 Global Power Synergy Public Company Limited	Corporate Procedure
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Latest Revision Document Information

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Doc. Title	Emergency Preparedness and Response			Status	-
Revision	01	Release Date	01 June 2021	Page	1 - 46
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Reference System / Standards and Requirements

No.	System / Standards	Requirements

Related Document

No.	Document Type	Document No.	Document Name	Release Date
1	Support Document	HES-SD-0001	Fire protection system and equipment inspection	1 June 2021
2	Support Document	HES-SD-0002	แผนปฏิบัติการภาวะฉุกเฉินกลุ่มนิคมอุตสาหกรรมและท่าเรืออุตสาหกรรมมาบตาพุด จังหวัดระยอง	1 June 2021
3	Support Document	HES-SD-0003	ผังการปฏิบัติตามแผนปฏิบัติการภาวะฉุกเฉินกลุ่มนิคมอุตสาหกรรมและท่าเรืออุตสาหกรรมมาบตาพุด จังหวัดระยอง	1 June 2021
4	Support Document	HES-SD-0004	ตารางแสดงการแจ้งเหตุฉุกเฉินของหน่วยงานที่เกี่ยวข้อง	1 June 2021

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RELATED DEPARTMENT / DIVISION (Implementation areas):

The following are the departments involved in the implementation.

No.	Department	Initial

1. TRAINING INFORMATION

<input type="checkbox"/>	No need training	Reason	
<input type="checkbox"/>	Training required	Dept. /	

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1. OBJECTIVES

- 1.1 To serve as the regulations for all employee in the event where there is emergency situation in the Company and duties and responsibilities of each department, both relevant and not relevant to response operation, have been specified.
- 1.2 To serve as a guideline for emergency response to minimize risks and damage to lives, environment and properties.
- 1.3 To rescue people who are in danger, the injured and to save the operators' lives.
- 1.4 To serve as a guideline for drilling/practice, so that all employees, the officers and the relevant responsible persons can prepare to respond to possible incident as well as elevate their skills and to resolve errors or defects incurred.
- 1.5 To serve as a guideline for consideration on provision of suitable tools, equipment to control the situation which are adequate for the usage requirements.
- 1.6 To serve as a guideline for recovery and rehabilitation after the incident to make the conditions resume to normal.

2. SCOPE

This corporate procedure will be applied with the areas under responsibility of Global Power Synergy Public Company Limited Group (GPSC Group), Rayong and Chonburi Plants.

3. TERMS AND DEFINITIONS

In order to smoothen operations pursuant to emergency situation plan with mutual understanding and consistency with the Industrial Estates, local government agencies and nearby factories, definitions of situation, role & responsibility and designation pursuant to structure of the emergency control plan have been specified as follows.

3.1 Emergency Situation means a dangerous condition or a condition which has high hidden danger that it caused or may cause severely risks to person, property or environment. In other word, it means a condition which cannot be instantly controlled which caused or may cause the loss of life, injury or severe damage to property or environment, which include.

- 3.1.1 Fire or explosion
- 3.1.2 Flammable or toxic gas vapor cloud.
- 3.1.3 Chemical spill.
- 3.1.4 Outside affected emergency.
- 3.1.5 Sabotage or bomb threat.
- 3.1.6 Radiation leak.

3.2 Crisis Situation means an emergency situation that the Emergency Director (ED) considers that it has tendency to elevate and go beyond the ED's control, or the emergency situation that the President & Chief Executive Officer considers that it falls under the following cases:

- 3.2.1 It can impact or cause damage to the Company's business operations.
- 3.2.2 It can defame the Company's reputation.

- 3.2.3 Its consequences may make the Company has to face legal proceeding
- 3.2.4 It can cause tremendous damage to the customers.
- 3.2.5 It may cause a loss of the person's life.
- 3.2.6 It can severely impact to the environment.
- 3.2.7 It can cause severe damage to the organization and can even interrupt the organization's businesses that it leads to implementation of the Business Continuity Plan (BCP) to keep the business performing continually.
- 3.3 Emergency Control Plan** means a plan or document prepared by compilation of action plans of all departments to be used as the operating guidelines for the employees, so that they can safely, speedily and efficiently control the possible emergency situation.
- 3.4 Emergency Response Plan** means the plan or the operating guideline prepared by the departments which have duties and responsibility under Emergency Control Plan to be used as the operating guideline in case there is an emergency situation.
- 3.5 Bystander** means the Company's employee, the contractor's employee who enters into the plant and/or the third party who encounters the incident or witnesses the situation or is in the incident scene when the incident firstly occurred.
- 3.6 Emergency Response Team (ERT)** means a team work from various departments who joins force to respond to the emergency situation of the Company, Rayong and Chonburi Plant.
- 3.7 Emergency Director (ED)** means a person designated by the Company to have duty to manage, control/respond the potential Emergency Situation and Crisis Situation. There is a symbol of ED to identify position.
- 3.8 Emergency Controller (EC)** means a person designated by the plant to have duty to supervise and control the situation at the Emergency Control Center (ECC). There is a symbol of EC to identify position.
- 3.9 Consultant Team** means the person(s) designated by the plant to be the assistant on provision of advice on production process, safety and environment to the Emergency Controller (EC) so that the EC will have well rounded information to make decision on giving order to control the emergency situation. Consultant team consists of.
- 3.9.1 Technical Consultant (TC) who has symbol of TC to identify the position.
- 3.9.2 SHE Consultant (QC) who has symbol of QC to identify position.
- 3.10 On-scene Commander (OC)** means a person designated by the plant to have duty on giving order and control the operations pursuant to the field emergency response plan/ at the incident scene who wear red fire helmet with the word OC on the helmet.
- 3.11 Plant Communications Center (CC)** means the person(s) designated by the plant to have duty to control production process and/or system isolation, coordinate with OC, MC and the upstream/downstream plant and to notify the incident including to request for cutting of raw material receiving-dispensing or the product. EC will perform the works in the control room and communicate via hot line then record the order throughout the incident period.
- 3.12 Fire Fighting Team** means the persons designated by the plant to have duty to control emergency situations upon receiving the OC's command.

- 3.13 Head of Supporting Team (ST)** means a person designated by the plant to have duty to control the deployment of workforce and support equipment for control operations upon receiving the commanding order from EC/ED. There is symbol of ST to identify position.
- 3.14 Mutual Aid Coordinator (MC)** means a person designated by the plant to have duty to coordinate with the mutual aid (outside support team). There is a symbol of MC to identify position.
- 3.15 Head of Administration Team (AD)** means a person designated by the plant to have duty to control rendering of general services under ED's command. There is a symbol of AD to identify position.
- 3.16 Head of Customer Relations (CR)** means a person designated by the plant to have duty to coordinate with the plants who are the Company's customers to negotiate on receiving-disbursing-decreasing-increasing amount of raw material or products under ED's command. There is a symbol of CR to identify position.
- 3.17 Supporting Team** means the persons designated by the plant to have duty to report to ST to support the emergency control operation, when requested.
- 3.18 Crisis Communication Team (CCT)** means a person designated by the Company to have responsible for all Internal and External Communication excluding all communication in relation to emergency report to various parties to resolve the emergency situation. The Crisis Communication Team will handle all communication to employees, public, Government Authorities, and communities including controlling evacuation of communities that may be affected by emergencies arising from the Company's activities
- 3.19 Emergency Control Center (ECC)** means an area or location chosen by the EC to be the command center for meeting, planning, giving orders to control, resolve the emergency situation. It can be the emergency control center provided or a meeting room within the production control building of the department which has incident. In case the meeting room cannot be used, it will depend on the EC's consideration.
- 3.20 Emergency Mutual Aid Center (MCC)** means a center to contact, coordinate with the external organization to request for assistance, both for personnel and tools/equipment, upon the EC/ED's request or order. Guard house of the plant will be mainly used as MCC. In case the guard house cannot be used, it will depend on MC's consideration.
- 3.21 Assembly Point** means areas specified by the plant that the employees and any persons who do not duty and responsibility under the emergency control plan and those who are in the plant must report to the head of evacuation team upon hearing emergency signal & alarm, for head count purpose. When there is an order, these employees and persons will be evacuated out of the plant to the safe areas. There must be green posts identifying "Assembly Point".
- 3.22 Mutual Aid** means the agencies/organizations that the Company has contacted and coordinated to provide assistance for emergency response, control/ supervision on evacuation of the employees and the persons who are not relevant to the plan to the safe areas.
- 3.23 Emergency Signal & Alarm** means the warning alarm to alert or notify all employees or persons who perform the works in GPSC that the emergency or severe situation is about to take place in the GPSC's plant. Such signal & alarm will be transmitted from

the central control room (CCR) after it has been verified that the incident has been actually occurred to alert all employees to comply with the specified emergency control plan. There are 3 types of emergency signal & alarm, with details as follows:

- 3.23.1 Emergency signal & alarm which will be broadcasted under Shift Operation Manager's command after the CCR has verified that an incident notification is true.
- 3.23.2 Evacuation signal will be broadcasted after the Emergency Response Team has evaluated that the situation cannot be controlled and it is necessary to evaluate all employees and operators out of the plant areas.
- 3.23.3 All clear signal will be broadcasted when emergency situation can be controlled. Each signaling of alarm must always be accompanied by the announcement of the officer at the Communication Center.

4. PRINCIPLES

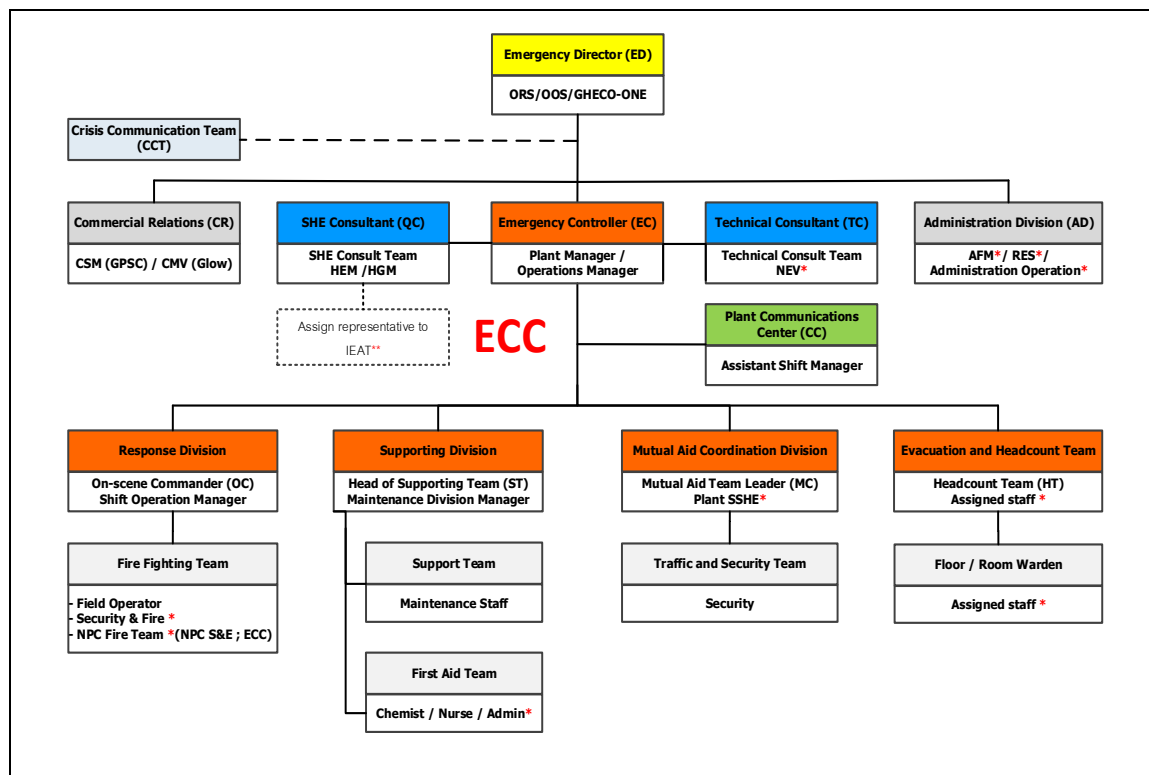
5. ROLES AND RESPONSIBILITIES

6. DETAILS OF PROCEDURE

6.1 Role and Responsibilities

6.1.1 Emergency Response Team (ERT) In order to be able to extensively and effectively control and respond to emergency situation and crisis situation, the Company has specified structure of Emergency Response Team (ERT) as follows.

