (PRR) for the press release and media interfaces.

Other than the aforementioned rooms, the LKU CCR and CAO rooms are to be ready with ICT, materials, and documents ready for emergency response as well. PS1/P section is in charge of ensuring they are readily available.

#### **3.7.1 Emergency Coordination Centre (ECC)**

ECC is located at LKU building #1 meeting room #1. The ECC is arranged for S1 ERT and on-call support team to gather and use for their emergency duties.



**Figure 5: Simplified Layout of Emergency Control Room**

#### Emergency Coordination Centre (ECC) – First In Actions

- Shift the magnet bar for register/muster;
- Switch on and ensure that the PC is working correctly;
- Lower the projection screen and turn on the digital projector;
- Log on the main PC using appropriate user name & password (kept in the cupboard);
- Check that all telephones are working correctly;
- Checks all required documents are available and updated (tel. directory, duty roster list, drawings, etc.);
- Take the briefing from ERTL or ERT duty officer and refer to individual role checklists.

#### ECC Equipment List

<b>Telephones:</b>	5 PABX telephone extensions {810-6270, 6272, 6273, 6274, 6371}
<b>Display boards:</b>	Casualties' status, the sequence of events, POB status, weather condition, and status of emergency resources.
<b>Information Board:</b>	1 board showing POB information, authorised delegates, Duty Rosters, stationery and forms
<b>Documentation:</b>	<ol style="list-style-type: none"> <li>1. Corporate Emergency Management Plan</li> <li>2. Corporate Crisis Management Plan</li> <li>3. S1 Emergency Response Plan</li> <li>4. Key Site Drawings of Facilities and Installations</li> <li>5. Emergency Log Sheets</li> <li>6. Telephone directory</li> <li>7. S1 Emergency Reporting Flowchart</li> <li>8. S1 Duty Roster List</li> </ol>

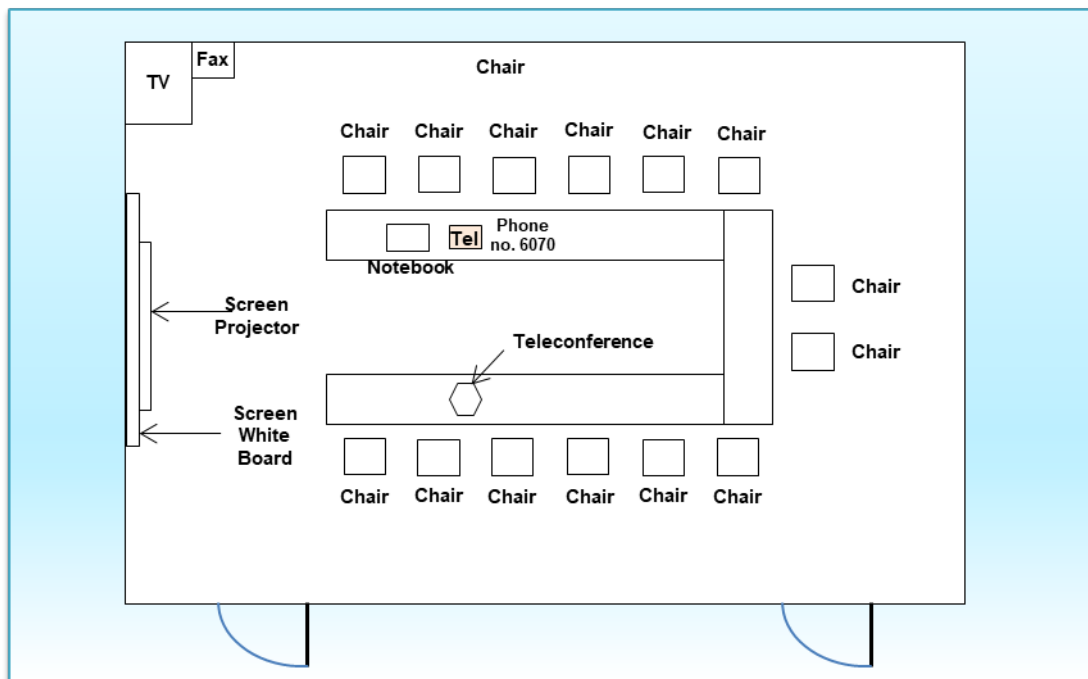
In case the ECC room at LKU building #1 meeting room #1 cannot be utilized when an emergency occurs such as fire or bomb threat at the office building, flooding, road blockage, the predetermined alternative venues are:

1. The meeting room at well services workshop; and
2. PHS housing.

Upon such a situation, ERTL or ERT duty officer announces to all ERT members to report to an alternative ECC room.

### 3.7.2 Community and Media Response Room (CMRR)

CMRR is located at LKU Building #1 Room #2 for CMRT to utilize for their emergency duties e.g. information preparation, press compilation, communication, etc. S1 Public Affairs (PTN/A) staff take roles and responsibilities as CMRT.



**Figure 6: Simplified Layout of Media Response Room (MRR)**

### Community and Media Response Room (CMRR) – First In Actions

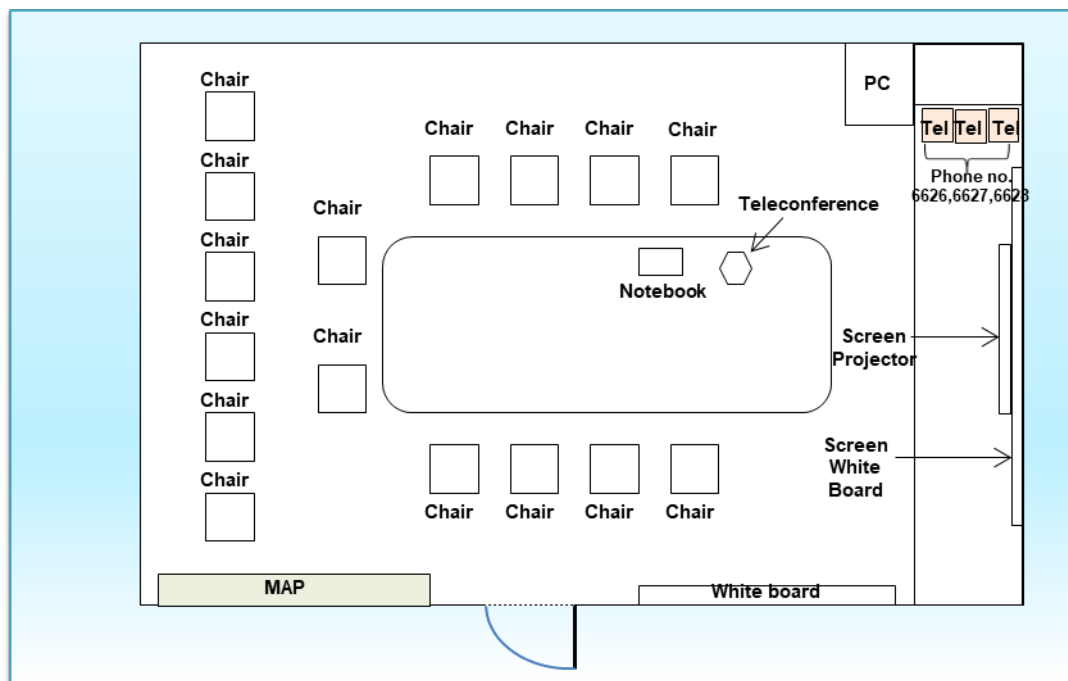
- Ensure that the PC is working correctly;
- Log on the main PC using appropriate user name & password (kept in the cupboard);
- Ensure all required document e.g. emergency contact list, community contact list, etc. are available;
- Check that all telephones are working correctly;
- Await the briefing from Manager, Public Affairs Section.

### CMRR Equipment List

- Telephones:** 1 PABX telephone extensions No. 810-6070
- Information Board:** 1 board for preparation on the media press release
- Documentation:**
1. S1 Emergency Response Plan
  2. List of local media with telephone directory
  3. List of Corporate Community & Media Response Team with telephone directory
  4. S1 Emergency Reporting Flowchart
  5. S1 Duty Roster List

### 3.7.3 Relative Response Room (RRR)

Relative Response Room (RRR) is located at LKU Building #2 Meeting Room. RRR is arranged for the Relative Response Team (RRT) for preparation on information and coordination with relatives of staff and contractors who are injured or deceased. Operations Training Center (HRC/O) staff take roles and responsibilities as RRT.



