

ภาคผนวก จ

อาชีพอนามัย ความปลอดภัยและสิ่งแวดล้อม



ภาคผนวก จ-1

มาตรการปฏิบัติการหนีเกิดเหตุฉุกเฉิน





ECO ORIENT ENERGY (THAILAND) LIMITED
ECO ORIENT RESOURCES (THAILAND) LIMITED

EMERGENCY RESPONSE MANUAL

REVISION STATUS				
Rev	Date	Description	Originator	Approved
0	25 July 2013	First Working Version	HSE Manager	General Manager

6.2	ALL ERG & SUPPORT TEAM MEMBERS	37
6.3	CHECKLIST FOR BUSINESS RECOVERY	38
	ATTACHMENT 1 - INCIDENT SITUATION UPDATE PROCEDURE CHECKLIST	39
	ATTACHMENT 2 - EXTERNAL CONTACTS CHECKLIST	40
	ATTACHMENT 3 - KIDNAP AND EXTORTION CHECKLIST	41
	ATTACHMENT 4 - EVACUATION CHECKLIST	43
	ATTACHMENT 5 - MEDIA HOLDING STATEMENT	46
	ATTACHMENT 6 - INITIAL STATEMENT TO STAFF	47
	ATTACHMENT 7 - FIRST TO ARRIVE PROCEDURE	48
	ATTACHMENT 8 - RECEPTION STANDING INSTRUCTION	49
	ATTACHMENT 9 - ERG AND SUPPORT PERSONNEL LIST	50
	ATTACHMENT 10- TELEPHONE CALL RECORD	51
	ATTACHMENT 11 - GENERAL NOTIFICATION	52
	ATTACHMENT 12 - GOVERNMENT EMERGENCY NOTIFICATION	53
	ATTACHMENT 13 - SPILL NOTIFICATION	54
	ATTACHMENT 14 - EMERGENCY RESPONSE LOG	57
	ATTACHMENT 15 - ERG AND SUPPORT GROUP STATUS BOARD	58
	ATTACHMENT 16 - RASA TOWER II BUILDING FIRE / EVACUATION PLAN	59
	ATTACHMENT 17A - BOMB THREAT CHECKLIST	61
	ATTACHMENT 18. IRT MEDICAL EMERGENCY INFORMATION	63
	ATTACHMENT 18A. IRT MAJOR EMERGENCY MEDICAL INFORMATION	64
	ATTACHMENT 19. FIELD INFORMATION REQUIRED FOR PROPERTY OR ENVIRONMENT DAMAGE	71
	ATTACHMENT 20. IMPORTANT TELEPHONE NUMBERS	72
	ATTACHMENT 20A - BANGKOK AREA HOSPITALS	73
	ATTACHMENT 20B - WICHIAN BURI EMERGENCY CONTACT NUMBERS AND LOCAL EMERGENCY SERVICES	74
	ATTACHMENT 20B - WICHIAN BURI EMERGENCY CONTACT NUMBERS AND LOCAL EMERGENCY SERVICES (CONTINUED)	75
	ATTACHMENT 21 A, WICHIAN BURI EMERGENCY RESPONSE DIAGRAM (DRILLING)	76
	ATTACHMENT 21 B, WICHIAN BURI EMERGENCY RESPONSE DIAGRAM (PRODUCTION)	77

THAILAND EMERGENCY RESPONSE MANUAL

DISTRIBUTION LIST	1
1 INTRODUCTION	1
1.1 POLICY & PRINCIPLES	1
1.2 PURPOSE & SCOPE	1
1.3 ECO ORIENT ENERGY (THAILAND) EMERGENCY RESPONSE ORGANISATION	2
1.4 RESPONSE GROUP INTERFACES	2
2 EMERGENCY RESPONSE ORGANISATION	4
2.1 COUNTRY EMERGENCY RESPONSE GROUP (ERG) OVERALL RESPONSIBILITIES	4
2.2 ERG AND SUPPORT TEAM INDIVIDUAL ROLES AND RESPONSIBILITIES	5
2.3 LOCATION OF EMERGENCY RESPONSE AND SUPPORT PERSONNEL	9
2.4 OFFICE INCIDENT RESPONSE	9
3 EMERGENCY RESPONSE GROUP (ERG) PROCEDURES	10
3.1 NOTIFICATION AND ACTIVATION OF THE ERG	10
3.2 CONTACT DETAILS	10
3.3 CALL OUT AND DELEGATION OF AUTHORITY	10
3.4 EMERGENCY CO-ORDINATION CENTRE (ECC) INITIAL ACTIONS	11
3.5 FORMAL UPDATES OF INFORMATION TO ERG	11
3.6 MEDIA RESPONSE	11
3.7 EXTERNAL NOTIFICATIONS	11
3.8 KIDNAP AND/OR EXTORTION	12
3.9 CIVIL UNREST OR WAR THREAT	12
3.10 BOMB THREAT	12
3.11 INSTALLATION LOSS OR SIGNIFICANT BUSINESS LOSS	12
3.12 POLLUTION INCIDENT	13
3.13 EXTENDED EMERGENCIES	13
3.14 SUPPORTING INFORMATION	13
4 CHECKLISTS FOR EMERGENCY RESPONSE GROUP	14
4.1 EMERGENCY RESPONSE GROUP (ERG) LEADER	14
4.2 DRILLING OPERATIONS CO-ORDINATOR	20
4.3 PRODUCTION OPERATIONS CO-ORDINATOR	22
4.4 HSE CO-ORDINATOR	24
4.5 ADMINISTRATION CO-ORDINATOR BANGKOK	26
4.6 ADMINISTRATION CO-ORDINATOR WICHIAN BURI	28
4.7 SUPPORT POSITIONS	30
4.7.1 Recorder	30
4.7.2 Reception	30
5 OFFICE EMERGENCY RESPONSE	31
5.1 IDB OFFICE EMERGENCY ALARMS AND ACTIONS	31
5.2 EVACUATION PROCEDURE	31
5.2.1 General	31
5.2.2 Fire Wardens and Duties	32
5.2.3 Fire Warden - Roles and Responsibilities	32
5.2.4 Personnel in Office without Emergency Duties	32
5.3 END OF EMERGENCY	33
5.4 EMERGENCY RESPONSE GROUP TRAINING AND DRILLS	34
6 BANGKOK OFFICE INCIDENT	34
6.1 EMERGENCY RESPONSE GROUP (ERG) BUSINESS RECOVERY ACTIONS	34
6.1.1 Emergency Response Group Leader	35
6.1.2 Administration Co-ordinator with I.T. Manager	35
6.1.3 Administration Co-ordinator Bangkok	36
6.1.4 Country Manager	36
6.1.5 Finance Co-ordinator	37