6.1.1.1 Emergency Response Team (ERT)



Remark: * Main responsible persons of each plant are shown in the Table: Emergency Response Team – Functional Organization

** Emergency Level 1 and Level 2 will be considered based on situation, as appropriated. For Emergency Level 3 or equal to Provincial Emergency Level 1, ED of the plant which has incident or the assigned person will travel to EMCC or the communication/coordination center of each Industrial Estate in the area (pursuant to the regulations on the emergency operation plan of the Industrial Estate Group and Ports of Map Ta Phut area (Map Ta Phut Complex), B.E. 2562 (2019)).

- - - **The Crisis Communication Team (CCT) is responsible for all internal and external communication (refer to the Crisis Communication Procedure)** The CCT will closely coordinate with ED and comply with the regulations under ERT and Crisis Communication Procedure

- 6.1.1.2 Emergency Director (ED)** has duty and responsibility to manage, respond to emergency condition, supervise and support operations of the Emergency Controller (EC), as well as to evaluate impact to business
- 6.1.1.3 Emergency Controller (EC)** has duty to evaluate situation, personnel and equipment currently have at that time to consider about giving orders to resolve/control such situation effectively for maximally safety.
- 6.1.1.4 Technical Consultant (TC)** has duty to prepare technical information, such as P&ID, plot plan, drawing or other necessary document and to give advice to EC on control and response to emergency situation on isolation of system, as well as on shutdown of the production process, and to provide information on utilities used to control the emergency situation.
- 6.1.1.5 SHE Consultant (QC)** has duty to prepare safety information, such as SDS, number of fire-fighting equipment, fire-fighting equipment layout, fire classification or other necessary information, environmental information, such as waste water management, air pollution caused by this incident; to give advice to EC on safety response and control of environmental impact, measure environmental impact and to give advice on recovery/rehabilitation.
- 6.1.1.6 Administration Team (AD)** has duty to evacuate the employees and unrelated persons to outside areas; support on vehicles for evaluation/relocation; contact & coordinate with relatives of the injured; support, provide and prepare food-beverage and other services.
- 6.1.1.7 Head of Customer Relations (CR)** has duty to inspect the contracts and coordinate with the plants who are the Company's customers, as well as to give commercial information to ED in order to make decision or requesting for cutting of receiving-disbursing, reducing-increasing raw material or products as well as to evaluate impact to business.
- 6.1.1.8 On-scene Commander (OC)** has duty to go to the incident area to evaluate the situation; to announce the emergency condition level 1; to give order to stop operations and to order the irrelevant persons move out of the incident areas; to give order to the rescue team to bring the persons trapped in the building or in the incident area to the safety areas; select correct and effective fire-fighting technique and method

jointly with EC; prevent and suppress environmental impact which may occur from abnormal situation; report/evaluate situation from the

incident area for EC's acknowledgement from time to time, and request for assistance on personnel, equipment and others from EC; jointly evaluate situation with EC to consider on elevation to emergency condition level 2; to jointly manage with the officials and head of external fire-fighting team (mutual aid); to inspect the incident areas jointly with ED, EC, QC, TC, ST and MC before announcement to abort the emergency situation.

6.1.1.9 Support Team (ST) has duty to prepare/provide personnel, tools and equipment for operations to support the control of emergency situation. There are 2 support teams as follows:

6.1.1.9.1 Support team who has duty to support for emergency response as per requested by EC.

6.1.1.9.2 First-aid team who has duty to transfer the patients to the first aid point or the safe point to provide first aid before the ambulance arrives.

6.1.1.10 Mutual Aid Coordination Team (MC) has duty to notify abnormal situation and prepare document to the mutual aid as per the Industrial Estate's plan; to coordinate and request for assistance from the mutual aid as per the EC's order; preliminary coordinate with the mutual aid and escort the mutual aid to provide assistance at the incident area; to supervise operations of the Traffic Team.

6.1.1.11 Evacuation and Headcount Team (HT). When there is an evacuation alarm & signal, head of evacuation team will order the employees to stop working and prepare for evaluation; to inspect within the rooms to ensure that nobody is left there; pick up evaluation flags and record the list; prepare to take the employees to the assembly point pursuant to the announcement; lead and control the personnel within his/her own room to evaluate along the specified fire escape route to the assembly point. When arriving at the assembly point, gather the list and report to the Evacuation and Headcount Team (HT), count the contractor's personnel who perform the works during the incident. HT will gather all employees and directly report the number of employees to EC. In case there is a missing person, HT will coordinate with EC to request the rescue team to search for such mission person. In case there is an injured person at the muster point, HT will coordinate with EC to request for assistance from the First Aid Team.

6.1.1.12 Crisis Communication Team (CCT) has duty as

6.1.1.12.1 Handling all the information disseminated to public, press relation, press release, monitoring the press and report to ED or CEO as the case maybe for any potential negative media or public resistance.

- 6.1.1.12.2 Report to relevant Government Authorities as necessary and being a contact point to those authorities to disseminate information.
- 6.1.1.12.3 Handling the local communities communication and leading the evacuation of communities if necessary and may be affected by emergencies arising from the Company's activities
- 6.1.1.12.4 Internal Communication to Employees to be able to access the corrected information about the emergency situation.

Please refer to the Crisis Communication Procedure for details.

6.1.2 Emergency Response Team — Functional Organization

6.1.2.1 CUP1, CUP2, CUP3, CUP4

Role	Responsible Person	Standby	During Shift Operations only
Emergency Director (ED)	Plant Operations Rayong Cogen.	Operations Manager	Shift Operation Manager
Emergency Controller (EC)	Operations Manager	Shift Operation Manager	Shift Operation Manager
SHE Consultant (QC)	SSHE Division Manager	Plant SSHE	SSHE on call
Technical Consultant (TC)	NDT (CUP1) NCT (CUP2) NRT (CUP3,4)	NDT (CUP1) NRT (CUP2) NRT (CUP3,4)	NEV team
On-scene Commander (OC)	Shift Operation Manager	Field Operator	Field Operator
Mutual Aid Coordination (MC)	Plant SSHE	SSHE on call	SSHE on call
Plant Communications Center (CC)	Assistant Shift Manager	Assistant Shift Manager	Assistant Shift Manager
Fire Fighting Team	Field Operator Security and Fire	Field Operator Security and Fire	Field Operator Security and Fire
Supporting Team (ST)	Maintenance Division Manager CUP1-4/Phase 2	Maintenance Staff CUP1-4	Maintenance Staff On-call CUP1-4
Traffic and Security Team	Security	Security	Security
First Aid Team (FT)	Chemist	Maintenance Staff CUP1-4	Maintenance Staff On-call CUP1-4
Administration Team (AD)	AFM	AFM Administration Officer	-
Commercial Relations (CR)	Industrial Customers Sales Division Manager - GPSC	Industrial Customers Sales Officer - GPSC	-
Evacuation and Head count Team (HT)	Site Coordinator Security	Shift Leader Security	Shift Leader Security
Floor / Room Warden	Assigned staff	Assigned staff	-

6.1.2.2 Sriracha Power Plant

Role	Responsible Person	Standby	During Shift Operations only
Emergency Director (ED)	• Plant Operations Other areas	• Operations Manager	• Shift Operation Manager
Emergency Controller (EC)	• Operations Manager	• Shift Operation Manager	• Shift Operation Manager
SHE Consultant (QC)	• SSHE Division Manager	• Plant SSHE	• SSHE on call
Technical Consultant (TC)	• NST	• NDT • NRT	• NEV team
On-scene Commander (OC)	• Shift Operation Manager	• Field Operator	• Field Operator
Mutual Aid Coordination (MC)	• Plant SSHE	• SSHE on call	• SSHE on call
Plant Communications Center (CC)	• Assistant Shift Manager	• Assistant Shift Manager	• Assistant Shift Manager
Fire Fighting Team	• Field Operator • Security and Fire • Fire team form TOP	• Field Operator • Security and Fire • Fire team form TOP	• Field Operator • Security and Fire • Fire team form TOP
Supporting Team (ST)	• Maintenance Division Manager GIPP/SRC	• Maintenance Staff GIPP/SRC	• Maintenance Staff On-call GIPP/SRC
Traffic and Security Team	• Security	• Security	• Security
First Aid Team (FT)	• Chemist	Maintenance Staff GIPP/SRC • First aid team form TOP	Maintenance Staff GIPP/SRC • First aid team form TOP
Administration Team (AD)	• AFM	• AFM Administration Officer	• -
Commercial Relations (CR)	• Industrial Customers Sales Division Manager - GPSC	• Industrial Customers Sales Officer - GPSC	• -
Evacuation and Head count Team (HT)	• Site Coordinator Security	• Shift Leader Security	• Shift Leader Security
Floor / Room Warden	• Assigned staff	• Assigned staff	• -

6.1.2.3 Phase2 Cogen.

Role	Responsible Person	Standby	During Shift Operations only
Emergency Director (ED)	• Plant Operations Rayong Cogen.	• Plant Manager	• Shift Operation Manager
Emergency Controller (EC)	• Plant Manager	• Operations Manager	• Shift Operation Manager
SHE Consultant (QC)	• SSHE Division Manager	• Plant SSHE	• SSHE on call
Technical Consultant (TC)	• NMT	• NET	• NEV team
On-scene Commander (OC)	• Shift Operation Manager	• Field Operator	• Field Operator
Mutual Aid Coordination (MC)	• Plant SSHE	• SSHE on call	• SSHE on call
Plant Communications Center (CC)	• Assistant Shift Manager	• Assistant Shift Manager	• Assistant Shift Manager
Fire Fighting Team	• Field Operator • Local Fire Department	• Field Operator • Local Fire Department	• Field Operator • Local Fire Department
Supporting Team (ST)	• Maintenance Division Manager CUP1-4/Phase 2	• Maintenance Staff Phase 2	• Maintenance Staff On-call Phase 2
Traffic and Security Team	• Security	• Security	• Security
First Aid Team (FT)	• Supporting Team (Maintenance Staff)	• Supporting Team (Maintenance Staff)	• Supporting Team (Maintenance Staff)
Administration Team (AD)	• AFM	• AFM Administration Officer	• -
Commercial Relations (CR)	• VP Industrial Customers Sales Glow	• Industrial Customers Sales Manager Glow	• -
Evacuation and Head count Team (HT)	• Plant Secretary	• Shift Leader Security	• Shift Leader Security
Floor / Room Warden	• Assigned staff	• Assigned staff	• -