**Figure 7: Simplified Layout of Relative Response Room (RRR)**

### Relative Response Room (RRR) – First In Actions

- Ensure that the PC is working correctly;
- Ensure accessibility to staff database and contract holder list;
- Log on the main PC using appropriate user name & password (kept in cupboard);
- Check that all telephones are working correctly;
- Await the briefing from manager, Operations Training Center Section

### RRR Equipment List

- Telephones:** 3 PABX telephone extensions {810-6626, 6627, 6628}
- Information Board:** Staff and contractor status board
- Documentation:**
1. S1 Emergency Response Plan
  2. List of focal point of S1 department staff and contractors with telephone directory
  3. List of Corporate Relative Response Team with telephone directory
  4. S1 Emergency Reporting Flowchart
  5. S1 Emergency Duty Roster List

### 3.7.4 Press Release Room (PRR)

Press Release Room (PRR) is located at a room of 1<sup>st</sup> floor, 30th Year Building. The room is used for information disclosure and issuing public statements to local media or communities in case of emergency.



**Figure 8:** Photo of Press Release Room (PRR)

### 3.8 PRESS RELEASE

In the event of an emergency and/or a crisis, a special communication task force is to be set up. The team comprises, at least, a media spokesperson and the Crisis Communications Team (CCT). Their responsibilities include communication with external audiences that are media, authorities, and local communities.

According to PTTEP Delegation of Authority & Signature (DAS), only the President and Chief Executive Officer (CEO) and/or designated representatives of the organization are authorized to disclose information and issue public statements in case of an emergency. The level of spokesperson shall be as the following chart.



In case of an emergency at S1 asset, VP of S1 Production Operations Department (ERTL) or designated representative has the authority as a media spokesperson for disclosure of information and public statement to local media or communities, according to Crisis Communication Guideline (12145-GDL-004-R04) and PTTEP DAS. The information and/or public statement is prepared by S1 CMRT and reviewed & approved by PTTEP Crisis Communication Team (CCT) and EMT Leader prior to the press release. ERTL will provide the press release to local media or communities at Press Release Room (PRR) located at S1 SSHE Induction Room.

Examples of communication tools (as follows) are illustrated in **Appendix E**.

- Key Messages
- Media Release Template
- 1st Telephone Message to Answer Media and Investor Enquiries
- Holding Statement

### **3.9 DEACTIVATION AND POST EMERGENCY ACTIONS**

#### **3.9.1 Deactivation**

The EMT Leader, in consultation with S1 ERTL, is the sole authority for deactivating an emergency declaration. Deactivation should only be called when S1 ERTL and EMT Leader agree that the emergency has been contained, and satisfactorily safe in all respects.

The activities and procedures which must be undertaken to recover from an emergency, the EMT Leader shall ensure the conducting of the following activities include, but are not limited to:

- The cleanup, maintenance, and testing of equipment;
- The re-commissioning of facilities, plant, and equipment;
- The replenishment of stocks (such as firefighting foam, spill clean-up materials, replacement parts);
- The accounting for all expenses incurred as a result of the incident;
- The filing of insurance claims; and
- Preparation and dispatch of final reports to relevant Shareholders, Government, and Local Authorities.

#### **3.9.2 Emergency End and Final Actions**

Once a decision has been made that no further actions are outstanding and that an emergency is over, many issues need to be considered before standing down. There is a need to consider the following:

- If the severe impact taken place with the production continuity as a result of incident, the S1 Business Continuity Plan (BCP) shall be activated referring to Thai Onshore Asset (PTN) Business Continuity Plan (BCP) (Document Code: 63984.1/2017)
- Ascertain the current position of each team member as regards their role, responsibilities and any ongoing/ outstanding actions;
- Identify and assign any outstanding actions including debriefing of interested external parties, such as authorities, community, etc;
- Put in place an emergency situation review to ensure the completion of outstanding actions;
- Understand any outstanding human resource issues and ensure that the necessary information is provided and the appropriate steps are being taken;
- Ensure that all staff are aware of the emergency close out and update them regarding the short and long-term issues affecting the company (if known);
- Ensure that all information has been captured and recorded;



- Have a team debrief before staff leave or return to normal duties;
- Ensure the plan of a future debrief time when all actions can be analysed. This can usually be within 24 - 48 hours of emergency closeout. Consider including the participation of independent reviewers; and
- This review should also address the sensitivity of the report information and determine the most appropriate means of secure storage.

After the review, a closeout report should be prepared. The report should cover the following:

- Understand and document the cause(s) of the emergency;
- Document all involved parties and details of participating personnel;
- Analyse the response and identify any learning points to be incorporated into the appropriate procedures and/or to be shared with other parts of the Business;
- Incorporate a full picture of the costs incurred as a result of the incident; and
- Review the effectiveness of all actions taken.

### **3.9.3 Incident Investigation**

Incident investigation shall be conducted in accordance with Incident Management Standard (SSHE-106-STD-600) as soon as possible and when safe to do so. It should be conducted right after the emergency situation has been cleared in order to collect all evidence & facts and capture actual causes of the incident for proper analysis to define the effective mitigations and improvements for recurrence prevention and emergency/crisis response strategy.

### **3.9.4 Post Emergency Review**

A post-emergency review is required for conducting to examine the response to the emergency. The EMT Leader and/or S1 ERTL should convene an emergency review meeting. Those attending the review meeting shall include the EMT & ERT members, and all other support team members. Minutes of the review meeting shall be recorded and archived for future analysis. The review meeting shall determine (but not limited to) the following:

- Were employees properly informed of S1 ERP and relevant corporate standards/procedures?
- Did employees respond according to S1 ERP and relevant corporate standards/procedures?
- Were employee's responses timely?
- Were the procedures adequate?
- What were the problems encountered during the response activities?
- What can be improved?

- How can similar events be avoided in the future?

If public emergency services were involved, they shall be invited to participate in the critique.

### **3.10 TRAINING AND EXERCISE**

All concerned personnel who are assigned as the emergency response team shall be trained and have competency for their emergency response roles and responsibilities. Training requirements for personnel involving emergency response are illustrated in S1 SSHE Training and Competency Procedure (13247-PDR-SSHE-305/01) and PTTEP SSHE Training and Competency Standard (SSHE-106-STD-340).

Emergency exercise shall be regularly performed by S1 emergency response team members according to the set plan agreed by S1 management. These emergency exercises and drills are to enhance the knowledge & skills of the members and to test the effectiveness of existing ERP for improvement.

### **3.11 S1 DUTY ROSTER GUIDELINE**

The S1 duty roster is designed to provide effective support around the clock for resolving the emergency situation. The duty persons are appointed by the ERT members in each discipline to act on their behalf when they are not readily available to respond to emergency calls. They shall be trained and competent to respond to emergency in their given discipline's roles.

All duty persons are expected to be contactable at all times during their duty period. All duty persons shall respond to all emergency call and take their given roles to support the emergency. When called in, they shall proceed to their designated emergency station the soonest within 2 hours.

The ERT duty persons shall act in emergency response until released by the ERT member in the given discipline.

The duty roster consists of two groups as follows:

#### **3.11.1 ERT Duty Roster**

##### **ERT Essential Duty Group:**

The ERT essential duty group is the main group that will always be called in when emergency tier 2 & 3 is initiated. The ERT essential duty group comprises the following persons:

- Domestic Onshore Asset Duty (S1, PTTEP1 and SPH)
- Duty Officer
- Event Logger
- SSHE Officer
- SSHE Duty
- Logistics Duty

- Maintenance Duty
- IT/ Telecom Services
- Security Services
- Medical Team
- Community & Media Response Team (CMRT) Duty
- Relative Response Team (RRT) Duty

For the essential duty group, the duty officer (S1 Production Superintendent) is a key person for coordination with other duty persons including on-call support team on emergency supports.