DISTRIBUTION LIST

Position	Location	Copy No	Issue Date
Paper Copies			
Corporate HSE Towngas	Hong Kong	01	
ECO HSE	Hong Kong	02	
All BKK Staff	Bangkok Server	03	
All WB Staff	Wichian Buri Server	04	

FOREWORD

ECO Orient Energy (Thailand) Limited and ECO Orient Resources (Thailand) Limited ("The Company") recognizes that effective health, safety and environmental management contributes significantly to its long-term business success.

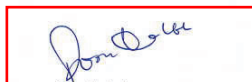
This document sets out The Company's Emergency Response Procedures. It emphasizes the systematic approach in the way we manage incidents and emergencies at our upcountry sites. The integration of health, safety and environmental protection into our day-to-day activities is the key to successful health and safety management.

The application and success of this system requires the participation and commitment of management, employees and contractors at all levels.

These procedures have the Board's full support but we require your commitment through a personal understanding of this document and full participation as required in the effective implementation of the procedures, should they be required.

It is imperative that everyone involved in the business of The Company familiarize themselves with their roles and responsibilities in this document. Only by total commitment by everyone can we ensure the best possible protection of our personnel, contractors, the public, our assets and the environment.

Signed




Poon Ka Lok

General Manager

Date: 25 July 2013

Area of Application

These Emergency Response Procedures apply to all ECO Orient activities in Thailand.

 THAILAND EMERGENCY RESPONSE PROCEDURE MANUAL	Document / Rev No:	HSE-PM-001-Rev 0
	Revision Date:	25 July 2013

1 INTRODUCTION

It is the Company's intention to properly manage any emergency situation so as to minimise the impact it may have upon all personnel, the environment, the Company's financial position and the Company's reputation.

The key to effective response to emergencies and incidents is having a pre-established organisation, on-call and capable of mobilising and responding to the extent required by different levels of emergency. It should be staffed with competent individuals, organised into teams, with allocated and clearly defined roles, and practised in those roles.

This manual details the procedures to be followed by the Thailand Emergency Management Group from the Emergency Co-ordination Centre in the Company's Head Office in the Bangkok, Rasa Tower Office Building to ensure a prompt and efficient Company response to emergency situations at any of the Company's sites where ever in the Country they are located.

1.1 Policy & Principles

This manual is issued under the authority of the General Manager. Recommendations for any change should be addressed to the General Manager who is responsible for reviewing this document. The HSE manager will ensure that:


- A meeting with all Emergency Response Group (ERG) Members, including all positions identified within this document, is conducted annually to review and update the procedures.
- A database of all ECO Orient Energy (Thailand) personnel charged with emergency management responsibilities within this manual is maintained. The database will include name, job title, office, and mobile and home telephone numbers.
- The Emergency Co-ordination Centre (ECC) and associated systems and equipment to support these procedures are maintained in a state of readiness and tested regularly.
- Regular training and exercises are conducted to test the robustness of these emergency procedures and the preparedness of all personnel to respond to an emergency situation.

1.2 Purpose & Scope

The purpose of this document is to ensure that Country Head Office personnel based in the Bangkok, who are appointed to the Emergency Response Group (ERG), are aware of their roles and responsibilities and the emergency response procedures. This document also details the procedures to be followed by members of the ERG to ensure a prompt and efficient management response, should an emergency situation occur at any of the Company's assets including office and remote site activities (Production, Seismic and Drilling) or locations under the management of this Head Office.

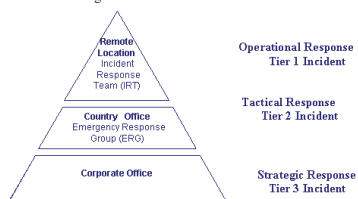
The Emergency Response Group as shown in Table 2.1 is made up of Managers, Supervisors and Support Staff. Personnel who form the Emergency Response Group will be notified of their role. If an emergency situation develops the Emergency Response Group will be mobilised and as the situation develops other personnel may be called to provide assistance to the Emergency Response Group.

Copies of this manual will be issued to relevant personnel. Those with specific duties for dealing with an emergency must ensure that they are aware of their responsibilities and duties as contained in this manual, and the manner in which these procedures interface with the remote location emergency response plan for the Company's operations.

 THAILAND EMERGENCY RESPONSE PROCEDURE MANUAL	Document / Rev No:	HSE-PM-001-Rev 0
	Revision Date:	25 July 2013

1.3 ECO Orient Energy (Thailand) Emergency Response Organisation

The Company's emergency response management is handled through a three-tiered structure with teams for each of the following locations:



The Incident Response Team (IRT), based at the remote locations (Wichian Buri), is trained and responsible for dealing with all envisaged incidents and emergency situations which may occur at the location. Where additional support, in the way of resources and advice, may be required by the IRT at a remote location this will be requested through and provided by the Country Emergency Response Group. On all occasions that a remote location IRT is mobilised due to an incident or emergency situation the Emergency Response Group Manager must be notified immediately.


The Emergency Response Group (ERG) is based in the Bangkok Office. The ERG is responsible for providing tactical response, support, assistance and advice to all incident and emergency situations at any of the sites or locations within the Country and for providing operational response to any emergency situation which may occur in the or affecting the Bangkok Office.