6.1.2.4 Phase3 Gas/Coal Fired Unit Complex

Role	Responsible Person	Standby	During Shift Operations only
Emergency Director (ED)	• Plant Operations Rayong Cogen.	• Plant Manager	• Shift Operation Manager
Emergency Controller (EC)	• Plant Manager	• Operations Manager	• Shift Operation Manager
SHE Consultant (QC)	• SSHE Division Manager	• Plant SSHE	• SSHE on call
Technical Consultant (TC)	• NET	• NMT	• NEV team
On-scene Commander (OC)	• Shift Operation Manager	• Field Operator	• Field Operator
Mutual Aid Coordination (MC)	• Plant SSHE	• SSHE on call	• SSHE on call
Plant Communications Center (CC)	• Assistant Shift Manager	• Assistant Shift Manager	• Assistant Shift Manager
Fire Fighting Team	• Field Operator • NPC Fire Team (NPC S&E ; ECC)	• Field Operator • NPC Fire Team (NPC S&E ; ECC)	• Field Operator • NPC Fire Team (NPC S&E ; ECC)
Supporting Team (ST)	• Maintenance Division Manager Phase 3-5	• Maintenance Staff Phase 3	• Maintenance Staff On-call Phase 3
Traffic and Security Team	• Security	• Security	• Security
First Aid Team (FT)	• Nurse from Glow First Aid Room	• Maintenance Staff Phase 3	• Maintenance Staff On-call Phase 3
Administration Team (AD)	• AFM	• AFM Administration Officer	• -
Commercial Relations (CR)	• VP Industrial Customers Sales Glow	• Industrial Customers Sales Manager - Glow	• -
Evacuation and Head count Team (HT)	• VP Procurement	• Procurement Manager 1 st • HR Officer 2 nd	• Shift Leader Security
Floor / Room Warden	• Assigned staff	• Assigned staff	• -

6.1.2.5 Phase3 Coal Port

Role	Responsible Person	Standby	During Shift Operations only
Emergency Director (ED)	Plant Operations Rayong Cogen.	Plant Manager	Coal Fire unit Shift Operation Manager
Emergency Controller (EC)	Plant Manager	Coal Port & Logistics Section Manager	Coal Fire Unit Assistant Shift Manager
SHE Consultant (QC)	SSHE Division Manager	Plant SSHE	SSHE on call
Technical Consultant (TC)	NST	NMT	NEV team
On-scene Commander (OC)	Coal Port & Logistics Section Manager	Coal Fire unit Shift Operation Manager	Port Logistics Officer
Mutual Aid Coordination (MC)	Plant SSHE	SSHE on call	SSHE on call
Plant Communications Center (CC)	Coal Fire Unit Assistant Shift Manager	Coal Fire Unit Assistant Shift Manager	Coal Fire Unit Assistant Shift Manager
Fire Fighting Team	Field Operator NPC Fire Team (NPC S&E ; ECC)	Field Operator NPC Fire Team (NPC S&E ; ECC)	Field Operator NPC Fire Team (NPC S&E ; ECC)
Supporting Team (ST)	Maintenance Division Manager Phase 3-5	Maintenance Staff Phase 3	Maintenance Staff On-call Phase 3
Traffic and Security Team	Security	Security	Security
First Aid Team (FT)	Nurse from Glow First Aid Room	Maintenance Staff Phase 3	Maintenance Staff On-call Phase 3
Administration Team (AD)	AFM	AFM Administration Officer	-
Commercial Relations (CR)	VP Industrial Customers Sales Glow	Industrial Customers Sales Manager - Glow	-
Evacuation and Head count Team (HT)	Port Logistics Officer	Shift Leader Security	Shift Leader Security
Floor / Room Warden	Assigned staff	Assigned staff	-

6.1.2.6 GHECO – ONE

Role	Responsible Person	Standby	During Shift Operations only
Emergency Director (ED)	• GHECO-One Plant Manager	• Operations Manager	• Shift Operation Manager
Emergency Controller (EC)	• Operations Manager	• Shift Operation Manager	• Shift Operation Manager
SHE Consultant (QC)	• SSHE Division Manager	• Plant SSHE	• SSHE on call
Technical Consultant (TC)	• NEV	• NMT	• NEV team
On-scene Commander (OC)	• Shift Operation Manager	• Field Operator	• Field Operator
Mutual Aid Coordination (MC)	• Plant SSHE	• SSHE on call	• SSHE on call
Plant Communications Center (CC)	• Assistant Shift Manager	• Assistant Shift Manager	• Assistant Shift Manager
Fire Fighting Team	• Field Operator • NPC Fire Team (NPC S&E ; ECC)	• Field Operator • NPC Fire Team (NPC S&E ; ECC)	• Field Operator • NPC Fire Team (NPC S&E ; ECC)
Supporting Team (ST)	• Maintenance Division Manager GHECO-One	• Maintenance Staff GHECO-One	• Maintenance Staff On-call GHECO-One
Traffic and Security Team	• Security	• Security	• Security
First Aid Team (FT)	• Chemist	• Nurse from First Aid Room	• Nurse from First Aid Room
Administration Team (AD)	• Administration Officer	• Administration Officer	• -
Commercial Relations (CR)	• VP Industrial Customers Sales Glow	• Industrial Customers Sales Manager - Glow	• -
Evacuation and Head count Team (HT)	• Secretary	• Shift Leader Security	• Shift Leader Security
Floor / Room Warden	• Assigned staff	• Assigned staff	• -

6.1.2.7 GIPP

Role	Responsible Person	Standby	During Shift Operations only
Emergency Director (ED)	• Plant Operations Other areas	• Operations Manager	• Shift Operation Manager
Emergency Controller (EC)	• Operations Manager	• Shift Operation Manager	• Shift Operation Manager
SHE Consultant (QC)	• SSHE Division Manager	• Plant SSHE	• SSHE on call
Technical Consultant (TC)	• NIT	• NIT	• NEV team
On-scene Commander (OC)	• Shift Operation Manager	• Field Operator	• Field Operator
Mutual Aid Coordination (MC)	• Plant SSHE	• SSHE on call	• SSHE on call
Plant Communications Center (CC)	• Assistant Shift Manager	• Assistant Shift Manager	• Assistant Shift Manager
Fire Fighting Team	• Field Operator • Local Fire Department	• Field Operator • Local Fire Department	• Field Operator • Local Fire Department
Supporting Team (ST)	• Maintenance Division Manager GIPP/SRC	• Maintenance Staff GIPP/SRC	• Maintenance Staff On-call GIPP/SRC
Traffic and Security Team	• Security	• Security	• Security
First Aid Team (FT)	• Supporting Team (Maintenance Staff)	• Supporting Team (Maintenance Staff)	• Supporting Team (Maintenance Staff)
Administration Team (AD)	• Administration Officer	• Accountant Officer	• -
Commercial Relations (CR)	• Industrial Customers Sales Division Manager	• Industrial Customers Sales Officer	• -
Evacuation and Head count Team (HT)	• Accountant Officer (due to she not stay at plant site everyday)	• Warehouse Officer (due to she not stay at plant site everyday)	• Shift Leader Security
Floor / Room Warden	• Assigned staff	• Assigned staff	• -

6.1.2.8 SPP11-Plant 1, SPP11-Plant 2

Role	Responsible Person	Standby	During Shift Operations only
Emergency Director (ED)	• Plant Operations Other areas	• Operations Manager	• Shift Operation Manager
Emergency Controller (EC)	• Operations Manager	• Shift Operation Manager	• Shift Operation Manager
SHE Consultant (QC)	• SSHE Division Manager	• Plant SSHE	• SSHE on call
Technical Consultant (TC)	• NDT	• NDT	• NEV team
On-scene Commander (OC)	• Shift Operation Manager - Day	• Field Operator	• Field Operator
Mutual Aid Coordination (MC)	• Plant SSHE	• SSHE on call	• SSHE on call
Plant Communications Center (CC)	• Assistant Shift Manager	• Assistant Shift Manager	• Assistant Shift Manager
Fire Fighting Team	• Field Operator • Local Fire Department	• Field Operator • Local Fire Department	• Field Operator • Local Fire Department
Supporting Team (ST)	• Maintenance Division Manager SPP11	• Maintenance Staff SPP11	• Maintenance Staff On-call SPP11
Traffic and Security Team	• Security	• Security	• Security
First Aid Team (FT)	• Supporting Team (Maintenance Staff)	• Supporting Team (Maintenance Staff)	• Supporting Team (Maintenance Staff)
Administration Team (AD)	• Administration Officer	•	• -
Commercial Relations (CR)	• Industrial Customers Sales Division Manager	• Industrial Customers Sales Officer	• -
Evacuation and Head count Team (HT)	• Warehouse Officer	• Shift Leader Security	• Shift Leader Security
Floor / Room Warden	• Assigned staff	• Assigned staff	• -

6.1.2.9 Warehouse / Maintenance Center

Role	Responsible Person	Standby	During Shift Operations only
Emergency Controller (EC)	• Warehouse Section Manager	• Warehouse Management Officer	• -
Mutual Aid Coordination (MC)	• Plant SSHE	• SSHE on call	• -
Fire Fighting Team	• Security and Fire • Local Fire Department	• Security and Fire • Local Fire Department	• -
Traffic and Security Team	• Security	• Security	• -
Evacuation and Head count Team (HT)	• Warehouse Management Officer	• Assigned staff	• -
Floor / Room Warden	• Assigned staff	• Assigned staff	• -

6.1 Process Details

6.1.1 Ranking of abnormal incident level and emergency level Abnormal incident level and emergency level have been ranked into 3 levels as follows:

6.1.1.1 Emergency Level 1 (equal to Emergency Level 1 of Industrial Estate/ IEAT means a situation which impacts or may impact to communities and factories located nearby due to Company's activities or the emergency situation occurred that the Company can control and response emergency situation by itself by using its own manpower and equipment available (including requesting for assistance from the contracted agencies on provision of assistance in case of emergency situation).

6.1.1.2 Emergency Level 2 (equal to Emergency Level 2 of Industrial Estate/IEAT) means the emergency situation which occurred continually from the Emergency Level 1 or the severe emergency situation which has immediately impact to external areas that the Company cannot control such situation by using its own manpower and equipment that it has to request for assistance from the Industrial Estate Office and/or other mutual aids. The Company will request for assistance from the Industrial Estate Office and its counterparty first before requesting for assistance from the external government agencies.