#### **On-Call Support Team Duty Persons:**

The On-Call Support Team Duty Group will be assigned from various disciplines' representatives working within S1 operation premise. The selected persons will be called in when their related discipline has sustained an emergency or ER Team Leader / EMT requires assistance. The On-Call Support Team Duty Group is comprised of (but not limit to) the following groups:

- Drilling Duty – ETN SSHE
- Well Services Duty
- Construction Duty
- Material Yard Duty

In addition to above duty groups, the register of S1 duty roster shall include other support staffs of S1 operation department for fulfilling support on emergency situation as required.

Depending on the different roles and responsibilities of duty staff, mobilization time to LKU office for support emergency are varied as follows:

- Available immediately (restricted to shift staff working on facilities including duty officer, event logger, SSHE officer, security services, medical team, well services duty);
- Within 2 hours (key support staff e.g. SSHE duty, logistic duty, maintenance duty, CMRT duty, RRT duty, drilling duty, construction duty, material yard duty, IT/Telecom).

The example of S1 duty roster for emergency response as per duty group classification and mobilization period is illustrated in **Appendix F**.

#### **Back-up Duty Roster Team:**

If an emergency takes long time to last, ER Team Leader and/or Duty Officer shall consider having a relieve team. The Duty Roster Team in a later week will be called for backup.

In the event of two emergencies happen at the same time, the Back-up Team will be called.

### 3.11.2 Duty Roster Nomination

Staff are nominated by their line managers/supervisors for duty roster for a period 7 consecutive calendar days, starting on Monday at 12:00 hrs. The duty roster will be updated to all duty staff and Corporate SSHE division by S1 SSHE department as per weekly basis. The roster will be distributed every Thursday to the following week's duty holders, and the personnel who will be on duty during the following weeks. This will include key personnel such as Telecom Officer. The assigned Department Focal Points are responsible for providing the Corporate SSHE Division with information regarding the forward planning of the Duty Roster. Changes during a Duty Roster Week are allowed, but it shall be the responsibility of the person scheduled for duty. The change must be amicably agreed by the nominated recipient and shall be communicated, by the person requesting the change, to S1 SSHE Department focal point (Officer, Data Management (SSHE) or assigned person). The requested change shall only be to another qualified duty person in the group.

### 3.11.3 Communication for Duty Roster Personnel

Staff on Duty Roster will receive an Emergency Duty Book which consists of a log book and contact list. Details of all calls, received and transmitted, should be entered into the log book. The Emergency Duty Book must be handed over to the next person of duty.

#### 1. DUTY ROSTER MOBILE PHONE TEST

The Duty Roster mobile phone will be tested by LKU Telecom Officer every Monday at 13:00 hrs. The message will be;

- "Duty Telephone Test, please confirm it is working ... over".

(ทดสอบการติดต่อโทรศัพท์ ครับ ไม่ทราบชัดเจนหรือไม่ ครับ)

This is to ensure that the mobile phones are workable and also to remind duty persons that they are on duty.

If by 16.00 hrs. the Duty Person has not been phoned, he/ she must ring LKU Telecom Officer and report that they did not receive the test call.

The Operator, Telecom Services will then test that number again.

#### 2. GENERIC DUTY ROSTER RESPONSIBILITIES

- Be available and be within the mobilization time radius of LKU Office at all times;
- Carry the duty mobile phone at all times;
- Ensure that the mobile telephones are always working;
- Be aware of specific responsibilities during an emergency;
- When receiving an emergency call, respond as directed by the call message;
- Immediately report any problems with duty communications equipment to Operator, Telecom Services;

- Inform S1 SSHE Department focal point (Officer, Data Management (SSHE)) of any changes to the published duty roster;
- Must not have a blood alcohol level above the National legal limit;
- Notify S1 SSHE Department focal point (Officer, Data Management (SSHE)) of any changes in mobile telephone numbers.

### **3. DUTY ROSTER PERSONNEL QUALIFICATION REQUIREMENT**

The Duty Roster personnel shall be qualified and be approved by SVP, Thai Onshore Asset (EMT Leader). Each discipline is required to have the following qualifications;

- Duty Roster Team members shall be assigned from experience and competence personnel of each discipline;
- Expertise in their areas of responsibility, including knowledge and experience;
- Understand the PTTEP EMP and S1 Emergency Response Plan and know the response process under his/her responsibilities;
- Bilingual – Fluent in both written & spoken Thai & English;
- Has no record of disabilities that may impair his/her ability to perform the functions assigned to them;

All Duty Roster Personnel shall receive training and participate in the emergency response exercise as indicated **Table 6**.

**Table 6:** Training Requirement and Exercises of S1 Duty Roster

Training Course	Recommended for	Frequency	Responsible Parties
PTTEP Emergency Management Plan (EMP) Introduction and Incident Command Introduction	All new Duty Roster personnel	Yearly	Corporate Security Section
S1 Emergency Response Plan Introduction	All new Duty Roster personnel	Yearly	S1 SSHE Department
Exercise	Recommended for	Frequency	Responsible Parties
Table Top	Selected from Weekly Duty Roster personnel	As appropriated or at least yearly	S1 SSHE Department
Tier 2	Selected from Weekly Duty Roster Team	Yearly	Corporate Security Section and S1 SSHE Department
Tier 3	Duty Roster Team and Crisis Management Team	Yearly	Corporate Security Section and S1 SSHE Department
Note: For table top exercises, to ensure that all duty persons understand and confidence to deal with the real emergency, the frequency of table top exercises shall be more frequency. The exercises can be both informing in advance and surprising without advance informed.			

## APPENDICES

### APPENDIX A: EMERGENCY CALL MESSAGE FROM LKU TELECOM OFFICER

The emergency call messages that need to be informed to Emergency Response Team, on-call support team and involved parties by LKU Telecom Officer are as follows:

- Tier 1 Emergency at.....For information and standby.  
(ขณะนี้เหตุการณ์ฉุกเฉิน ระดับ 1 ที่.....แจ้งเพื่อทราบ และเตรียมความพร้อม)
- Tier 2 Emergency at.....Go to S1 Emergency Coordination Centre (ECC) immediately.  
(ขณะนี้เหตุการณ์ฉุกเฉิน ระดับ 2 ที่..... กรุณามาที่ศูนย์ประสานงานเหตุฉุกเฉินทันที)
- Tier 3 Emergency at.....Go to S1 Emergency Coordination Centre (ECC) immediately.  
(ขณะนี้เหตุการณ์ฉุกเฉิน ระดับ 3 ที่..... กรุณามาที่ศูนย์ประสานงานเหตุฉุกเฉินทันที)
- Emergency is over. (ขณะนี้เหตุการณ์เข้าสู่ภาวะปกติ)

## APPENDIX B: INITIAL EMERGENCY REPORT FORM

This form will be completed by LKU Telecom. Operator on receiving notification of an emergency.