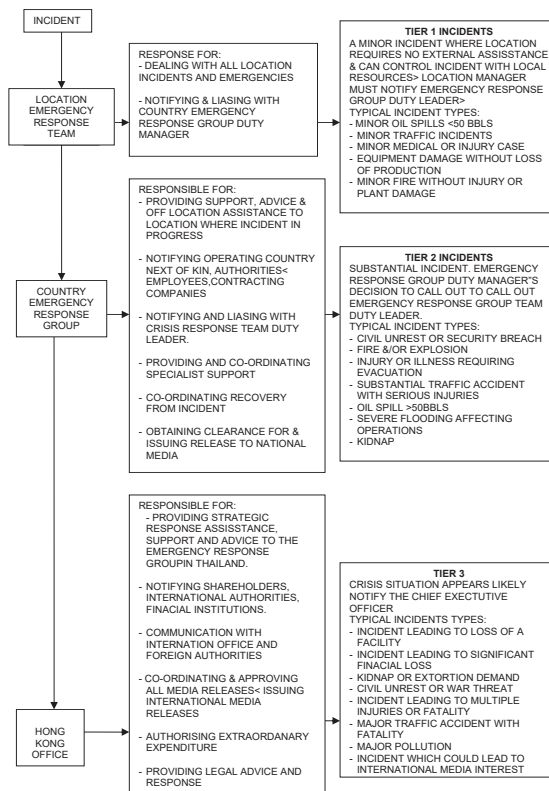
This Emergency Response Manual describes how the ERG should handle both the "technical" crises e.g. fire, explosion, oil spill, and "social" crises e.g. illness, injury, kidnap, civil unrest.


On all occasions that the Country ERG is mobilised due to a major incident or emergency situation the Corporate Office must be notified immediately.

1.4 Response Group Interfaces

The relationship between the Corporate Office, the Country ERG and Remote Location IRT and a classification of emergencies is illustrated below:

 THAILAND EMERGENCY RESPONSE PROCEDURE MANUAL	Document / Rev No:	HSE-PM-001-Rev 0
	Revision Date:	25 July 2013



	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

2 EMERGENCY RESPONSE ORGANISATION

The key to effective emergency response is to have a pre-established organisation on-call and capable of mobilising and responding quickly and appropriately to all envisaged emergency situations. This organisation should be staffed by personnel with appropriate experience, organised into a team, with allocated and defined roles, responsibilities and practised in dealing with emergency situations.


The composition and organisation of the emergency response organisation is formalised to meet operational requirements. The emergency organisation at each location is similar to the normal day-to-day organisation. It is the Country Emergency Response Group's responsibility to respond to and control the immediate response to all emergencies, which occur within the Country in which it is based.

The Country emergency response organisation, called the Emergency Response Group (ERG), the roles and responsibilities of its members and the procedures for dealing with emergency situations are described as follows in this document.

2.1 Country Emergency Response Group (ERG) Overall Responsibilities

The primary responsibilities of the ERG are:

- To manage all emergency situations within the Country.
- To provide emergency support, advice and assistance to all the remote locations, assets and operations within the Country.
- To manage any emergency situation which may occur in or affect the Country Office
- To notify the General Manager and keep him/her informed of the situation.
- To notify the Corporate Office within 2 hours of the Emergency Response Group being mobilised and to keep them informed of the situation.
- To notify and liaison with Government and local authorities in accordance with legal and legislative requirements.
- To prepare and release media holding statement.
- To prepare national media releases and obtain authority from the Corporate Office to release media statements. To notify and provide assistance to the next of kin of all ECO Orient Energy (Thailand) nationals involved at the emergency site.
- To inform the Corporate Office of the names and conditions of all personnel involved at the emergency location.
- To communicate with all national Companies, with employees or equipment at the emergency location and notify them of the names and condition of their employees.
- To arrange the reception and treatment for all personnel evacuated from the emergency site.
- A designated ERG Leader will be available at all times, who will be of Senior Manager level. In all situations, which have resulted in the mobilisation of the ERG, it is the ERG Leader's responsibility to report the situation to the General Manager and to the Corporate Office.
- The actions of the ERG will vary depending on the nature of the emergency and it is the ERG Leader's responsibility to determine the extent of the response required. The ERG

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

may call on additional staff to assist them in responding to any emergency or incident situation.


All ERG members are required to read and familiarise themselves with this document, in particular their own respective functions, for which checklists are provided on the following sections. ERG members should ensure that they have access to this document at all times.

2.2 ERG and Support Team Individual Roles and Responsibilities

The primary roles and responsibilities of the Emergency Response Group members are outlined below:

Table 2-1 Bangkok Emergency Response Group

Emergency Response Group Leader	<ul style="list-style-type: none"> Responsible for managing and co-ordinating the overall response of the ERG to the emergency situation. Reports to the General Manager and the Corporate Office. Responsible for mobilising the ERG and Support personnel. Responsible for informing and updating the Corporate Office. Responsible for compliance with the actions and procedures laid down in this document for dealing with emergency situations. Responsible for obtaining authority from the General Manager and the Corporate Office for the release of information to the Media.
Drilling Operations Technical Co-ordinator	<ul style="list-style-type: none"> Reports to the ERG Leader and responsible to him/her for providing operational and technical drilling related information. Responsible for providing operational and technical advice, including production, drilling and subsurface, to the emergency site Responsible for all communications with the IRT Leader at the emergency site.
Production Operations Technical Co-ordinator	<ul style="list-style-type: none"> Reports to the ERG Leader and responsible to him/her for providing operational and technical Well Production/Testing information. Responsible for providing operational and technical advice, including production, drilling and subsurface, to the emergency site Responsible for all communications with the IRT Leader at the emergency site.


	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

Health Safety & Environmental (HSE) Co-ordinator

- Reports to the ERG Leader and responsible to him/her for providing risk, health, safety and environmental information.
- Responsible for compliance with legislation and appropriately informing and liaising with National Government and Regulatory authorities.
- Responsible for providing HSE advice & support and information to the ERG and the IRT at the emergency site.
- Responsible for co-ordinating office security.
- Responsible for advising and maintaining the emergency responses in line with the Company emergency response procedures.
- Responsible for maintaining the information on the status boards.