6.1.1.3 Emergency Level 3 (equal to Emergency Level 3 of Industrial Estate/IEAT/Emergency Level 1 of Rayong Province) means the emergency situation which occurred continually from the Emergency Level 2 or the emergency situation, when occurred, has immediately impacted to outside agencies, such as neighboring factories and communities or it has severely and extensively impacted to the environment. In addition, it is beyond the Company's capability and the response team pursuant to the emergency response plan of the

Industrial Estate Office or the mutual aids to respond or control the situation that it has to request for assistance from the Disaster Prevention and Mitigation Administration, the Local Administration Organization of the areas (Map Ta Phut Municipality, Ban Chang Municipality and Map Kha Municipality) and/or Muang Rayong Disaster Prevention and Mitigation to respond and control the situation or to evacuate the people, and enter into the Emergency Plan Level 1 of Rayong Province, pursuant to the emergency operation plan on chemical and hazardous substance, Rayong Province.

Remark: The consideration on implementation of Business Continuity Plan (BCP) will take into account the situation or the incident whether it will seriously impact to the organization that it can interrupt operations of the Company or they will fall under the following cases or not.

- Directly loss of income
- Impact customers
- Impact lives and safety
- Interruption of operations/duties and routine work
- Impact reputation
- Impact contracts/agreement on service rendering
- Non-conformance with the specified laws.



6.1.2 Announcement of emergency situation and communication

- 6.1.2.1** Bystander presses emergency signal & alarm and directly reports the control room.
- 6.1.2.2** SM (Shift Operation Manager) evaluates the situation and extent of emergency level, then announces emergency situation of such considered level immediately.
- 6.1.2.3** SM telephones and reports the incident to the Plant Manager/ Operations Manager who will perform duty as EC pursuant to the plan for their acknowledgement.
- 6.1.2.4** Plant Manager / Operations Manager inform VP Plant Operations and send message to notify QC, TC, ST and MC.
- 6.1.2.5** VP Plant Operations notifies OPE, management at department level, CR Team and AD.
- 6.1.2.6** After acknowledging the situation, the team leaders under the plan will report to ECC, directly by person/via telephone or communication radio.

6.1.3 Communication System and Equipment during Emergency Situation

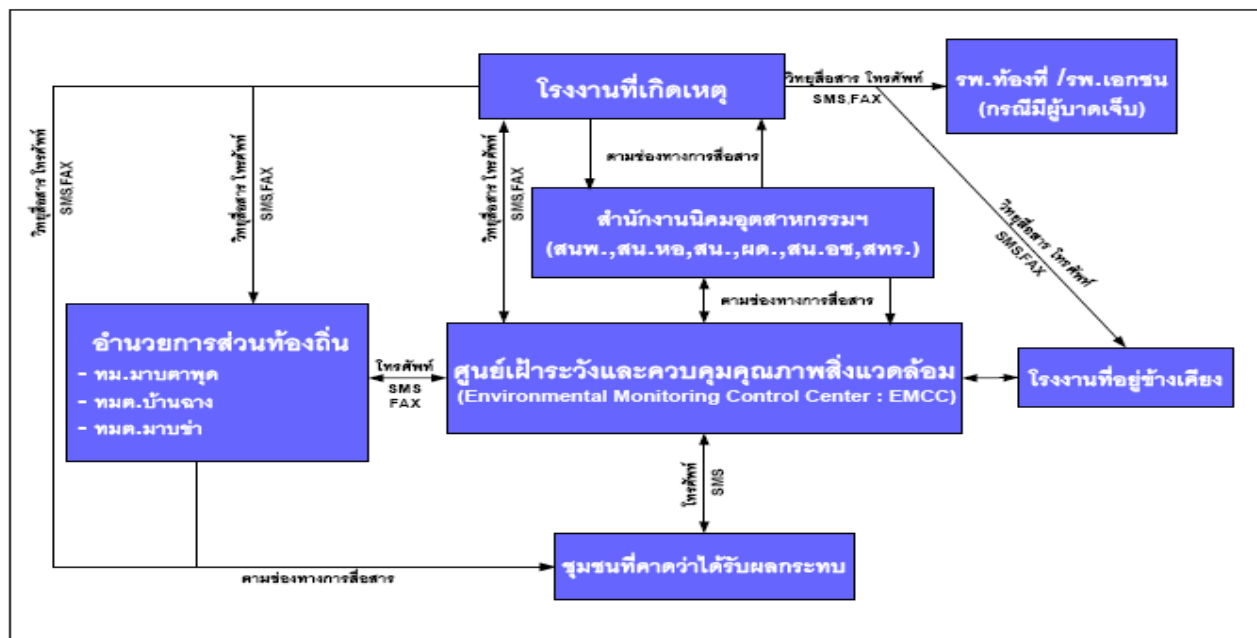
During emergency situation, communication system and equipment are very crucial, particularly, they must be able to speedily communicate and equipment must be adequately for usage. Hence, GPSC has provided equipment including usage requirements during emergency situation as follows:

- 6.1.3.1** Internal telephone. In case of emergency situation, internal telephone should not be used (except only in case of necessity)
- 6.1.3.2** External telephone. In case of emergency situation, it can only be used to contact with the agencies related to operations or to request for assistance to control emergency situation only (except only in case of necessity).
- 6.1.3.3** Trunk mobile radio will be used a main communication equipment to contact/give order between the Emergency Response Team to respond to the emergency situation.

6.1.4 Emergency Situation Notification Channel

Comply with the layout, emergency notification table of the relevant agencies, refer to the emergency action plan of Map Ta Phut Industrial Estates Group, Rayong Province (Map Ta Phut Complex). Emergency Level 1 must be preliminary notified within 10 minutes after the incident and emergency Level 1 and Level 3 must be notified immediately after the incident.

6.1.4.1 Emergency Communication Diagram



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6.1.4.2 External Local Contacts List

Item	Local Agency Name	Contact Number
Government Authorities		
[1]	Maptaphut Industrial Estate (MIE)	038-683-930~2 • x116 (24 hours) • x117 (office time)
[2]	EMCC (Environmental Monitoring and Control Center)	038-683-933, 081-732-3485
[3]	IEAT-WHA/AIE/RIL/PD Eastern Industrial Estate	038-683-960
[4]	Maptaphut Industrial Port (สทปร)	081-466-5758
[5]	Marine Office 6 Rayong Branch	038-687456
[6]	Thai Maritime Enforcement Command Center ครุฑชล.(เขต 1)	038-438008
[7]	Sattahip Naval Base	038-437600, 038-437163
Local Industrial Estate / Local Authorities		
[1]	Asia Industrial Estate (AIE)	038-689-091, 092-283-3342
[2]	WHA Chonburi Industrial Estate (WHA CIE) 1	038-345-234, 345-239, 345-251
[3]	WHA Eastern Industrial Estate (WHA EIE)	038-683-961~2

Item	Local Agency Name	Contact Number
[4]	Rayong Industrial Land (RIL)	038-915-285
[5]	Security Command Center, Thai Oil Public Co., Ltd.	038-408500 Ext.2698
[6]	Siam Eastern Industrial Park (SEP)	038-891-151, 891-165
[7]	Eastern Fluid Transport (EFT)	038-687-511
PTT Group Emergency and Crisis Management		
[1]	PTT Security, Safety, Occupational Health and Environment Management Division	02-537-3111, 3222, 3333, 3444, 3555 Fax.0-2537-3497~8
[2]	PTT Communication Center, Head Quarter	081-935-3134
[3]	SSHE Duty	089-969-6835
Neighborhood / Local Industrial Estate Fire Stations		
[1]	PTT GC (I-4) Fire Station	038-925-400 x5699
[2]	WHA EIE Fire Station	038-683960
[3]	SEP Fire Station	038-891-151
[4]	WHA CIE Fire Station	038-345-234, 345-251, 345-239
Municipality / Subdistrict Administrative Organization Fire Stations		
[1]	Maptaphut Municipality Fire Station	038-608-983, 685-191, 685-199
[2]	Banchang Municipality Fire Station	038-695-271, 601-199, 630-007
[3]	Chao Phraya Surasak Municipality Fire Station	038-348-000
[4]	Mapyangporn SAO Fire Station	038-659-679, 659-314 x128
[5]	Pluak Daeng SAO Fire Station	038-659-003
[6]	Fire Station , Thai oil Co.,Ltd.	038-408-500 Ext.2668
[7]	Laemchabang City Municipality Fire Station	038-490-199
Contracted Fire Stations		
[1]	NPC Emergency Control Center	038-977-799
[2]	NPC Fire Team (24 hours on site)	x3555
Police Stations		
[1]	Maptaphut Police Station (for MTPIE area)	038-608-587~9, 607-111, 607-191
[2]	Houypong Police Station (for WHA EIE area)	038-683-100, 683-111
[3]	Banchang Police Station (for AIE area)	038-601-111, 601-999
[4]	Bowin Police Station (for WHA CIE1 area)	038-067-313~4
[5]	Pluakdaeng Police Station (for SEP area)	038-659-281, 659-007
[6]	Laemchabang Police Station (for SRC area)	038-940-555
Contracted Emergency Ambulance		
[1]	NPC Emergency Control Center	038-977-799
[2]	Bangkok Rayong Hospital	038-621-999
[3]	Piyavecht Bowin Hospital	038-345-111, 345-333
[4]	Security Command Center, Thai Oil Public Co., Ltd.	038-408-500 Ext.2668

Item	Local Agency Name	Contact Number
Hospitals		
[1]	Maptaphut Hospital	038-684-696, 684-444
[2]	Ban Chang Hospital	038-603-838
[3]	Queen Sirikit Hospital	038-245-735~9, 245-700,933-900
[4]	Rayong Hospital	038-611-104 x1669
[5]	Pluakdaeng Hospital	038-659-005, 659-117
[6]	Clinic Bangkok Rayong Hospital (Bowin)	038-337969, 337190
[7]	Clinic Samitivej (Eastern)	038-955-437~8
[8]	Phyathai Sriracha Hospital	038-770-200~9,328-102~9
[9]	Samitivej Sriracha Hospital	038-320-300, 324-111
[10]	Somdej Na Sriracha Hospital	038-322-157~9, 320-200
[11]	Bangkok Pattaya Hospital	038-259-999
[12]	Mongkut Rayong Hospital	038-682-136
[13]	Vibharam Laemchabang Hospital	033-009-800

6.1.5 **Emergency Control Action Plan**

In order to effectively control the emergency situation, the emergency control operating guideline has been specified and Quality, Occupational Health and Environment Function will coordinate with the relevant agencies to prepare the Pre-incident Plan to be used as the action plan to suppress the incident for high risky equipment, pursuant to the following guidelines.

6.1.5.1 **Fire or explosion** the followings should be performed

- Consider to shut down the system/machine, equipment.
- Block or isolate equipment to reduce fuel supply.
- Dilute concentration of the leaked flammable gas or barricade to prevent the leaked flammable substance flow to heat source or stop the leakage.
- Spray water continually around the structure and nearby equipment.
- Extinguish the fire.

6.1.5.2 **Hydrocarbon or Toxic Gas Cloud.** In case of hydrocarbon or toxic gas cloud within the plant, the followings should be performed

- Repair original point of leakage by using safe method or equipment.
- If the spill area does not have a dike or bund, control flow of combustible substance in the limited area, by closing valve and drainage ditch.
- Control risk factors which can cause spark in the area where flammable substance leaks.

- Prevent ignition of leaked flammable substance, for instance, spraying (such area) with foam extinguishers.
- Drain, pump or discharge flammable substance out of the area and keep it in safe area.