แบบฟอร์มการแจ้งเหตุการฉุกเฉินเบื้องต้น				
รายละเอียดผู้แจ้งเหตุฉุกเฉิน				
ชื่อผู้แจ้งเหตุ:		เบอร์โทรศัพท์ผู้แจ้งเหตุ:		
วันและเวลาที่แจ้งเหตุ:				
รายละเอียดเหตุฉุกเฉิน				
วันและเวลาที่เกิดเหตุ:				
สถานที่เกิดเหตุ:				
ประเภทของเหตุฉุกเฉิน	<input type="checkbox"/> ไฟไหม้ <input type="checkbox"/> ระเบิด <input type="checkbox"/> ก๊าซรั่วไหล <input type="checkbox"/> สารเคมี/น้ำมันรั่วไหล <input type="checkbox"/> อุบัติเหตุทางถนน <input type="checkbox"/> การก่อการร้าย <input type="checkbox"/> อื่นๆ โปรดระบุ			
รายละเอียดของเหตุฉุกเฉิน:				
ผู้แจ้งเหตุต้องการความช่วยเหลือหรือไม่	<input type="checkbox"/> ใช่ <input type="checkbox"/> ไม่ใช่			
ความช่วยเหลือที่ต้องการ	<input type="checkbox"/> การช่วยทางการแพทย์ <input type="checkbox"/> การค้นหาผู้สูญหาย/การช่วยชีวิต <input type="checkbox"/> การตอบสนองต่อการรั่วไหล <input type="checkbox"/> การช่วยเหลือด้านเทคนิค <input type="checkbox"/> อื่นๆ โปรดระบุ			
รายละเอียดด้านบุคคล				
รายละเอียด	พนักงาน ปตท.สม.	ผู้รับเหมา	บุคคลที่สาม	ไม่ทราบ/ไม่สามารถระบุได้
จำนวนผู้เสียชีวิต				
จำนวนผู้บาดเจ็บ				
จำนวนผู้สูญหาย				
รายละเอียดด้านสิ่งแวดล้อม				
ระบุชื่อวัสดุที่รั่วไหล				
ปริมาณการรั่วไหล (ถ้ามี)				
รายละเอียด ณ จุดเกิดเหตุ				
มีตัวแทนของบริษัทฯ อยู่ ณ จุดเกิดเหตุหรือไม่	<input type="checkbox"/> มี <input type="checkbox"/> ไม่มี ถ้ามี โปรดระบุ ชื่อ เบอร์ติดต่อกลับ			
การดำเนินการ ณ จุดเกิดเหตุ				
ชื่อผู้บันทึกเหตุ	วันและเวลาที่บันทึกเหตุ:			





## **APPENDIX C: EMERGENCY LOG SHEET**

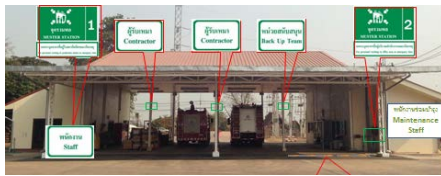

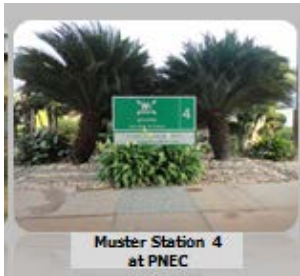
See next page.



รายละเอียดเหตุการณ์			ชื่อผู้บันทึก: ตำแหน่งผู้บันทึก: วันที่:	
เวลา	ข้อความ		รายละเอียดของเหตุการณ์	หมายเหตุ
	จาก	ถึง		




## **APPENDIX D: LOCATION OF PREDETERMINED MUSTER POINTS**




The locations of predetermined muster points, positions of Muster Checker and Muster logger of each S1 operating location are shown in below table.


**Table 1:** The muster points, positions of Muster Checker and Muster logger of each S1 operating location

No.	S1 Operating Location	Location of Muster Point	Mustered Person	Position of Muster Checker	Position of Muster Logger	Photo of Muster Point
1	LKU Flow Station, accommodation, maintenance workshop, officer	Behind Fire Station Building	Emergency Response Team, personnel working in LKU Flow Station, personnel working in the office area, maintenance workshop, visitors	Well Site Supervisor #2	S1 SSHE Officer (Shift)	
		In front of CCR	Emergency Response Team within LKU Flow Station	LKU Plant Foreman	S1 SSHE Officer (Shift)	
		In front of Piyachat Nithat (PNEC) Building	Persons working at PNEC building and their visitors Persons working at OJT center building and their visitors	Public Affair Staff	S1 SSHE Officer (Shift)	

No.	S1 Operating Location	Location of Muster Point	Mustered Person	Position of Muster Checker	Position of Muster Logger	Photo of Muster Point
2	NTM-A	By the security guardhouse at the main gate.	Persons working at NTM-A, contractors, visitors	NTM-A Security Guard	NTM-A Production Lead Operator	
		In front of NTM-A control room	Site Operation Team/ Emergency Response Team	NTM-A Production Operator	NTM-A Production Lead Operator	-
3	STN-A	Beside security guardhouse by the main gate.	Persons working in STN-A, contractors, visitors	STN-A Security Guard	STN-A Production Operator	
		In front of STN-A control room	Site Operation Team/ Emergency Response Team	STN-A Production Operator	STN-A Production Operator	-

No.	S1 Operating Location	Location of Muster Point	Mustered Person	Position of Muster Checker	Position of Muster Logger	Photo of Muster Point
4	Well Sites	Outside by the main gate	Persons working within well sites, contractors, visitors	Security Guard	Area Operator	
5	BPR Depot	In front of T-904 (Road tanker area)	Emergency Response Team, persons working at road tanker area within BPR Depot, visitors	Security Guard (Road tanker area)	BPR Depot Operator	
		In front of the security guardhouse (Rail tanker area)	Emergency Response Team, persons working at rail side area within BPR Depot, visitors	Security Guard (Rail tanker area)	BPR Depot Operator	

No.	S1 Operating Location	Location of Muster Point	Mustered Person	Position of Muster Checker	Position of Muster Logger	Photo of Muster Point
6	Well Service Workshop	In front of the main gate	Persons working within well service workshop, visitors	Senior Technician (workshop)	Well Service Supervisor	
7	Material Yard	In front of the main gate	Persons working within the material yard, visitors	Senior Store Keeper	Team Leader, Warehouse and Material Yard	
8	PHS Housing Compounds	Car park area	Persons living in PHS housing compounds, persons working (gardeners, housekeepers), visitors	Security Guard	Security Guard	

No.	S1 Operating Location	Location of Muster Point	Mustered Person	Position of Muster Checker	Position of Muster Logger	Photo of Muster Point
9	CNS Rail Tanker Maintenance Workshop	In front of the security guardhouse	Persons working CNS rail tanker maintenance workshop, visitors	CNS Contractor (JS TECH) SSHE Officer	CNS Contractor (JS TECH) Site Manager	



## APPENDIX E: EXAMPLES OF COMMUNICATION TOOLS

### 1. Key Messages

These key messages should be conveyed in all communications to all stakeholders of PTTEP.

- In conducting exploration and production of petroleum and other activities in accordance with its mission, PTTEP, strives at all times to achieve a manner ensures that incidents affecting the health and safety of its employees, contractors and member of the public, the environment and the integrity of its assets shall not occur.
- PTTEP's primary concern in all incidents of this nature is for the people involved. PTTEP staff have been trained to strictly follow the emergency plan to ensure maximum safety for themselves, partners and rescue workers.
- The nature of PTTEP's business demands the most stringent Safety, Security, Health, and Environmental standards and the company remains committed to maintaining the highest possible standards in this vital area in all its activities.


#### ข้อความการสื่อสารหลัก

ข้อความการสื่อสารหลักสำหรับผู้มีส่วนได้ส่วนเสียของ ปตท.สผ. กลุ่มต่างๆ

- ในการดำเนินการสำรวจและผลิตปิโตรเลียมรวมทั้งกิจกรรมอื่นๆ ปตท.สผ. มีแนวทางปฏิบัติเพื่อป้องกันมิให้เกิดเหตุการณ์ที่จะส่งผลกระทบต่อสุขภาพและความปลอดภัยของพนักงานบริษัทฯ ผู้รับเหมาและบุคคลทั่วไป รวมทั้งสภาพแวดล้อมและทรัพย์สินของบริษัทฯ
- ในสถานการณ์ดังกล่าว ปตท.สผ. ห่วงใยในสวัสดิภาพของพนักงานที่เกี่ยวข้อง อย่างไรก็ตาม พนักงานของ ปตท.สผ. ทุกคนได้ผ่านการฝึกฝนให้ปฏิบัติตามแผนการในภาวะฉุกเฉินโดยเคร่งครัด เพื่อให้เกิดความมั่นใจ
- ในความปลอดภัยสูงสุดของพนักงาน พันธมิตรธุรกิจ และเจ้าหน้าที่กู้ภัย ด้วยลักษณะของธุรกิจของ ปตท.สผ. บริษัทฯ ยึดถือหลักเกณฑ์และมาตรฐานที่เข้มงวดที่สุดด้านสุขภาพ ความปลอดภัย และสิ่งแวดล้อม บริษัทฯ มุ่งมั่นปฏิบัติตามหลักการดังกล่าวมาโดยตลอด เพื่อรักษามาตรฐาน สูงสุดในการปฏิบัติงานด้านดังกล่าว

## 2. Media Release Template

The Media Release Template gives an overview of the structure and content of a press release or a statement, in line with the common way press releases are written. Using this template helps the Writer develop a press release or a statement quickly and in a consistent way. The Writer and Media Relations Team work closely together to ensure they receive all information as per the template.