Administration Co-ordinator Bangkok


- Reports to the ERG Leader and responsible to him/her for providing information and managing all human resources matters.
- Responsible for providing welfare support and advice to employees and their families if required.
- Responsible for co-ordinating with the Logistics Co-ordinator onward travel for personnel being evacuated.
- Responsible for communication with and notifying the next of kin of national Company employees in collaboration with ERG Leader.
- Responsible for providing information about all expatriate personnel at the emergency site to the ERG Team.
- Responsible for providing information to Contractor Companies about their personnel at the emergency site.
- Responsible for co-ordinating the arrangements for the disposal of fatalities.
- Responsible for providing IT support to the ERG.
- Responsible for co-ordinating the office switchboard and reception services.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

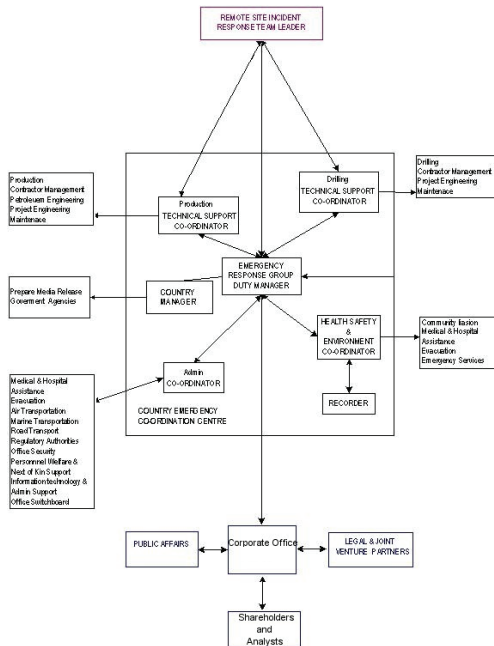
Wichian Buri Administration


- Reports to the IRT Leader and responsible to him/her for providing information and managing all human resources matters upcountry.
- Responsible for arranging temporary accommodation, transportation and assistance for personnel being evacuated from emergency site if required.
- Responsible for co-ordinating with the IRT Leader regarding onward travel for personnel being evacuated.
- Responsible for communication with and notifying the next of kin of national Company employees as directed by IRT/ERG.
- Responsible for providing information about all expatriate personnel at the emergency site to the IRT Co-ordinator.
- Responsible for co-ordinating the arrangements for the disposal of fatalities.
- Responsible for co-ordinating the office switchboard and reception.

Additional personnel may be mobilised by the ERG Co-ordinators to provide support and assistance. The personnel mobilised to provide support would, so far as possible, be from the appropriate department or have the necessary skill to provide the required support.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

The relationship between the ERG, IRT, Corporate Office, and external parties is shown schematically in the diagram below:



	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

2.3 Location of Emergency Response and Support Personnel


When the Emergency Response Group and Support Personnel are mobilised they will proceed immediately to the Emergency Response Co-ordination Centre (ECC) in order to carry out the tasks and actions required.

The floor plan showing the layout of the Emergency Co-ordination Centre located at is shown in Attachment 9.

The main Meeting Room at Rasa Tower 2 is designated as this Centre. The General Manager, in consultation with the Emergency Response Group (ERG) will declare if an Emergency has escalated to a crisis, or has the potential to do so and advises the Corporate Office.

2.4 Office Incident Response

In the event of an emergency in the Office, the Administration Manager is responsible for the evacuation of all personnel from the office and the Emergency Response Group is responsible for the Recovery Process. This procedure is more fully described in Section 5.0.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

3 EMERGENCY RESPONSE GROUP (ERG) PROCEDURES

The following is the procedure to be followed by the ERG Leader, when the Incident Response Team (IRT), the Incident Response Controller will contact the duty ERG Leader and inform him/her of the situation. The ERG Leader must be informed within 30 minutes of the activation of an Incident Response Team.

3.1 Notification and Activation of the ERG

In the event of a Remote Location activating the Incident Response Team (IRT), the Incident Response Controller will contact the duty ERG Leader and inform him/her of the situation. The ERG Leader must be informed within 30 minutes of the activation of an Incident Response Team.

The ERG Leader is the principal point of contact in Bangkok. The IRT Leader will contact the duty ERG Leader if a Remote Location operation contacts them with information regarding an incident.

The call originator will need to provide:

- Persons name;
- Originator's location and contact telephone number;
- Nature of the Incident;
- Local time of report.

Further details of the Emergency should not be transmitted.

Once the ERG Leader has made contact with the Incident Response Controller and has details of the incident he/she will decide whether there is a requirement for the Emergency Response Group to be activated, and what the initial composition of the ERG is to be. The ERG Leader is responsible for initiating the activation and call out of the duty ERG.

On any occasion that the ERG is activated, due to an emergency situation, the ERG Leader will notify the Corporate Office and inform the General Manager within 30 minutes.

3.2 Contact Details

The duty ERG and Support Personnel are on 24-hour call out for the duration of their duty period.


Although office, home and mobile telephone numbers are given in the weekly contact list, the policy is to contact ERG and Support members via their mobile number first.

It is essential that people on duty fully understand their responsibilities and can be contacted 24 hours per day, on one of their listed numbers, during the whole period they are on call.

ERG members are responsible for maintaining a list of contact details of the personnel they would call out to support them in the event of the ERG requiring assistance. It is their responsibility to activate, inform, and direct any support personnel they consider necessary to provide them with the appropriate level of assistance. The respective ERG members are also responsible for briefing activated support personnel about the incident and giving them direction.

3.3 Call Out and Delegation of Authority

It is the responsibility of individual members of the ERG to ensure that their emergency response function is delegated to another from the same nominated group, see Attachment 10, when they are unavailable (i.e. unable to reach the ECC within 60 minutes). They must ensure their alternate is appropriately briefed and the alternate remains within contact.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

At the end of the duty period, the ERG member must handover his duty in person thus ensuring the next on duty has acknowledged the responsibility.