6.1.5.3 Chemical Spill, hazardous chemical leakage or spill. Hazmet Team must wear safety protection equipment when responding the incident by performing as follows

- Inspect information of spilled chemicals.
- Barricade area; divide into danger zone and safe zone.
- Isolate, block or stop leakage at the source immediately.
- Limit scope and dilute gas cloud or spill chemicals by using safe method.
- Comply with the operating procedure manual or the operating method manual in case of emergency situation and Safety Data Sheet (SDS) and prevent dispersion of substance into wide areas or out of the plant.
- Remove chemicals to store at safe areas.
- Measure concentration amount of hazardous chemicals in the air to evaluate health safety.

Remark: The operations performed must minimize or prevent environmental impacts by taking into consideration the following aspects:

1. Dispersion into the air
2. Dispersion to water source
3. Dispersion to soil layer.

6.1.5.4 Outside Affected Emergency. In case of toxic gas leakage within the plant or from outside, Fire Fighting Team must wear safety protection equipment while performing the works and operations should be as follows

- Announce and notify the affected employees to enter into the building, close the doors and windows and channels where outside air can penetrate into, including air-conditioners and wear personal protection equipment.
- Inspect for source of toxic gas
- Consider to establish the Emergency Command Center which is free from toxic gas, so that the responsible person or the representative can use to give order, coordinate and control the incident.
- When incident begins to elevate and prolong, consider to give order for evacuation.

6.1.5.5 Sabotage or Bomb Threat. If the Company has bomb threat or sabotage threat or received confirmed news of such action, the followings should be performed

- Elevate security level to Level 4, which is the highest level.
- Close all entrances- exits and provide security guards to maintain security at all times.
- Increase manpower of security guards by requesting from the security guard company, which is the Company's counterparty.

Increase searching measures for personnel, vehicles and equipment both entry and exit at extreme strict level

- Prohibit the third party who does not have any necessity to enter into the Company's areas.
- Search for news jointly with PTT Group and local security agency.

6.1.5.6 Radiation Leak. Radiation which is used within the Company's area is Nuclear Level Instrument (NLI) and Non-Destructive Testing (NDT) which are used in X-ray to find leakage or damage of pipeline and equipment. In case of accident and source of radiation cannot be controlled, the followings should be performed

- Announce the incident to the whole plant and areas outside of the plant which expected that they are within the radius of radiation dispersion for their acknowledgement
- Specify hazardous area and barricade the entrance, forbid from entry
- Notify the Company's radiation controller and the responsible persons or the coordinator of the Office of Atoms for Peace for operation.

6.1.6 Preliminary operating principle in case of emergency situation

When the employee/bystander witnesses the incident, he/she must press the alarm & signal and report the incident to CCR for acknowledgement. CCR will inspect whether such incident notification is real or not. If it is a real incident, CCR will notify Shift Operation Manager (OC) and pull manual alarm. When alarm signal activates, the employees, the contractors or the visitors in the GPSC plant will perform as follows:

6.1.6.1 Functions which do not have duty to perform pursuant to the Plan must stop operations immediately and shutdown all kinds of equipment/machines. However, the production unit must firstly wait for the EC's order. All types of work permits must be cancelled automatically and immediately. In addition, all vehicles within the areas must stop and engines must be turned off, and vehicles must be parked in the areas which do not obstruct the traffic.

6.1.6.2 Employees of all departments (except Production Department, Maintenance Department and Security, Safety Department) , the contractors, and the visitors must gather at muster points, pursuant to the announcement from the CCR.

6.1.6.3 All employees of Production Department must report to ECC and wait for order from OC.

6.1.6.4 TC, QC, ST must report to Central Control Room, ECC of the Department where incident occurs, to give advice/order and provide assistance to ED/EC/OC to respond to emergency.

6.1.6.5 HT must report at ECC to prepare readiness of the team and support equipment, then report on head count of all employees at assembly points, and notify the amount to EC/ED at ECC for acknowledgement without delay.

- 6.1.6.6** MC must report at ECC and count the number of all officers then inform such number for EC/ED's acknowledgement at ECC immediately.
- 6.1.6.7** Support units for emergency response operation will prepare the teams, tools and equipment to support the operation and wait for the ST's order
- 6.1.6.8** AD and CR will report at ECC to support operations and wait for the ED's order.
- 6.1.6.9** Security guards must close the Company's entrance-exit and control traffic around entrance-exit to prevent obstruction of the fire trucks.

6.1.7 Termination of emergency situation

When the emergency situation/condition calms down, the On-scene Commander will inspect the incident area to ensure that it is safe. Approved persons for termination of emergency in each level are as follows:

- 6.1.7.1** In case of emergency level 1, EC or ED will approve the termination of emergency situation
- 6.1.7.2** In case of emergency level 2, ED jointly with the Director of the relevant Industrial Estate will approve the termination of emergency situation.
- 6.1.7.3** In case of emergency level 3, the local emergency director (Mayor or the designated person) will consider and announce the termination of emergency situation

6.1.8 Public Relations and News Release

For orderly operations on public relations and news release, please refer to Crisis Communication Procedure. GPSC has assigned the Government Relations and Public Affairs to responsible for all internal to employees and external communication to public, Government Authorities, and local communities to ensure the accurate, efficient, and effective information dissemination and in a premediated way. All employees shall be refrained from disseminate any news or information to the third parties. In some emergency situations, the reporters and media might arrive at the plant. If at that time, situation which occurred within the plant has not yet been calmed down or the officer from the Corporate Communication Department or the designated person has not yet arrived at the scene or has not be ready to disseminate the news, the security guard must not allow the reporters to enter into the plant and obstruct traffic on the road, until the situation calms down or is safely enough.

In case of severe incident, such as fire or explosion, which can be seen from long distance, the reporters might gather at the main gate or park the cars to take pictures/record the video in such areas, so in order to prevent the obstruction of the fire-fighting operations, the security guards must perform as follows

- All security guards or employees must not provide any news to the media.
- Security guards have duty to ask the media to stay out of the main gate because they will obstruct the traffic and must clarify about safety of the media themselves.
- Control traffic at the entrance-exit, including at main gate to be free from any obstruction. The officer from the Corporate Communication Department will lead the reporters into the areas or room provided until the officer from the Corporate Communication Department receives order to lead the reporters to the provided room to wait for press conference.

In case of injury or death due to such incident, family of the injured or the deceased must be notified first, before news will be given to the media and the person who can do so must be the person who have duty to disseminate the news only.

6.1.9 Training Plan

Criteria specified in the training plan for training the personnel to prepare readiness for response to emergency situation will be as follows:

- HDV must arrange the employees to attend the training pursuant to the personnel development plan (training need) as per frequency specified.
- Plant SHE will have duty to coordinate for arrangement of evacuation and emergency plan drill at least once a year.

6.1.10 Investigation Plan

Objective of this plan is to appoint the responsible person to perform operation in each process, after the emergency situation has calmed down, regardless of magnitude of damage. Responsible persons for reporting and investigation must be specified to find exact cause of emergency situation. Many relevant officers from various units, both internally and externally, will conduct investigation which can be divided as follows:

- Internal Unit such as the committee appointed by the Chief Executive Officer to conduct the investigation and find the cause after the incident
- External Unit. For orderliness on preparation of report and investigation between the external unit and GPSC and for correct understanding, GPSC has appointed the Production Operation Department Manager, the Production Operation Division Manager (incident area) and the Security and Safety Department Manager as the coordinators for preparation of the report and investigation jointly with the external units, which include:
 - Investigation by the local police officers.
 - Investigation by the insurance company.
 - Investigation and inspection by the Industrial Works Department, Ministry of Industry.
 - Investigation and inspection by the Pollution Control Department, Ministry of Science, Technology and Environment.
 - Investigation and inspection by the National Safety Council, Office of the Prime Minister.
 - Investigation and inspection by the National Institute for Improvement of Working Conditions and Environment (NICE), Department of Labor Protection and Welfare, Ministry of Labor.
 - Others (on case by case/impact)

6.1.11 Rehabilitation and distress relieve plan

Rehabilitation means an improvement by applying reports on evaluation results of all aspects from situations actually taken place, particularly, fire prevention plan (before incident), rehabilitation plan during fire incident, distress

relieve plan (immediately after fire has been extinguished). It also included rectification of human error and prevention of environmental impact from results of fire suppression. After that, the following projects should be complied:

- Public relations project, cause of fire incident and various forms of prevention guidelines (CA/PA) from such consequences: It will be duty of Security, Safety, Occupational Health and Environment Department
- Patient and victim welfare project will be under responsibility of Human Resources Strategy and Organization Development Department.
- Renovation, improvement and restoration project will be duties of Maintenance Department.
- Environmental mitigation projects
- Water: Close sluice gate to prevent firewater flow into public drainage by using sandbag to block drainage. Firewater will be treated at waste water treatment unit.
- Waste from fire incident will be disposed by the external agency.
- Air pollution to community: Pollution occurred will be monitored.

6.1.12 Inspection/Patrol Plan

Main objective of inspection/patrol plan is to prevent fire incident by specifying area, method and control, follow-up works which related to fuel objects, combustible waste, heat source, spark source and firefighting equipment.

- Clearly designate persons and responsible areas for inspection/patrol.
- Specify specific matter required in each area, by preparing as result inspection report which is convenient for report.
- Specify exact inspection period and submit the exact report.
- Inspect fire-fighting equipment and emergency response equipment to ensure that fire protection system and equipment and emergency response equipment installed in the operation areas are available and ready to be used pursuant to the roles and responsibilities on oversight of equipment as per specified in Appendix 5.3.

6.1.13 Fire Prevention Campaign Plan

Fire prevention campaign plan is a plan arranged for prevention of fire in the workplace and for drawing attention as well as for promotion on fire prevention to all operators at all levels in the workplace. Objective is to make the employees acknowledge the cause of fire incident including prevention method.