### News Release

ข่าวประชาสัมพันธ์

Date : \_\_\_\_\_  
Time : \_\_\_\_\_

**Headline (subject matter)**


What happened : \_\_\_\_\_  
Where it happened : \_\_\_\_\_  
When did it happen (date, time) : \_\_\_\_\_  
Services involved : \_\_\_\_\_  
Current situation as verified by facts : \_\_\_\_\_  
Effect on stakeholders (JVs, partners, government, suppliers, public) : \_\_\_\_\_  
Status of investigation/recovery : \_\_\_\_\_  
Which government agencies are involved : \_\_\_\_\_  
Any additional information : \_\_\_\_\_

For further information, please contact : \_\_\_\_\_  
Contact details  
Name and designation \_\_\_\_\_  
Tel : \_\_\_\_\_  
Fax : \_\_\_\_\_  
Email : \_\_\_\_\_

**Disclaimer**  
The information, statements, forecasts and projections contained herein reflect the Company's current views with respect to future events and financial performance. These views are based on assumptions subject to various risks. No assurance is given that these future events will occur, or that the Company's future assumption are correct. Actual results may differ materially from those projected.

บริษัท ปตท.สำรวจและผลิตปิโตรเลียม จำกัด (มหาชน)  
PTT Exploration and Production Public Company Limited

www.pttep.com



ปตท.สำรวจและผลิตปิโตรเลียม จำกัด (มหาชน) | Passion to Explore for a Sustainable Future

### 3. 1<sup>st</sup> Telephone Message to Answer Media and Investor Enquiries

Based on the latest report on \_\_\_\_\_(date) at \_\_\_\_\_(time 24 hours) we obtained, there was a/an \_\_\_\_\_ at \_\_\_\_\_. The cause of the incident is still unclear. However, the company is doing its best (to evacuate all staff) (and extinguish then fire/control the spill). Please tell me your name, the publication you represent, the telephone number and email address. For any further update on this situation, please visit [www.pttep.com](http://www.pttep.com). Thank you.

#### ข้อความแรกในการตอบโทรศัพท์สื่อมวลชน

จากรายงานที่บริษัท ปตท.สำรวจและผลิตปิโตรเลียม จำกัด (มหาชน) ได้รับเมื่อเวลา\_\_\_\_\_วันที่\_\_\_\_\_ได้เกิดเหตุ \_\_\_\_\_ ขึ้นที่ \_\_\_\_\_ สาเหตุของอุบัติเหตุยังไม่ทราบแน่ชัด อย่างไรก็ตาม บริษัทฯ กำลังดำเนินการอย่างเต็มที่เพื่อ \_\_\_\_\_ (อพยพพนักงาน และดับเพลิง หรือกำจัดคราบน้ำมัน) ขอทราบชื่อของคุณ ชื่อสื่อที่สังกัด หมายเลขโทรศัพท์ และ e-mail ทั้งนี้ คุณสามารถติดตามรายละเอียดความคืบหน้าของเหตุการณ์ได้ที่เว็บไซต์ [www.pttep.com](http://www.pttep.com)ค่ะ/ครับ

### 4. Holding Statement

#### Tips on Writing a Holding Statement

- Three paragraphs
  - Keeps to facts
  - What is being done
  - Some context about the company
- Keep it short and factually accurate
- Avoid emotive language
- Don't prompt further questions
- Avoid digging holes which you can fall into later
- Don't commit to anything - unless it is your intention to do so
- State date (time) and contact details

#### Note:

Never make statements like "There was no loss of life or injury to staff members resulting from the incident." unless this is confirmed.

Such statements made prematurely will reflect badly on the company if ultimately deaths and/or injuries have occurred.

If not yet confirmed, say something like: "Up till now, we have not received reports of any loss of life or injuries." Then you may add: "Information is still coming in and we will update you as and when we get it."

**หมายเหตุ:**

ไม่ควรระบุว่า "ไม่มีการบาดเจ็บหรือเสียชีวิตจากเหตุการณ์ที่เกิดขึ้น" จนกว่าจะมีการยืนยันแน่นอน มิฉะนั้นจะส่งผลเสียอย่างมากต่อบริษัท หากยังไม่ได้รับการยืนยันที่แน่นอนว่า มีผู้เสียชีวิต และ/หรือ ผู้บาดเจ็บจริง ควรชี้แจงว่า "จนถึงขณะนี้ เรายังไม่ได้รับรายงานเกี่ยวกับผู้เสียชีวิตหรือผู้บาดเจ็บ" และเสริมว่า "ข้อมูลเพิ่มเติมจะมาถึงในเร็วๆ นี้" และบริษัทฯ จะแจ้งความคืบหน้าให้ท่านทราบทันทีที่ได้รับข้อมูล"

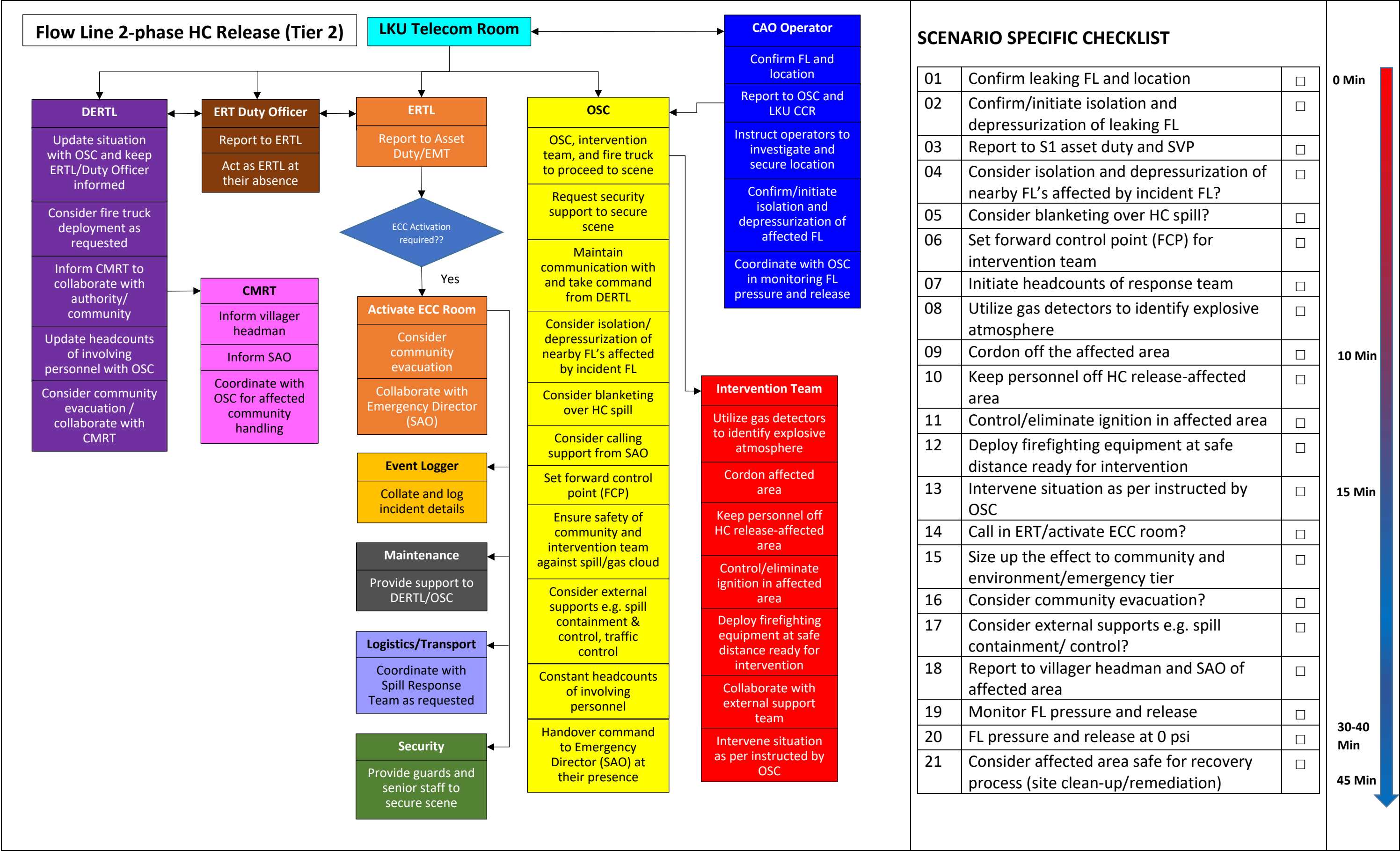
## APPENDIX F: EXAMPLE OF S1 DUTY ROSTER