3.4 Emergency Co-ordination Centre (ECC) Initial Actions

On the activation of the ERG, all the team members should immediately proceed to the Emergency Co-ordination Centre (ECC). The first to arrive must assume the role and duties of the ERG Leader until the duty Leader arrives. A copy of this manual is available in the Emergency Co-ordination Centre.

The most important early action for the first persons to arrive in the Emergency Co-ordination Centre is to ensure that:

- Telephones are set up to establish and establish communications with the affected emergency location and the Incident Response Leader.
- They identify the facts of the incident and ensure that they are written up on the status boards.

These actions, see Attachment 7, should not be delayed until the ERG Leader's arrival. The layout of the Emergency Co-ordination Centre and the equipment for use during the management of an Emergency situation is shown in Attachment 9.

3.5 Formal Updates of Information to ERG

The ERG Leader should conduct updates to the whole ERG Group at frequent intervals throughout the duration of an incident, at least every hour in the early stages of the incident.

All available ERG members should attend updates. The individual ERG member should report and update any relevant information to Support personnel as soon, as is practicable.

A checklist for holding a Formal Update of Information is contained in Attachment 1.

3.6 Media Response

The ERG Leader, in consultation with the General Manager is responsible for the preparation and early release of the Media Holding Statement see Attachment 5.

The Corporate Office must approve all further information for release to national and international media groups. The ERG Leader is responsible for obtaining any approvals before release.


Once approval for release of information to the national Media is received the ERG Leader, in consultation with the General Manager, is responsible for arranging for the release of such information. All personnel must be instructed to direct external telephone calls requesting media comment on any incident to the nominated ERG spokesperson.

3.7 External Notifications

There may be a requirement during an incident to notify and liaise with a number of national companies, authorities and agencies. It is important that the ERG maintains a record of all these external communications and liaises effectively to ensure overall co-ordination and to ensure they speak with one voice.

The HSE Co-ordinator is responsible for advising the ERG Leader of the requirement, and for making the relevant contact and or notify to national Government and Regulatory authorities.

The HR Co-ordinator is responsible for making contact with the next of kin of national staff and the employing Company of national contractors. He/she is also responsible for providing the CRT HR

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

Co-ordinator with information regarding expatriate personnel. The HR Co-ordinator is also responsible for notifying the appropriate national authority regarding any fatalities.

In general, existing business channels of communication should be retained during an incident, but the ERG must retain overall responsibility and control for this communication. The range of contacts will inevitably vary greatly depending on the location of the affected site.

A checklist of contacts is contained in **Attachment 2**. This list should be developed further at the time of the incident, where appropriate.

3.8 Kidnap and/or Extortion

While the basic ERG procedures remain much the same, kidnap and/or extortion require some different methods to address them. In some cases the information may need to be retained by a very small core team and the negotiations may take place over a protracted period of time.

The ERG are to gather and records the information available regarding the kidnap/extortion situation in line with checklist see **Attachment 3**.

Due to the extreme sensitive nature of a kidnap and/or extortion negotiation it is imperative that the ERG Leader makes immediate contact with the Corporate Office. The Corporate Office will either take over the responsibility for the negotiations or will provide guidance to the ERG Leader.

3.9 Civil Unrest or War Threat

If civil unrest or war threat occurs or appears likely either in operating area or close to an area where operations are in progress the ERG will be required to consider and discuss the threat with the General Manager and the Corporate Office.

The primary objective must be to safeguard and evacuate all personnel from the danger area. A plan will be drawn up identifying actions to be taken in order to safeguard personnel, their families and Company assets if the situation continues to deteriorate.

The plan of action should state what the Company considers to be the trigger points which, when reached, will require actions to commence. Once the action plan has been developed it should be clearly communicated to those who require to know.

3.10 Bomb Threat


Bomb threats have become increasingly commonplace in recent years and used by various groups that want to cause disruption of business. Although 99% of the bomb threats are hoaxes all should be treated seriously. In all circumstances the first thing that must be done is to determine the nature of the threats to the organisation.

The ERG is to gather and record the information available regarding the Bomb Threat in line with checklist see **Attachment 19A**.

The ERG are to assess the credibility of the threat and possible consequences and devise an evacuation plan of the premises. See **Attachment 19**

3.11 Installation Loss or Significant Business Loss

A situation may occur, for example a loss of key equipment, which could result in a significant delay in bringing a field into operation, or the shutdown of a field or installation as the result of an incident. Such a situation will inevitably result in a significant loss of business and therefore loss of revenue to the Company unless it is addressed immediately.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

Such a situation will require the ERG to consider what actions have to be taken immediately, and by whom, in order to avoid or minimise loss to the Company.

3.12 Pollution Incident

A pollution incident can refer to a number of different types of pollution. They can be broadly categorised as:

- Oil spill
- Chemical spill
- Smoke or fumes into the atmosphere.

It is the responsibility of the ERG to ensure that:

- The spill plans are activated immediately any pollution situation is detected or reported
- The source of the pollution is quickly identified and stopped
- That specialist clean up contractors is mobilised as quickly as possible
- That the appropriate authorities and agencies are notified.

The ERG has to also consider that any pollution type wherever it may occur can result in significant media and environmental group interest. The ERG Leader must be prepared to consider and address the issues that the media or environmental groups may raise with the Company. Failure to take this seriously can result in public concern, loss of shareholder confidence, and possible disruption to business and the associated loss of revenue.

3.13 Extended Emergencies

Some emergencies may extend over a long period of time. When this is the case the relief of ERG members and Support personnel should be considered in order to avoid fatigue.


In the event that the ERG is likely to be required to sit for longer than 8 - 12 hours the following procedures should be observed:

- Alert alternates for each group member, giving them the time that they will be required to start their take-over
- Change over times of individual team members should be spread out over a reasonable period of time
- The hand over is to include a complete brief on the incident. The departing team member must sit with the alternate until he/she is satisfied that the alternate is fully conversant with the situation and his/ her duties
- Relieved group members must ensure they get adequate rest and sustenance, in case they are required further.