Topic	Target Group	Method	Responsible Party
Smoking	Employees at all levels & Contractors	- Designate smoking area - Designate non-smoking area - Arrange safety trainings to employees and contractors	HEM&HGM
How to use fire-fighting equipment and fire-fighting operation	Employees at all levels & Contractors	- Specify installation point clearly. - Provide usage procedure at the installation point.	HEM&HGM
Arrange Safety Week	Employees at all levels & Contractors	Provide knowledge via E-Mail Arrange campaign boards activities/pavillions	QSHCEC

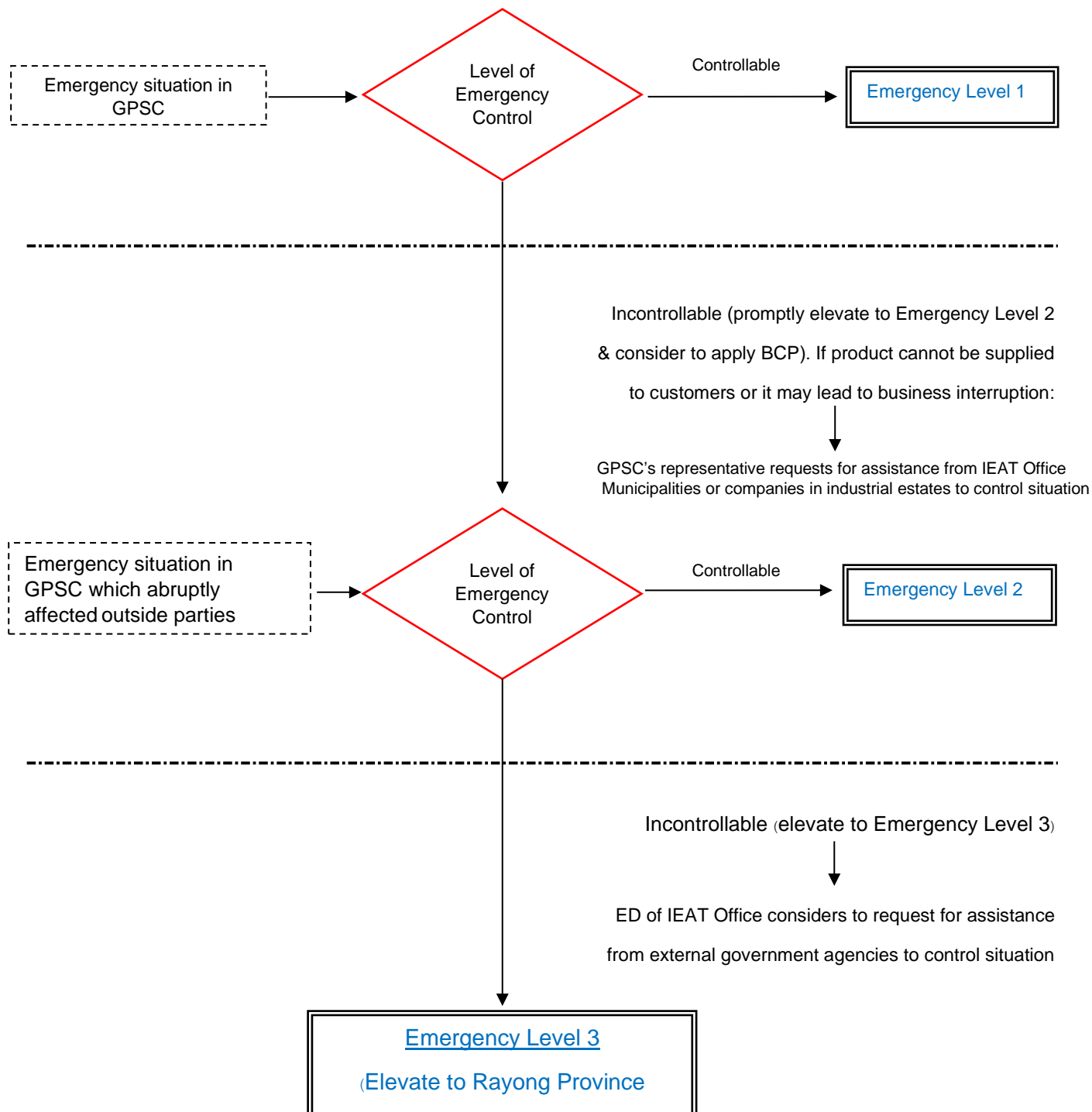
6.1.14 Review of Operating Procedures

Review period of this operating procedure is as follows:

- Normal review period is every 1 year or when there is emergency situation.
- When accident occurs from operations pursuant to this operating procedure, it must be reviewed immediately.
- In case there is enforcement by other laws or regulations which are relevant to this operating procedure, review must be conducted immediately.
- In case the persons relevant to this operating procedure consider that it should be reviewed, so that the implementation can be more safety and efficiency.

7. APPENDIX

7.1 Plan Layout for Management of Emergency Levels



7.2 Medical Emergency Management Guideline

7.2.1 Objective

To be used as guideline to help the operating areas develop the medical emergency response plan. Important part of medical emergency response plan is coordination/referral of the injured to the hospital which has the specific specialists. Such operation may be necessary when there is an incident, such as falling from height, cutting or crushing. The last referral point of the injured is the hospital which has surgical experts. Normally, the injured referral system is not complicated, unless there is abnormal situation or in extra risk areas. Hence, the operation area should have the injured referral plan, so that when there is an incident, the relevant person can perform as per the plan to mitigate severity of situation.

7.2.2 Definition

Term	Explanation
Occupation Health Function	Function supervising and responsible for occupational health-related works of the Company.
Employee	Person who has been employed pursuant to the specified law.
Third Party	A person or group of person or organization who has not been employed with the employment contract with the Company or the contractor, including the visitor.
Advanced Life Support; ALS	Resuscitative procedure requires skills of the medical personnel which are higher than basic life support to maintain blood circulation, open airway and breathing.
First Aid (FA)	Stanch, shock treatment and treatment of poisoned symptom, prevention injury or wound from deterioration
Basic Life Support; BLS	Medical emergency procedure which is necessary for immediate rescue to save life, consisting of cardiopulmonary resuscitation (CPR).
Cardiopulmonary Resuscitation (CPR)	Emergency procedure applied with the heart arrest patient to maintain function of brain, until there is other measure which can help circulation of blood and breathing to resume normal condition.
Safety Data Sheet (SDS)	Document or information of properties of substance which are main component for overseeing products and safety of the workplace. It contains management procedure or safety working with the substance.
Medical Evacuation (MEDEVAC)	The process to remove the injured or sick employee from the infirmary or the remote area to the local hospital.
Medical Emergency	Any medical emergency which poses an immediate risk to a person's life or can lead to death.

7.2.3 Roles and Responsibilities

7.2.3.1 Line or Supervisory Management

- Promote and drive their departments to apply such guideline for implementation

7.2.3.2 Safety officer/occupational hygienist/occupational health coordinator

- Review medical emergency plan

- Coordinate and monitor medical emergency plan
 - Follow-up symptoms of the injured/victim
 - Responsible for coordination on providing relevant information;
- 7.2.3.3 First Aider
- Evaluate situation and identify material problem
 - Assess injury condition
 - Immediately provide first aid
 - Request for assistance (if necessary)
 - Communicate with local physicians, nurses or medical and occupational health expert
 - Support medical team
 - Evaluate necessity to telephone or transfer to the medical personnel
 - First aider will perform pursuant to the medical personnel's order as per the plan
- 7.2.3.4 All operators (employees, contractors and sub-contractors under the contract)
- Evaluate situation and identify material problem
 - Assess injury condition
 - Immediately provide first aid
 - Request for assistance (if necessary)
 - Communicate with local physicians, nurses or medical and occupational health expert
- 7.2.3.5 Nurse, medical officer and healthcare consultant
- Evaluate situation and perform the works as appropriated as well as comply with triage regulations
 - Identify priority and assess injury condition
 - Immediately provide necessary treatment
 - Assist or supervise the first responder (first aider)
 - Become the hospital's emergency team member
 - Assess the patient's condition
 - Comply with recommendation of the medical personnel
 - Maintenance of medical equipment and medical supplies to make them ready to be used at all times
 - Take note and collect statistics.
- 7.2.3.6 The Company's consulting physician on occupational medicine:
- Provide technical advice, recommendation, medical emergency management guideline.

7.2.4 Procedure/Workflow Process

In order to make medical emergency management and medical response able to respond to the situation correctly and appropriately, resource management (personnel, team, facilities and equipment) must be carefully undertaken. Resource management guideline, such as classification, medical supplies provision, unit arrangement can facilitate and ease the delivery, usage and recovery of resources before, during and after emergency situation.

7.2.4.1 Objectives on arrangement of medical emergency

- Maintain/save life
- Minimize consequential impact of injury or illness
- Make subsequent rehabilitation at the final stage easier
- Respond to medical emergency and communication among the teams

7.2.4.2 Medical emergency response levels

When there is injury or illness in the plant areas, response level will be as per specified in Table 1

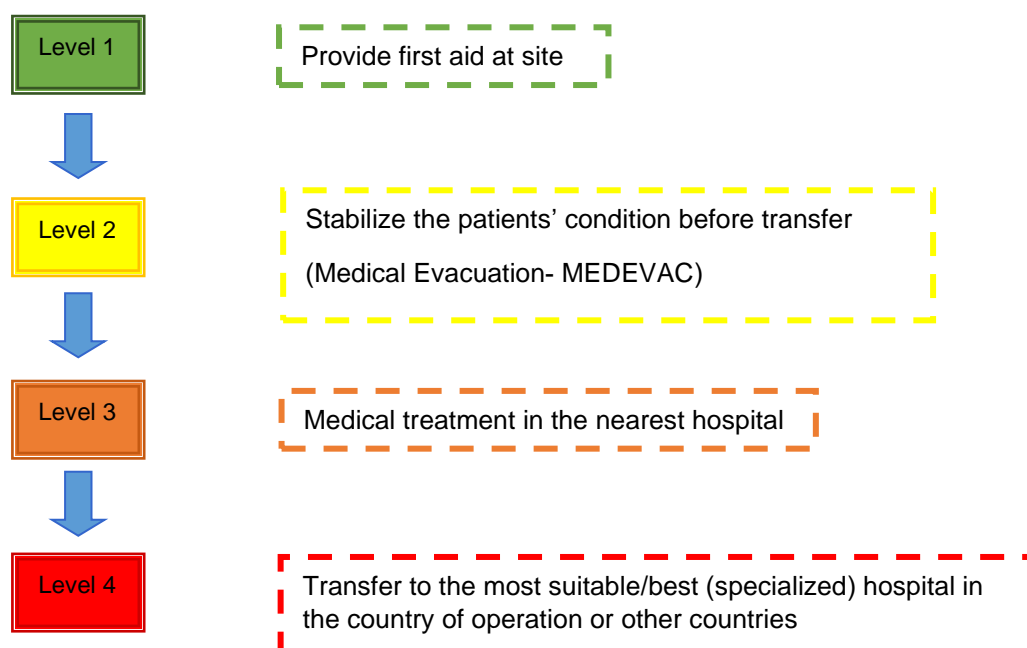


Figure 1: Medical Emergency Response Level

7.2.4.2.1 Necessary operations for medical emergency response level

Table 1 identifies structure and operating procedures of medical emergency response plan at each level, including maximum response time after injury which will depend on medical objective, consistency of emergency situation level and limitation of transportation. Quick response of first aid is necessary to save life.

Table 1: Overall management of medical emergency response level

Level	Thing to Do	Operation and necessary resources	Maximum time after injury
1	Promptly reassure safety of the patient	First Aid Team	4 minutes
	Basic life support (open airway, cardiopulmonary resuscitation, stop bleeding, choking management, taking care of unconscious person as well as prevention of c-spine motion and etc.)	First aid equipment	
	Emergency condition as per type of work: Burnt wound from chemical or heat; eye injury and others	Safety Data Sheet of all chemicals used	
	Evaluate necessity on elevation to response level 2 and communication with the personnel pursuant to level 2 plan	First Aid Team /ST/EC/ED	
	Coordinate Mutual Aid, if necessary	MC/ED	
2	Assess injury, necessity for medical evacuation (Level 3)	Contracted hospital/closet hospital	1 hour
	Conduct advanced life support to maintain pulse/vital sign of the patient to ensure that it will not change (IV drip, pain killer and others)	Emergency response equipment, stretcher and ambulance	
	Contact medical experts	AD/HOV/MC	
	Manage for medical evacuation, if necessary	FT/ST/MC	
3	Patient admission at local hospital	Expert from hospital	4 hours
	Assess condition of the injured	Local hospital	
	Perform the best professional works that can be found in the locality	Expert from hospital	
	Inspect operation, progress/follow-up	AD/HOV/ED	
4	Necessary to be treated by the appropriated specialist physicians for treatment of advanced injury or illness	Suitable specialized hospital in the country of operation or other countries/GPSC (HOV) Management	24 hours

7.2.4.2.2 Number of personnel for medical emergency response

- Number of personnel necessary for medical emergency response will be considered from based on risks and all aspects of medical emergency plan will be applied. Injury environmental condition and place may make the slight injury become fatality. The person who was suffered from serious traffic accident in downtown may be treated within minutes by the health experts. However, the person who has minor injury in the remoted area and unfavorable area may be dead due to a lack of good taking care from medical personnel.