S1 Duty Roster for Emergency Response					
	24-Jun-2019		To	01-Jul-2019	
Operator, Telecom. Services (LKU)					
First point of call	LKU Office			055-731150, 055-718-999, 02-537-6099 Internal line 33 or 810-6099	
ERT Main Duty Group					
Pool Field (Available immediately in the Field)					
Role	From	To	Name	Office	Mobile
Duty Officer	24/06/19	1/7/2019		810-6238	
Event Logger	24/06/19	1/7/2019		810-6187	-
SSHE Officer	24/06/19	1/7/2019		810-6100, 810-6163	
Security Services	-	-	-	810-6045, 810-6069	-
Medical Team (LKU Nurse/Ambulance)	-	-	-	810-6038	
Contactable 24 hours, Mobilize in 2 hours					
Role	From	To	Name	Office	Mobile
Domestic Onshore Asset Duty	24/06/19	1/7/2019		800-4616	
SSHE Duty	24/06/19	1/7/2019		810-6298	
Logistics Duty	24/06/19	1/7/2019		810-6190	
Maintenance Duty	24/06/19	1/7/2019	-	810-6150 (Officer hour)	(After office hour)
IT/Telecom Services	24/06/19	1/7/2019		6304	
Community & Media Response Team (CMRT) Duty	24/06/19	1/7/2019		810-4507	
Relative Response Team (RRT) Duty	24/06/19	1/7/2019		810-6292	XXXXXXX
On-Call Support Team Duty Persons					
Pool Field (Available immediately in the Field)					
Role	From	To	Name	Office	Mobile
Well Services (Superintendent)	24/06/19	1/7/2019		810-6082, 810-6006	
ETN SSHE Duty	24/06/19	1/7/2019		810-6118	
Contactable 24 hours, Mobilize in 2 hours					
Construction Duty	24/06/19	1/7/2019		810-6168	
Material Yard Duty	24/06/19	1/7/2019	-	810-6064	



## **APPENDIX G: INCIDENT GUIDELINE FOR EMERGENCY SITUATIONS**

<< File embedded in PDF >>



## ROLES AND RESPONSIBILITIES

Roles	Responsibilities
Document Owner	<p>The owner of the S1 Emergency Response Plan is VP, S1 Production Operations Department, with responsibilities for:-</p> <ul style="list-style-type: none"> <li>■ Issuing the S1 Emergency Response Plan and its revisions;</li> <li>■ Issuing the S1 Emergency Response Plan and its revisions; and</li> <li>■ Ensuring effective implementation of the plan.</li> </ul>
Document Custodian	<p>The custodian of the S1 Emergency Response Plan is Superintendent, SSHE, with responsibilities for:-</p> <ul style="list-style-type: none"> <li>■ Identify deficiencies or potential improvements;</li> <li>■ Initiating periodic revision; and</li> <li>■ Maintaining revision history and document status register.</li> </ul>



## DEFINITION AND ACRONYMS

Set out below are common specific terms presented in alphabetical order:

Term	Definition
Asset	Refers to an operating Asset, site, or location within a respective Function Group.
Corporate	Refers to the PTTEP business groups hierarchically above Asset level, and located in the PTTEP headquarters, Bangkok.
Division	A business group may have one or more distinct groups within its hierarchy. These are referred to as Divisions.
Department	A subgroup within a Function Group, Division or Asset.
Function Group	Refers to a corporate level business group. These may have associated Divisions, Departments, or operational Assets within their hierarchy.
Crisis	<p>is a major or catastrophic event (out of control emergency). A crisis could result in sustained national impacts over a prolonged period of time; almost immediately exceeds resources normally available to the company, local authorities, and country in the impacted area; and significantly interrupts governmental operations and emergency services to such an extent that national security could be threatened. The crisis may challenge the ability and capacity of the company, community, and country to achieve a timely recovery.</p> <p>Crisis situations include terrorism that results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, company reputation, national morale, and/ or government functions. In PTTEP, a crisis situation is treated by a <b>tier 3 response level</b>.</p>
Crisis Management Team (CMT) Leader	The Chief Executive Officer (CEO) of the company who has the top authority to the overall management of a group/ company impact related to any crisis situations. He has the authority to activate the Corporate Crisis Management Team and work closely with the Asset Emergency Management Team Leader.
Emergency	is an occurrence or event, natural or human-caused, that requires an emergency response under the determination of affected asset leader or acting person, to protect life, environment, property, and reputation or to lessen or avert the threat of a major or catastrophe in any part of the company premises. The external assistance may or may not be needed to supplement the company's efforts and

Term	Definition
	<p>capabilities to save lives, environmental, protect property, public health and safety.</p> <p>Emergency situations can, for example, include major disasters, emergencies, terrorist attacks, terrorist threats, fires, floods, oil, and hazardous material spills, marine vessels and aircraft accidents, earthquakes, tropical storms, typhoon, war-related disasters, an outbreak of diseases and medical emergencies, and etc.</p> <p>In PTTEP emergency situations can be evaluated and treated by using <b>a tier 1 – 2 response level</b>.</p>
S1 Emergency Management Team Leader (EMT Leader)	<p>S1 asset's SVP or the acting person who has overall authority and responsibility for supporting and providing tactical advice, activities, and action plans to the S1 ERT or On-Scene Commander (OSC), including the development of strategic objectives. EMT leader also sets priorities and defines the organization of the EMT and the overall action plans for a particular response. He/she has to work closely with asset EMT.</p>
S1 Emergency Response Team Leader (ERT Leader)	<p>S1 VP with responsibility for all onsite responses, especially providing directions and onsite tactical operations and always retaining the authority to determine the appropriate course of response actions. S1 ERT leader has the authority to activate the S1 ERT.</p>

Acronyms	Description
DERTL	S1 Deputy Emergency Response Team Leader
ECC	Emergency Coordination Centre
ERP	S1 Emergency Response Plan
ERT	S1 Emergency Response Team
ERTL	S1 Emergency Response Team Leader
CMRT	S1 Community & Media Response Team
OSC	S1 On-Scene Commander
RRT	S1 Relative Response Team
EMT	S1 Asset Emergency Management Team
CMT	PTTEP Crisis Management Team
SAO	Sub-district Administrative Office
OSRL	Oil Spill Response Limited Company
EARL	East Asia Response Limited Company
IESG	Oil Industry Environment Safety Group Association of Thailand
LKU	Area of Lan Krabue District, Kampanget Province
ITL	Intervention Team Leader
NTM	Nong Tum Sub-district, Kong Krai Lad District, Sukhothai Province
PHS	Phitsanulok Province
CNS	Chong Nonsi, Bangkok
CCT	PTTEP Crisis Communication Team
CMRR	Communication and Media Response Room
VP.	Vice President

Acronyms	Description
SVP.	Senior Vice President
CSR	Company Site Representative

## REFERENCES

Document Code	Document Title
<b>PTTEP SSHE Controlling Documents</b>	
11038-STD-SSHE-000	PTTEP SSHE Management System
11038-STD-SSHE-401	PTTEP SSHE Risk Management Standard
SSHE-106-STD-500	PTTEP Emergency and Crisis Management Standard
12148-PDR-SSHE-501	PTTEP Crisis Management Plan
SSHE-106-PDR-502	PTTEP Emergency Management Plan
SSHE-106-STD-340	PTTEP SSHE Training and Competency Standard
11003-GDL-SSHE-501-003	PTTEP Medical Emergency Management Guideline
12145-GDL-004-R04	PTTEP Crisis Communications Guideline
13247-PDR-SSHE-305/01	S1 SSHE Training and Competency Procedure
63984.1/2017	Thai Onshore Asset (PTN) Business Continuity Plan (BCP)
<b>Other Reference Documents</b>	
-	Disaster Prevention and Mitigation Act B.E.2550 พรบ.ป้องกันและบรรเทาสาธารณภัย พ.ศ. 2550

## REVISION HISTORY

### Rev. Description of Revision

#### 0 Authorized by: -, Date: -

New issue.