Responsibility for managing the arrangements for alternates to ensure group efficiency lies with ERG Leader.

3.14 Supporting Information

Individual ERG members must ensure that information that they may be required to support their specific function is readily available.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

4 CHECKLISTS FOR EMERGENCY RESPONSE GROUP


Checklists are provided to facilitate swift, organised and comprehensive action and should be used by ERG members to assist them to carry out their functions. In general checklists should be used to confirm that appropriate actions have been taken and to check if any actions have been missed.

Checklists are available at the Emergency Co-ordination Centre (ECC) and made available to the group members concerned as part of the setting up process. However group members are advised to maintain and improve their own checklists to be used when their group is activated. All group members should examine the checklists as part of their preparedness and propose improvements to the General Manager. Checklists are to be reviewed following any exercise or incident in common with other procedures. Responsibility for updating checklists lies with individual functions rather than the General Manager.


4.1 Emergency Response Group (ERG) Leader

Upon being informed of an emergency situation, follow the steps and the checklist given below:


- Establish communications with the emergency site IRT Leader and establish the facts of the situation, support and assistance required at the scene.
- Decide whether the ERG should be activated.
- Issue instruction to mobilise ERG members and decide the requirement for and mobilise Support personnel.
- Proceed to the Emergency Co-ordination Centre (ECC).
- Inform the General Manager and keep him/her updated at regular intervals.
- Review the facts of the emergency situation and determine whether the incident is contained or escalating.
- Ensure that the ECC has been set up and that all incident and status boards are positioned, and that data is being recorded.
- Ensure that the emergency site IRT has ERG/Corporate Office contact telephone numbers.
- Notify the Corporate Office, as information becomes available.
- Confirm that the ERG has arrived and brief them; see **Attachment 16** ERG and Support Group Status Board.
- Brief all ERG members on arrival, state plan and delegate actions.
- Ensure that Support personnel are briefed and that the Reception is manned.
- Ensure clear lines of communication with the emergency site and IRT are established and continue to monitor situation and provide appropriate support and assistance.
- Ensure that next of kin are being notified.
- Ensure that appropriate Authorities are notified.
- After approval from General Manager Issue Media Holding Statement - **Attachment 5**.
- After approval from General Manager Issue Statement to Staff - **Attachment 6**.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


- Agree the media strategy with General Manager, including the management of the media release process.
- Monitor and maintain the up-to-date picture of the emergency situation.
- Prepare information for national media release.
- Provide Corporate Office and General Manager with information for release to international media groups.
- Organise media briefings.
- Ensure that the Receptionist is aware of the situation and have a copy of the holding statement to be read out to callers.
- Ensure that media enquiry numbers have been released and brief the Receptionist that the Media Response telephone line is available.
- List who should receive the media statements and issue e.g.:
 - Media agencies
 - Internal office staff
 - Operating Companies in other Countries
 - Partners
 - Contractors
- Update information frequently and issue statements at regularly intervals.
- Brief Reception on the handling of any media persons arriving at the office.
- Brief the IRT Leader at the incident site on what information to release in the event of receiving media enquiries.
- Arrange media monitoring, and playback of any appropriate broadcasts to ERG.
- Prepare; obtain authorisation and issue of an incident update report to all employees.
- Arrange for distribution of press packs to media.
- Update ERG at regular intervals on actions taken and media releases.
- Identify the need for and mobilise additional Support personnel
- Identify if a representative from senior management is required at the incident site.
- Identify and obtain authorisation for extraordinary expenditure.
- Confirm that the IRT is coping. Consider if extra support is required.
- Confirm that the ERG is satisfactorily supporting the IRT.
- Hold ERG updates on a regular basis see **Attachment 1**
- Consider the following local aspects of the incident:
 - Local Government
 - Local population

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


- Environmental
- Ensure that office personnel are being kept informed of the incident.
- Confirm that interfaces with external bodies are being managed effectively.
- Monitor the level of stress in the ERG, IRT and Support personnel.
- Identify if the emergency likely to be extended. Implement rotation of ERG members

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


INCIDENT CHECKLIST – STATUS BOARD	
Detail	Comment/Notes
Incident <ul style="list-style-type: none"> • Where? • What facilities/vehicles are involved? • When? • What is happening? (Fire, Explosion, Collision, Gas Leak, Toxic Gas Leak, Oil Spill, Well Control problem, Blowouts, Person Missing, Structural Failure, Equipment Failure, Storm, Transport Incident, Medical Emergency, Criminal Act, Terrorism, Bomb Threat, Kidnapping, Extortion, Industrial Dispute, Natural Disaster).	
Current State of Incident <ul style="list-style-type: none"> • Contained? • Potential to escalate? • Escalating? • Who is handling the response? • How is it going? • Who has legal control of the incident? 	
Accuracy and timeliness of information <ul style="list-style-type: none"> • How good is information? • Is it complete • Is it coming from the right sources? • How can it be improved? 	
Damage/ Loss <ul style="list-style-type: none"> • Installation • Equipment • Third Parties • Major • Minor 	
Drilling <ul style="list-style-type: none"> • Stopped • Delayed • Continuing 	
Company Involvement <ul style="list-style-type: none"> • Operator/ Non-operator 	
Casualties <ul style="list-style-type: none"> • Deaths • Injuries • Missing 	
Environmental	

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

INCIDENT CHECKLIST – STATUS BOARD	
Detail	Comment/Notes
<ul style="list-style-type: none"> • Oil Spill • Chemical Spill • Air Pollution • Quantity • Sensitivity of area 	
Production <ul style="list-style-type: none"> • Stopped • Delayed • Lost • Continuing 	
Parties involved at Incident <ul style="list-style-type: none"> • Company • Partners • Contractors • Neighbours • Other Third Parties 	
Is everyone being kept informed? <ul style="list-style-type: none"> - Emergency Services - General Manager - Corporate Office - Next of Kin - Company Employees - Contractors - Partners - Environmental Agencies - Local Government - National Government - Media - Other Oil Companies - Pressure Groups - Neighbours - Unions 	
What Media Activity and Coverage <ul style="list-style-type: none"> • Tone of media 	