- Risk assessment can help calculate the number of personnel necessary to respond to medical emergency. Risk assessment will take into consideration the followings
 1. Number of employee
 2. Occupational health hazard and safety of the operating areas by taking into account physical environment (office, warehouse, offshore platform and exposure of local atmospheric condition), types of activities performed, hazard persisting in the operating areas and control levels.
 3. Remoteness from facilities
 4. Quality and response time of local medical support system
 5. Lesson learnt from investigation of previous incidents and drilling.
 6. National regulation and laws as per details shown in Table 2.

Risk Level	Number of Employee (in parenthesis) and Number of First Aider		
Low Risk such as office, library	(<50) Provide first aid box and contact procedure for assistance	(50 - 100) One first aider	(>100) One first aider will be increased for every 100 employees
Medium Risk such as general maintenance work and parts assembling work, i.e. tool maintenance, etc.	(<20) Provide first aid box and contact procedure for assistance	(20 - 100) One first aider for every 50 employees, any fraction will be rounded up.	(>100) One first aider will be increased for every 50 employees.
High Risk such as, construction project, construction site, production area, sharp, heavy, or rotating tool/equipment, heavy vehicle driver, forklift driver, crane controller, oil & gas field, and etc.	(<5) Appointed person, such as the commander, should pass the first aid training course. Provide first aid box and contact procedure for assistance.	(5 - 10) At least 1 first aider	(>50) One first aider will be increased for every 50 employees. Provide first aid training pursuant to specific works, i.e. safety data sheet, confined space and etc.

7.2.4.3 Competency

In order to ensure efficiency of the medical emergency management, each operating area structure must prepare suitable resources and personnel who have capabilities and responsibilities as follows

7.2.4.3.1 Level 1: First Aid Team

7.2.4.3.2 Must be well aware of his/her own medical emergency response and must pass the training or receive First Aid (FA) Certificate, Basic Life Support (BLS), specific first aid for work performed and must be familiar with the safety data sheet

(SDS) for hazards of all chemicals in the areas, as well as have modern knowledge and skill.

Responsibilities will be as follows:

- 1) Evaluate situation and identify material problem.
- 2) Assess injury condition.
- 3) Immediately provide first aid.
- 4) Request for assistance (if necessary)
- 5) Communicate with local physician, nurses or the medical and occupational health expert.
- 6) Support medical team. Evaluate necessity on communication or referral of patient to medical personnel level 2 and 3.
- 7) If medical evacuation (MEDEVAC) is needed and duty of the first aider has not yet completed, the first aider must perform the works pursuant to medical personnel's order as per level 2 plan.

7.2.4.3.3 Level 2: Nurse, medical officer and external healthcare consultant.

All personnel for medical emergency response as per level 2 plan must have the certificate and skills on Advanced Life Support (ALS).

Responsibilities will be as follows

1. Evaluate situation and perform the works as appropriated as well as comply with triage regulations.
2. Identify priority and assess injury condition.
3. Immediately provide necessary treatment.
4. Assist or supervise the first responder (first aider).
5. Become the member of the hospital's emergency team.
6. Assess the patient's condition by nurse/physician, local physician; give advice to the medical and occupational health expert on evaluation of necessity and transfer to medical personnel level 3 and 4, as necessary.
7. If medical evacuation (MEDEVAC) is needed, then comply with recommendation of medical personnel level $\frac{3}{4}$
8. Maintenance of medical equipment and medical supplies to make them ready to be used at all times
9. Take note and collect statistics.

7.2.4.3.4 Level 3: Nurse, medical officer and external healthcare consultant.

All personnel for medical emergency response as per level 3 plan must have certificate and skill on Advanced Life Support (ALS).

Responsibilities will be as follows:

1. Evaluate situation and perform the works as appropriated as well as comply with triage regulations

2. Identify priority and assess injury condition
3. Immediately provide necessary treatment
4. Assist or supervise the first responder (first aider)
5. Become the member of the hospital's emergency team
6. Assess the patient's condition by nurse/physician, local physician and give advice to the medical and occupational health expert on evaluation of necessity and transfer to medical personnel level 4, as necessary
7. If medical evacuation (MEDEVAC) is needed, comply with recommendation of medical personnel level 4
8. Maintenance of medical equipment and medical supplies to make them ready to be used at all times
9. Take note and collect statistics

7.2.4.3.5 Level4: Medication treatment/surgery/appropriateness/the best specialists in the hospital.

In some cases, the medical specialist and surgeon are necessary to participate in treatment, such as in ICU or in case of mass casualty. Those specialists should have been certified on their professional capability by the recognized professional institutes and they must also possess modern treatment and have been trained constantly. Medical facilities and capable personnel for treatment should be provided, contacted, entered into agreement and recorded in advance in the medical emergency preparation plan, particularly in the following aspects:

1. Quality of emergency medical equipment/medical supplies and hygiene standard.
2. Medical processes and hospital, operation and standard.
3. Transportation facilities and convenience on assessable to communication equipment and communication plan

In addition, capability in various aspects, such as First Aid (FA), Basic Life Support (BLS) and Advanced Life Support (ALS) should also be added in medical emergency training course.

7.2.5 Medical emergency response operating procedures

Medical emergency response plan shall also include

- Emergency alert/notification
- Medical emergency response operating procedures
- Medical evacuation procedures (from operating areas to hospital level 3).
- Regional/international medical evacuation procedures (from hospital level 3 to 4)
- Outside communication
- List of emergency telephone numbers of the operating areas, such as telephone number of local hospitals

7.2.6 Prioritization of medical emergency response operation

Triage is the prioritization or classification of importance on medical emergency response operations based on necessity on treatment and resources provided. Objective is to place importance on results the most, for instance in case there is mass casualty incident, it means the classification of person who should be firstly treated or the patient who must be transferred to advanced healthcare center. Triage can be performed speedily by assessment of:

- Ability to walk and talk
- Airway condition
- Breathing condition
- Vital signs and blood circulation

Recommendation of triage procedures:

- 1st Stage (Red Tag) – Resuscitative procedures must be immediately performed because the patient has life-threatening injury or has risk from losing limbs, such as coma, tension pneumothorax, and etc
- 2nd Stage (Yellow Tag) – Urgent attention must be paid as risk can be elevated to severe problem which requires to have emergency care, such as constant vital sign which is suspicious to have ectopic pregnancy, bone fractures and etc.
- 3rd Stage (Green Tag) – No medical emergency is needed. Severe condition level will be known after the physician's inspection but treatment can be waited for 1-2 hours, such as sprain at ankle and wrist and etc.
- 4th Stage (Black Tag) - The victim is dead or in a condition that his/her life cannot be saved.

Conclusion of main triage operation

- Identify the victim who has life-threatening condition soonest
- Specify the most appropriate treatment area that the patient will be transferred to
- Assess and review triage tags continually pursuant to the suitable situation.

Mass Casualty Incident:

In reality, it is impossible to plan for handle every situation of mass casualty incident. However, in case risk assessment identified that any area may have mass casualty incident, appropriate main emergency plan must be in place. Main emergency plan according to medical viewpoints comprise of:

- Evaluation of capability and ability of facilities in the areas to handle situation
- Determination of method to handle situation which is beyond the potential of areas, on both amount and nature of the injured
- Integration of communication system during the crisis of each department, linkage, drilling and emergency medical team of the areas specified in case of emergency.

7.2.7 Document for medical emergency plan

Medical emergency response plan should be annexed as one of the topics in emergency plan of each area and it should be recorded in writing. This plan should be reviewed at least every 3 years.

- Organization (who should do it? Who has the power to do something? Who can make decision?)
- Resources (where is the location? Who will procure it?)
- Content and training schedule
- Emergency notification plan (Who should contact and whom should be contacted, when and where?)
- Emergency telephone numbers (emergency notification plan and emergency telephone number should be prepared in separated card and prominently visible in the areas)
- Number, type and location of first aid kit, stretcher, eye washing station, safety manual and etc.
- Emergency equipment inspection schedule
- Emergency drill and drill schedule
- List of external medical service providers and coordinators (local or foreign service provider)
- Information about insurance coverage
- Procedures for the employees who work outside and cannot access to facilitating areas.

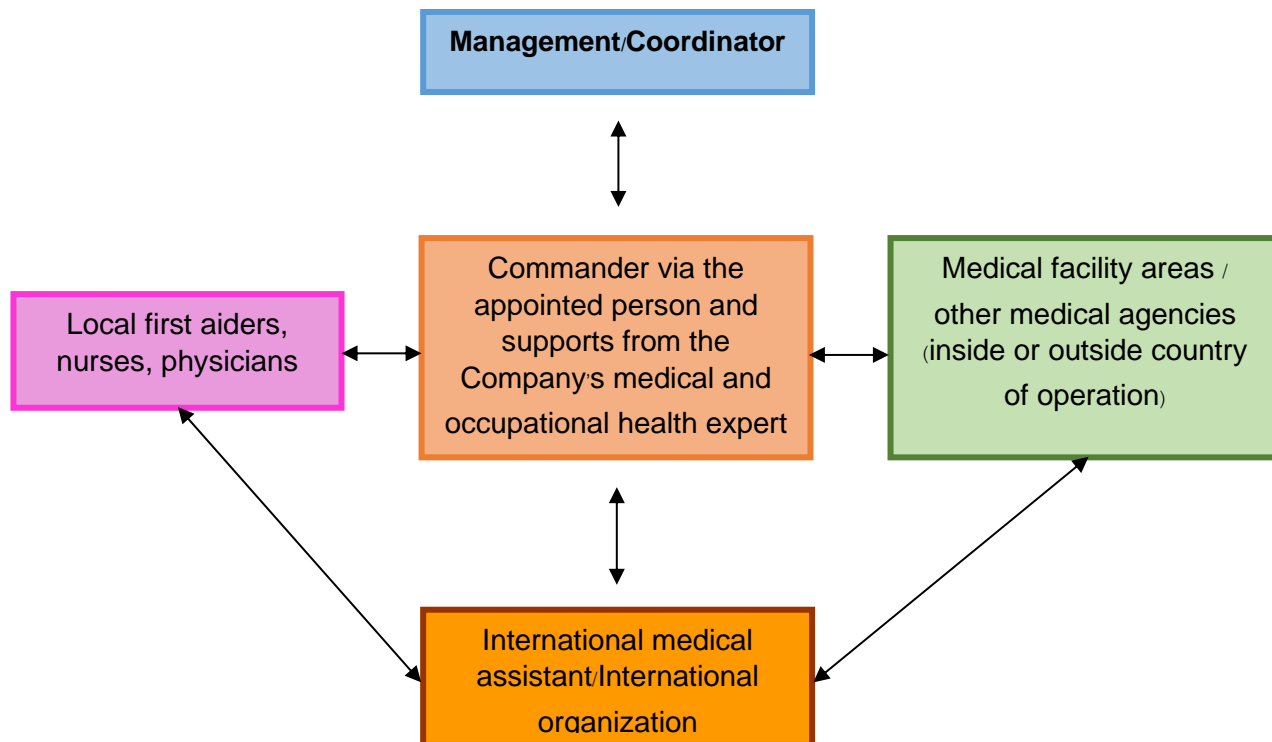
Apart from having emergency action plan which cover all areas, the emergency drill report should also be maintained and there should be the process to improve any defects occurred.