#### 1 Authorized by: DSA, Date: August 2010

Key changes from the previous version are as follows:-

- Re-formatted from SSHE-ER-01, S1 Emergency and Crisis Response Plan;
- Aligned with new PTTEP SSHE MS, ISO14001:2004 and OHSAS18001:2007 requirements;
- Current ERC (PS1/P) is changed to OSC (On-Scene-Commander) as per corporate guideline;
- Current OSC is changed to Intervention Team Leader(s);
- Added emergency plan for Protesting/Demonstration & Terrorist; and
- Updated Organizational Indicators.

#### 2 Authorized by: DSA, Date: November 2013

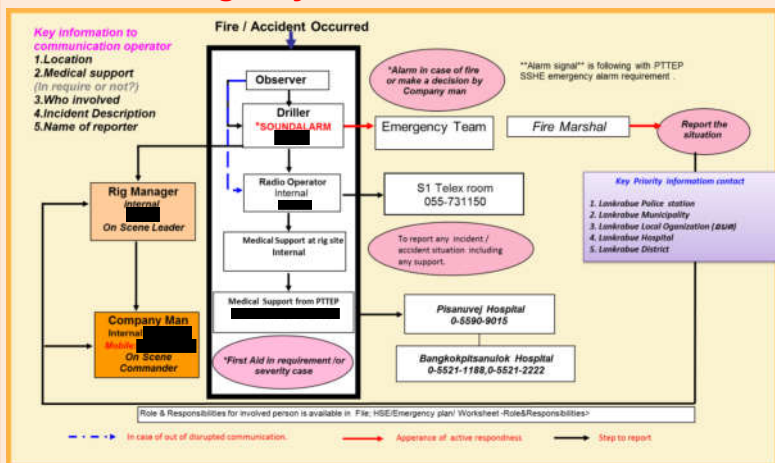
Key changes from the previous version are as follows:-

- Assigned new document code;
- Aligned with Corporate Emergency and Crisis Management Standard and Plan;
- Changed back OSC to be at the incident scene;
- S1 IC is to be at ECC;
- Revised role & responsibilities; and
- Updated emergency contact numbers.

#### 3 Authorized by: PS1, Date: November 2019

Major amendment of the whole procedure. Key changes from the previous version are as follows:-

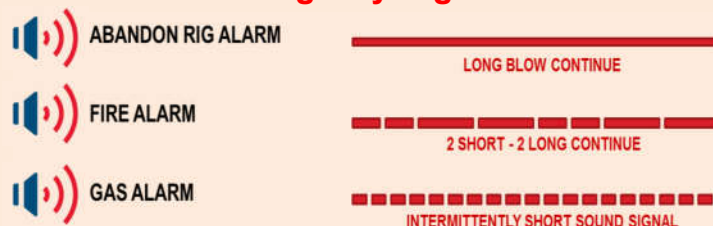
- Aligned with the Corporate Emergency Management Plan and Crisis Management Plan;
- Revised S1 Emergency Response Team Organization with their roles and responsibilities;
- Revised emergency response action; and
- Included sections of S1 duty roster guideline, must points and press release.



## Evacuation Route and Muster Point

**On Scene Commander OSC :** .....  
PTTEP Supervisor

## Emergency Signals



## General Instructions

1. Personnel arriving for the first time are required to attend a safety induction by Safety officer upon arrival.
2. Each person shall familiarize themselves with their assigned as shown on the Station Bill immediately upon reporting onboard.
3. All crew members shall be thoroughly familiar with the duties they are assigned to perform in the event of an emergency.
4. All personnel will participate in all as if it were an actual emergency. All personnel will report to the muster area and dressed in full work attire including general PPE
5. **Any person discovering an emergency, accident or incident must be reported immediately to DSV.**

## Abandonment

- STEP 1: Rig or life threatening event occurs
- STEP 2: Rig manager consults with DSV
- STEP 3: Rig manager sounds rig abandonment alarm
- STEP 4: Rig manager directs/consults with rig evacuation team
- STEP 5: All personnel assemble at mustering point awaiting for instruction.
- STEP 6: All personnel abandon rig site

## Fire

STEP 1: Observe fire or emergency situation.  
STEP 2: Observer shall sound alarm.  
STEP 3: Observer shall notify Rig manager.  
STEP 4: Rig manager shall contact the DSV.  
STEP 5: Rig manager shall direct the emergency squad's actions.  
STEP 6: Rig manager shall contact fire fighting services and project manager

## Well Control

- STEP 1: Driller suspects kick and flow check
- STEP 2: Driller confirms flow
- STEP 3: Driller closes the BOP
- STEP 4: Driller sounds the well control alarm
- STEP 5: Driller informs Rig manager and DSV
- STEP 6: Driller, Rig manager and DSV figure out kill sheet
- STEP 7: Rig manager informs project manager
- STEP 8: DSV/Rig Manager supervises operation

## Injury

- STEP 1: Witness observes injury
- STEP 2: The observer notifies Rig manager and DSV
- STEP 3: Witness remains with the injured person
- STEP 4: Rig manager directs Injury Response Team
- STEP 5: Rig manager, with help of Medic, contacts hospital if necessary
- STEP 6: Rig manager contacts appropriate evacuation transportation

## H<sub>2</sub>S Gas

STEP 1: Driller detect or suspect H2S.  
STEP 2: Driller informs Rig manager .  
STEP 3: Rig manager consults with DSV .  
STEP 4: Driller sounds the gas alarm.  
STEP 5: All personnel assemble at upwind mustering point.  
STEP 6: Driller, Rig manager and DSV continue monitor levels whilst circulation control well

## Rig ERT Structure

Fire Fighting Team 1 Muster Station: Fire Suit Station		Fire Fighting Team 2 Stand By	
Rig Manager	Person In Charge	Rig Manager	Person In Charge
Assistance Driller	Fire Marshal	Assistance Driller	Fire Marshal
Foreman Extra hand	Fire Pump Control	Foreman Extra hand	Fire Pump Control
Extra hand (On Duty)	Fire man with fire gun	Roustabout (On Duty)	Fire man with fire gun
Extra hand (On Duty)	Fire man	Roustabout (On Duty)	Fire man
Extra hand (On Duty)	Fire man	Roustabout (On Duty)	Fire man
Medical Team Muster Station: Clinic		Well Control Team Muster Station: Drill Floor	
Rig Manager	Direct Operation	Rig Manager	Person In Charge
Medic	On scene leader	Driller	Recognize - Detect indication of kick
Foreman Roughneck	Assists as directed	Assistance Driller	Check equipment for possible failure
Roughneck (On Duty)	Assists as directed	Derrick man	Mans the mud room
Roughneck (On Duty)	Assists as directed	Foreman Extra hand	Check flow line, BOP, hydraulic lines, kill/choke manifold, mud samples
Roughneck (On Duty)	Assists as directed		
Muster Checker & Support			
Radio operator	Muster Checker / Coordinator		

### Persons Without Emergency Duties

**Stop work and make area safe.**  
**Proceed to designated Muster Point, collect your T-Card, stand in line and follow instructions from Muster Checker**  
**Wait for further instructions**