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


ERG LEADER - PUBLIC AFFAIRS STRATEGIC CHECKLIST	
EFFECTS /IMPAIRMENTS	ACTIONS
Current / likely public perception of the incident/ Company?	Confirm media strategy Establish media monitoring Review media coverage and tone. What is the media saying? Ensure Q & As and Media Releases are available, read and understood by spokesperson Identify spokesperson
Government at home or abroad concerned?	What are the Authorities saying? How are they reacting? Establish policy for lobbying Consider Government/ Partner briefings
International perception of the incident?	Inform Company offices abroad
Likely effects on the Company's reputation? • At home/Abroad	Monitor and advise the General Manager regarding image considerations.
Will this affect/ influence planned/ future Company operations in country and abroad?	
Likely impacts on/ responses from: <ul style="list-style-type: none"> • National governments • Local government • Regulators/ legislators • Pressure Groups • Environmental agencies • Neighbours at this and other sites • Community PR near site 	Consider regulatory repercussions Consider Community PR near site Counsel and reassure neighbours at affected site - Information on incident - Decisions on future operations - Establish enquiry centre.
Other industry companies and agencies <ul style="list-style-type: none"> • Customers • Suppliers • Partners • General Public • Third parties affected by the incident 	Communicate with customers

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


4.2 Drilling Operations Co-ordinator

In the event of an emergency and being mobilised follow the steps and the checklist given below:

- Proceed to the Emergency Co-ordination Centre and obtain a full briefing from the ERG Leader.
- Establish and take over communications with the IRT Leader and request an update on the situation, identify support and assistance required.
- Brief ERG on the current situation and support requirements
- Maintain a close liaison with the IRT and regularly update ERG.
- Confirm ERG/ECC telephone numbers/fax numbers with IRT. Consider communications security.
- Start logging messages. Pass message sheets to the Recorder and ensure that the Status Boards reflect the latest situation.
- Ensure that appropriate site and operational documents, diagrams and plans are available to the ERG.
- Ensure that the ERG is aware of the IRT actions, decisions and concerns.
- Advise ERG on the operational and technical aspects and impacts of the incident.
- Assess the requirements for specialist or technical support at the site.
- Keep the IRT advised on actions being taken to support them.
- Establish the morale and effectiveness of the IRT. Are they coping?
- Remind the ERG Leader, if necessary, that an update is required.
- Advise ERG Leader if external contacts are required to be made to:
 - Local and/or central government authorities;
 - Contractors concerned;
 - Joint Venture Partners;
 - Others
- Where appropriate arrange cover for normal job.
- Keep a personal log of all communications and actions taken.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


DRILLING TECHNICAL CO-ORDINATOR STRATEGIC CHECKLIST	
EFFECTS / IMPACTS	ACTIONS
Own equipment/ property? Denial of use? Consequential loss? Loss of output? Inability to meet commitments?	Arrange for site survey
Impact on customers?	
Inability to supply customers? • Short Term • Long Term Impact on suppliers? Inability to accept supplies? • Short Term • Long Term	Examine alternative sources of product supply Arrange stoppage/ diversion of supply
Other direct business interruption? Impact on contractors/ consultants?	
Effects on other Companies/ businesses? Any indirect constraints on other businesses?	Keep other Companies/ businesses informed
Need to shut down similar operations? Consider threat to new/planned operations and opportunities?	Consider revised business plan Decide on whether to continue operations
How long for repair/ replacement?	
Potential ban on product/ operations?	
Any regulatory impacts? • Local • National • International	Ensure regulators are kept well informed Manage regulators proactively
Overall effect likely on the industry? Additional loads placed on management? • Managing incident • Managing recovery	Consider disclosing information to other operators

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


4.3 Production Operations Co-ordinator

In the event of an emergency and being mobilised follow the steps and the checklist given below:

- Proceed to the Emergency Co-ordination Centre and obtain a full briefing from the ERG Leader.
- Establish and take over communications with the IRT Leader and request an update on the situation, identify support and assistance required.
- Brief ERG on the current situation and support requirements
- Maintain a close liaison with the IRT and regularly update ERG.
- Confirm ERG/ECC telephone numbers/fax numbers with IRT. Consider communications security.
- Start logging messages. Pass message sheets to the Recorder and ensure that the Status Boards reflect the latest situation.
- Ensure that appropriate site and operational documents, diagrams and plans are available to the ERG.
- Ensure that the ERG is aware of the IRT actions, decisions and concerns.
- Advise ERG on the operational and technical aspects and impacts of the incident.
- Assess the requirements for specialist or technical support at the site.
- Keep the IRT advised on actions being taken to support them.
- Establish the morale and effectiveness of the IRT. Are they coping?
- Remind the ERG Leader, if necessary, that an update is required.
- Advise ERG Leader if external contacts are required to be made to:
 - Local and/or central government authorities;
 - Contractors concerned
 - Joint Venture Partners
 - Others
- Where appropriate arrange cover for normal job.
- Keep a personal log of all communications and actions taken.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


PRODUCTION TECHNICAL CO-ORDINATOR STRATEGIC CHECKLIST	
EFFECTS / IMPACTS	ACTIONS
Own equipment/ property? Denial of use? Consequential loss? Loss of output? Inability to meet commitments?	Arrange for site survey
Impact on customers?	
Inability to supply customers? • Short Term • Long Term Impact on suppliers? Inability to accept supplies? • Short Term • Long Term	Examine alternative sources of product supply Arrange stoppage/ diversion of supply
Other direct business interruption? Impact on contractors/ consultants?	
Effects on other Companies/ businesses? Any indirect constraints on other businesses?	Keep other Companies/ businesses informed
Need to shut down similar operations? Consider threat to new/planned operations and opportunities?	Consider revised business plan Decide on whether to continue operations
How long for repair/ replacement?	
Potential ban on product/ operations?	
Any regulatory impacts? • Local • National • International	Ensure regulators are kept well informed Manage regulators proactively
Overall effect likely on the industry? Additional loads placed on management? • Managing incident • Managing recovery	Consider disclosing information to other operators