7.2.8 Medical Emergency Communication

In case of immediate accident or illness, it is very important to be able to immediately contact the medical personnel or the relevant person pursuant to the emergency response plan, hence, it should have efficient communication link between each working area, infirmary, first aiders or nurses and other members who have duties pursuant to emergency plan.

Communication channel should be emphasized, particularly between the first aiders, the infirmary, the assigned local hospitals and the Company's coordinators in case of emergency, so that the victim can be provided with advice and necessary transfer in time.

Medical Emergency Communication



Communication between medical emergency responses including drilling should be recorded to be used for forecast of tendency, analysis and inspection with objective to be able to control health risks and safety and for development continually.

Record should have the following information at the minimum:

- Date, time and place of incident
- Personal information of the patient or the injured
- Summary of incidents
- Details of injury, illness and first aid including symptom monitoring
- Results obtained and assignment of authority or transfer of incident/circumstance of the victim

7.2.9 Transportation (Medical Evacuation)

Apart from prevention the conditions of the injured or the severely sick employee from deteriorating, speed transportation to the suitable medical accessible point is also important to save life.

Type of transportation used will depend on original and destination points. However, emergency evacuation should be prepared as the written structure/ plan and it must be forwarded to all important personnel (persons who have duty to be on duty, commanding persons, all members in emergency team, medical members and first aiders) who should be acknowledged of such plan. In case there is any change in writing, the abovementioned personnel should also be notified.

Such plan should specify specific responsibility of the person, in case of medical evacuation by dividing into each process. The appointed persons in the areas should ensure that all relevant persons have been updated information on responsibility pursuant to the plan and medical evacuation should be performed smoothly in case of emergency situation. Regular drill of medical evacuation and review after medical evacuation can be used as the test to confirm whether the response conformed to standard and time specified.

Medical evacuation resources should also include:

7.2.9.1 Transportation vehicle

In case it is needed to transfer the severe injured employee or patient to the hospital, it must be confident that personnel and equipment in emergency vehicle are ready. Incident notification process will specify response level of the employee and necessary equipment. Consider to use the Company's own vehicle when in the remoted area which has risk from accident from operation and service rendering location in the local may not be adequate.

Guideline on usage of vehicle for transportation should be written and all relevant personnel should be well aware of such guidelines. Content of this guideline should include name of the responsible persons for driving transportation vehicle, inspection and preparation of readiness of medical supplies and medical equipment in the vehicle. The driver should also be trained about basic life support course as well.

7.2.9.2 Aeromedical evacuation

The Company and the contractor must arrange for aeromedical evacuation service with contact details and operating procedures and there must be operators on duty throughout 24 hours. Some companies or some countries may have different preparation process, so information of the aeromedical evacuation company and agreement in the areas should be inspected.

Decision on evacuation must have been made and managed by the Security, Safety, Occupational Health and Environment Department Manager with advice from the medical and occupational health expert of such company.

7.2.9.3 Maritime medical evacuation

Maritime medical evacuation may be the main evacuation means in some operating areas or may be one of the alternatives, in case aeromedical evacuation cannot be performed. In situation as mentioned above, ship should be able to transfer stretcher and there should be preliminary first aid equipment. It should have special medical equipment to handle emergency situation with healthcare workers who have suitable qualifications and well-functioned radio communication system in place.

7.2.10 Third party medical evacuation supports

In case medical emergency outside of the country may not be able to manage, it may be necessary to perform medical evacuation to the base country or other country which has necessary facilities and/or adequate treatment. Medical evacuation can be performed via international medical evacuation service provider. Such services will include transportation of the patient from the incident scene to the hospital together with the team of physicians in case of necessary from the hospital in the incident country to other hospital worldwide.

GPSC has entered into an international contract via the medical emergency rescue team to provide medical advice to GPSC employees and the Company's representative. In case the employee resides or travels to foreign country to perform the work for GPSC, the employee can use service of medical emergency rescue team to request for medical advice and assistance, if necessary. Moreover, the medical emergency rescue team also provides services in general case and emergency case throughout 24 hours as follows:

- Coordinate with the medical service provider
- Give medical advice via telephone
- Arrange appointment with the physician
- Admit in the hospital for treatment and pay for medical expenses to guaranty the hospital's treatment
- Arrange for emergency medical evacuation
- Monitor/follow-up of symptom when treating in the hospital.

7.2.11 Operation, inspection and rectification

7.2.11.1 Operation

The management has main responsibility to plan for medical emergency system which should be performed as follows:

- Issuance of document to the relevant person, consultation about the potential problem and update document, as appropriated.
- Management of resources, as necessary
- Arrangement to cultivate awareness and training of basic first aid as necessary (internal training or by the external organization).

7.2.11.2 Inspection and rectification

Effectiveness of emergency medical response plan may be reviewed in case of incident and plan has been applied. However, as the incident may not occur frequently, so the plan should be regularly reviewed and it can be performed in the following levels:

- Competency of all employees, first aiders, physicians, surgeons and specialists in the hospital
- General inspection (telephone number, list of first aiders, training records, and etc.)
- Inspection of first aid box, equipment and other facilities
- Basic training, which will include response measure pursuant to level 1 plan of the area

- Training in higher levels. For testing of response pursuant to level 2 or level 3 plan (such training/drill may have high expenses, because it has to conduct actual aeromedical evacuation to test evacuation time)
- Normally, there will not be response training pursuant to level 4 plan.

Drill may be in open format where the relevant personnel will acknowledge the situation of the drill in advance or in closed format where only the small group will acknowledge the situation of the drill in advance.

Frequency of the drill should depend on frequency of usage of actual plan from the incident. Frequency on usage of the plan (including the incident which is actually taken place and the drill) for response level 1 should be at least on monthly basis, while level 2 must be on quarterly basis and level 3 should be on yearly basis.

There should be official mechanism to review usage of all medical evacuation plans in order to learn and rectify any deficiency.

7.2.12 Investigation of incident, assessment, rectification and improvement

Emergency medical response will be included in the incident investigation, in case there is severe injury or illness. Medical emergency plan will be included in the SHE audit plan of the operating area. Audit may also include the topic of "Inspection and rectification, incident investigation" Audit of the emergency response

actually occurred and emergency response drill should be performed by the personnel who have adequate capability.

7.2.13 Management Review

Medical emergency response plan should be reviewed every year by the line management, which is regarded as part of all emergency plan review and overall inspection of the SHE management system of the operating areas.

7.2.14 Key Performance Indicator (KPI) of Core Process

Key Performance Indicator (KPI)	Target
TRIR	0
PSE Teir1	0
PSE Teir2	0

7.2.15 Emergency Medical Training Course

7.2.15.1 First Aid (FA) is the aid rendering to the patient or the injured at the incident scene by using equipment available at that time for preliminary treatment. First aid should be performed soonest after the incident. It may be performed immediately or on the way the patient or the injured person has been transported to the hospital or any other medical facilities to minimize illness or injury before the patient or the injured has been taken care by the medical personnel or transfer to the hospital. First aid training course should have the following topics

- First aid principle/qualification of first aider
- Evaluation of situation and patient assessment
- Preliminary first aid and wound management
- Basic first aid to the patient in various cases, such as
 - Managing loss of consciousness, seizures or fainting patient
 - Airway maintenance with restriction of c-spine motion
 - Adequate breathing
 - Managing of circulation, chest compression and mouth-to-mouth resuscitation
 - Stop bleeding
 - Choking management
 - Wound Basics
 - Bone fractures splicing and tying
 - Preliminary treatment of burn wounds (from fire and hot water)
 - Managing patient with hypothermia, heatstroke and drowning
 - Usage of general life saving equipment
 - Managing in case of electrocution or fall from height
 - Managing spinal injury, muscle, bone & joint injuries
 - Managing in case of poisoning and foreign bodies
 - First aid for patient who has been bitten by poisonous animal.

Lastly, the first-aider should be familiar with safety data sheet (SDS) from chemicals hazard used in the areas.

7.2.15.2 Basic Life Support (BLS) The most important objective of basic life support (BLS) is to maintain adequacy of respiratory and circulation system and it should be performed continually until more help arrives. Basic life support is about the operations in order by the competent persons. Basic life support training course shall have the following topics

- Safety assessment of incident area
- Prioritization (Call for emergency help)
- Basic life support as per mentioned in Clause 6.1 First Aid (FA) including cardiopulmonary resuscitation (CPR)
- Call for help, give information and transportation of the patient or the injured person.

Apart from basic life support, as mentioned above, the first aider should be recommended to have additional trainings pursuant to risks and hazards in the areas. Additional training may be necessary in case of having new equipment or process as the first aider may have the capability to use and maintenance of equipment.

- Eye washing station and showering station in case of chemical exposure
- Personal protective equipment, such as breathing apparatus
- Other skills as mentioned in the hazard lists of the workplace.

7.2.15.3 Advanced Lift Support (ALS) is similar to skills for basic life supports and it will be divided as processes for resuscitation and it has target to manage with lung and cardio arrest until the patient can be transferred for better treatment or at least to make circulation stable. Capabilities which will be included in ALS training include:

- Capability of basic life support
- Assessment of possible life-threatening condition, likelihood on the loss of limbs, including cardiac arrest
- Preliminary and intermediate ABCD survey;

Memorandum for advanced life support consist of 2 survey levels and each level has 4 processes; A, B, C and D. The participant who passes ALS Training must assess and manage A, B, C and D in each process as per specified.

1st Survey: Management of life-threatening condition immediately.

A – Assess and manage the airway with non-invasive techniques.

B – Assess and manage breathing with simple positive pressure ventilation devices such as bag valve-mask kit.

C – Assess and manage circulation performing CPR, IV access and fluids therapy.

D – Access and manage defibrillation in presence of cardiac rhythm of ventricular fibrillation and ventricular tachycardia (VF/VT), in a safe and effective manner.

2nd Survey: Management of patient by using higher advanced techniques:

A – Assess and manage the airway with insertion of Guedel airway, or laryngeal mask or tracheal intubation if indicated.

B – Assess and manage breathing, by managing airway placement and assessing the adequacy and frequency of positive pressure ventilation.

C – Assess and manage circulation by monitoring and managing worsening changes, administration of cardiovascular drugs, and electrocardiogram monitoring.

D – Assess and manage differential diagnosis that may become apparent as the resuscitation efforts continue.



Guedel airway