ภาคผนวกที่ 30  
รายงานการซ่อมแผนฉุกเฉินปี 2566

---

ภาคผนวกที่ 31  
เอกสารการตรวจสอบและทดสอบประสิทธิภาพการทำงาน  
ของอุปกรณ์ป้องกันการพลุ่ง

---





# GREATWALL DRILLING COMPANY

HSE-MS/Checklist No.8 Rev.1

Time 检查时间	Organized by 组织人	Inspected by 检查人	Monitored by 监督人
Weekly	Toolpusher	Driller	Rig manager

## WELL CONTROL WEEKLY CHECKLIST 井控周检表

Well 井号: LKV-ZD46(ZDBU) Rig 队号: GW80

Date 日期:

19 Feb 23

BOP Closing Unit (3000 psi working pressure) BOP 地面控制系统 (3000psi 工作压力)			
Manifold pressure 1400 -1500 psi 管汇压力	1500 PSI	Driller's gauge manifold pressure 司钻台显示管汇压力 1400 -1500 psi	1500 PSI
Accumulator pressure 2700 -3000psi 蓄能器压力	3000 PSI	Driller's gauge accumulator pressure 司钻台显示蓄能器压力 2700 - 3000 psi	3000 PSI
Annular closing pressure(≤ 1500 psi) 环空关闭压力	1200 PSI	Driller's gauge annular pressure 司钻台显示环形压力 1400 -1500 psi	1200 PSI
Accumulator fluid volume 蓄能器充液量 (单瓶公称容积: 80L)	640 Ltr	Number of pre-charge bottles 预充氮气钢瓶数量	16 pcs
Volume to overflow accumulator tank 蓄能器油箱储油量(FKQ800-7E, >750L)	1290 Ltr	Last pre-charge on accumulator unit 蓄能器氮气预充压力 (950 -1100psi)	1000 PSI
Air supply pressure 95 to115 psi 气源压力	110 PSI	pneumatic pump switches in "on" position 气泵是否已打	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Air pump tested 气泵是否已经测试	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Electric hydraulic pump tested 电泵是否已经测试	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Accumulator isolation valve(s) open 蓄能器截止阀是否处于开位	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	electrical pump switches in "AUTO" position 电泵开关是否处于 "自动" 位	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Discharge / Suction pump valves open 电泵/气泵进油阀是否打开	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Shear/Blind ram covers in place 剪切/全封闸板手柄是否有保护罩	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Annular in-line valves open 液压管线上的截止阀是否打开	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	By pass valve open pressure test all manifold pressure to 3,000 psi. 管汇旁通阀打开, 液控管汇试压至 3000Psi (21MPa)	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
BOP stack 防喷器组			
BOP hand wheel available BOP 是否安装手轮	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
Choke / Kill Lines and Manifold 节流/压井管线与管汇	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Last choke panel gauge certification 最近的节流控制台仪表检测合格证日期	July 2, 2018	Air supply pressure to choke panel 节流控制台的气源压力 (0.6-1.0MPa)	1.0 MPa
Choke panel manifold manual gauge pressure 节流控制台油压表显示压力 (1.4-2.0 MPa)	1.80 MPa	Choke panel manifold pressure 节流控制台面板显示套管压力	- MPa
Choke panel standpipe pressure 节流控制台面板显示立管压力	0 Psi	Driller's gauge standpipe pressure 司钻控制台显示立管压力	0 Psi
Choke panel clean & inspected for leaks 节流控制台是否清洁, 是否检查漏失	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Manual pump on choke panel tested daily 节流控制台手动泵是否每日测试	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Inner choke & Inner kill line valves open 内侧节流和内侧压井管线上阀门是否开位	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Outer choke & Outer kill line valves closed 外侧节流和外侧压井管线上阀门是否关位	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Choke manifold lined up for hard shut-in with super choke in closed position 节流管汇上用于硬关井的液动节流阀是否处于关位	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		





# GREATWALL DRILLING COMPANY

HSE-MS/Checklist No.8 Rev.1

Hydraulic choke type:  
液动节流阀的类型

JLHY 65/35

## Rig Floor 钻台

Full Opening Safety Valve (FOSV), required XO, and handle with lifting cap on rig floor  
全开式安全阀、符合要求的转换接头和带手柄的空心提丝是否在钻台上配备

IBOP & FOSV valve function tested hourly  
IBOP 和 FOSV 是否进行功能测试

☒ Y ☐ N

Super choke function tested hourly  
节流阀是否进行功能测试

☒ Y ☐ N

Gray Inside BOP & FOSV valve open  
IBOP 和全开式安全阀是否处于开位

☒ Y ☐ N

FOSV & IBOP threads in good condition  
FOSV 和 IBOP 丝扣是否完好

☒ Y ☐ N

Pop-off settings on pumps  
泵上是否安装泄压装置

☒ Y ☐ N

Flow alarm set for gain / loss (%)  
溢流或漏失报警设置各为百分之多少

515

PVT alarm set for gain / loss (bbls)  
PVT 增减量报警设置各为多少 bbls

515

## General 基本数据

Cold start air compressor  
是否有冷启动空气压缩机

☒ Y ☐ N

Annular rubbers on location  
环形胶芯现场是否有配用

☒ Y ☐ N

Last BOP test date  
上次 BOP 测试时间

18-2-2023

Next BOP test date  
下次 BOP 测试时间

9-3-2023

FIT depth MD/TVD  
FIT 测试 MD/TVD

101619089

Last FIT date  
上次 FIT 测试日期

12-2-2023

FIT test MW  
地层完整性测试时泥浆密度

1.35 SG

FIT Equivalent MW  
地层完整性测试的当量泥浆密度

1.74 SG

Annular intermediate SICP  
关井套管压力

- PSI

Max allowable casing pressure  
最大允许关井套压

504 PSI

Kick tolerance  
井涌允许极限 (25 BBL)

10 BBL

Barite on location  
井场重晶石量

780 SKS

Mud system volume  
泥浆量

1100 BBL

All equipment has H<sub>2</sub>S trim  
所有井控设备是否抗硫化氢

☐ Y ☒ N

Barite to weight up mud system 0.12sg  
加重当前泥浆增加比重 0.12sg 所需的重晶石量

SKS

Walked well control lines to ensure no concerns with line up?  
检查井控管线确保没有问题了吗?

☒ Y ☐ N

Are we in compliance with GWDC Standards on all well control equipment?  
所有井控设备符合长城公司的标准要求吗?

☒ Y ☐ N

Annular intermediate SICP reported on Drilling Rigs every Monday?  
关井套压在每周一报告了吗?

☒ Y ☐ N

Person in charge of checking sign-in roster in case of well control situation:  
一旦发生井控, 责任人名单

What are you going to do if we have to shut in the safety rams?  
如果我们需要关闭安全闸板, 你将做什么?

How are your going to get pressure and how will you equalize the pressure across the BOP?  
关井后你怎样获得相关压力? 你将如何获得通过 BOP 平衡这个压力?

\*Note: All rigs need 1000 psi gauge to record pressure if we have to shut in the safety rams.  
注意: 如果我们不得不关闭安全闸板, 对于所有钻机都需要配备 1000psi 仪表来记录压力。





# GREATWALL DRILLING COMPANY

HSE-MS/Checklist No.8 Rev.1

**HOW ARE YOU GOING TO SHUT IN THE WELL IF YOU LOSE ELECTRIC POWER & AIR TO THE RIG?**  
如果没有电力和气源的供给，你将如何关井？

*Use handle to close ram.*

Equipment Ratings 设备额定值		
Component 名称	Size 尺寸	Pressure Rating (PSI) 压力等级
Kill line 压井管线	2"	5000
Choke line 节流管线	3 1/8"	5000
Choke manifold 节流管汇	3 1/8"	5000
Annular 环空	13 5/8"	5000
Pipe rams 半封闸板	5"	5000
Blind/Shear rams 全封/剪切闸板	13 3/8"	5000
Wellhead 套管头/井口	11"	5000
Casing 套管	9 5/8"	3523

Driller 司钻 (签名):

[Redacted Signature]

Toolpusher 带班队长 (签名):

[Redacted Signature]

Rig manager 平台经理 (签名):

[Redacted Signature]