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


4.4 HSE Co-ordinator

In the event of an emergency and being mobilised follow the steps and the checklist given below:

- When directed by the ERG Leader, activate the call out the ERG and Support personnel in accordance with the ERG duty list.
- Proceed to the Emergency Co-ordination Centre and obtain a full briefing from the ERG Leader.
- Commence logging information onto the Status Boards, and ensure that they are kept up-to-date throughout the incident.
- Advise the ERG Leader of the safety, environmental, and regulatory aspects of the incident.
- Assess damage and potential damage to environmental and sensitive areas, which might be affected by the incident.
- Obtain total personnel numbers, names, company and nationality at incident site.
- Identify and mobilise Support persons required to assist with:
 - Next of Kin notification and assistance
 - Emergency travel arrangements
 - Medical and Casualty treatment
 - Reception and handling of evacuees from incident site
 - Personnel enquiry information
 - Office Reception
- Obtain accurate information on person's casualties at incident site with their status, location and intended movements.
- Obtain Next of Kin data for national staff members and contractor personnel at incident site.
- Maintain up-to-date movement and status list of all personnel evacuated from the site.
- Ensure that casualties being evacuated from incident site are being attended to correctly.
- Advise ERG what actions should be taken to minimise the effects on the environment.
- Mobilise Oil Spill Response specialist contractor to spill site if required.
- Ensure that the General Manager is aware of the Company's safety and environmental record.
- Keep a personal log of all communications and actions taken.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


HSE CO-ORDINATOR STRATEGIC CHECKLIST	
EFFECTS / IMPACTS	ACTIONS
Has there been any environmental impact from? <ul style="list-style-type: none"> Oil spill Gas release Smoke Chemical spill Radio Active material Other substance 	
What are the likely effects on people? <ul style="list-style-type: none"> At the site Surrounding community 	
What are likely to be the effects on the environment? <ul style="list-style-type: none"> Land Air Shorter Term Longer Term 	
What are the short and long term effects of pollution? <ul style="list-style-type: none"> What quantity has been released? 	Implement short term response to pollution Decide on longer term response to pollution Effect rapid containment and clean-up Implement immediate monitoring of perimeter and as yet unaffected areas Consider and implement long term clean-up and monitoring plan
How is the clean up progressing?	What quantities have been released?
Which Agencies have been notified?	
Have all appropriate environmental bodies and agencies been notified?	

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


4.5 Administration Co-ordinator Bangkok

In the event of an emergency and being mobilised follow the steps and the checklist given below:

- Proceed to the Emergency Co-ordination Centre and obtain a full briefing from the ERG Leader.
- Inform Crisis Response Team of details of all expatriate personnel at the incident site and give details of any casualties.
- Arrange travel and accommodation for evacuees, including reception of expatriates in own country.
- Ensure that personnel and casualty information is accurately recorded on the Status Boards.
- Ensure that enquiry numbers have been released and inform Reception when and where to divert calls.
- Establish contact with Contracting Companies give them information regarding their personnel at the incident site and disposition of casualties and evacuees. Confirm that they will notify next of kin of their employees.
- Consider and arrange for the provision of translators.
- Support the evacuation of casualties or others.
- Arrange travel and accommodation for Next-of Kin to visit casualties.
- Ensure that the next of kin of all personnel at the affected site are notified.
- Ensure that arrangements are being made to support families.
- Ensure that liaison with hospitals is undertaken.
- Ensure Next of Kin of casualties or fatalities are notified.
- Ensure procedure for the disposal of fatalities being followed.
- Arrange for Government and Environmental personnel to go to the site.
- Implement notification of relevant Government and Environmental agencies.
- Keep a personal log of all communications and actions taken.
- Obtain appropriate financial authorities for advances and travel.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


ADMINISTRATION CO-ORDINATOR BKK STRATEGIC CHECKLIST	
EFFECTS / IMPACTS	ACTIONS
Consider long term welfare of casualties	Make arrangements for specialist and follow up medical treatment of all casualties Follow up on persons in hospital and recuperating at home. Consider moral and financial support.
Consider the morale of all personnel. What are the impacts on • Site workforce • Families • Other company employees (concern at loss of employment, guilt) • Contractors/ consultants • Neighbours (fear of recurrence, casualties, property damage, loss of business)	Provide compassionate assistance to injured/ evacuated employees and support to the families, to include: • Medical checks • Counselling • Travel assistance/ accommodation • Loans • Cash Keep all employees informed on personnel issues Reaffirm positive aspects of Company actions. Counsel and reassure neighbours affected by site and similar company locations Disclosures about incident
What effect on morale of Company personnel?	Reinforce Company morale
What are the likely effects of the incident on the workforce and its relationship with the Company?	Reaffirm positive aspects of Company to all
Stress. Who might be affected? • Site personnel • Response/ telephone teams • Families • Third party witnesses	Reaffirm positive aspects of Company to all Monitor for stress at site and in teams Arrange for stress counsellors Arrange for relief's where signs of serious stress are detected Put in place a stress counselling programme

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


4.6 Administration Co-ordinator Wichian Buri

In the event of an emergency and being mobilised follow the steps and the checklist given below:

- Proceed to the IRT meeting and obtain a full briefing from the IRT Leader.
- Identify and assist with:
 - Arranging transportation of evacuees
 - Transporting materials and equipment
 - Local Hospital reception arrangements.
 - Locating and mobilising land transport.
- Identify and arrange mobilisation of Local emergency support such as Fire Service, Police, Military Services, Ambulance, Hospitals.
- Co-ordinate together with the IRT Leader:
 - Evacuation actions
 - All transport movements.
- Locate and mobilise materials and equipment required at the incident site.
- Co-ordinate transportation of casualties to hospitals once left incident site.
- Update ERG at regular intervals on actions taken.
- Keep a personal log of all communications and actions taken

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

WB ADMINISTRATION CO-ORDINATOR STRATEGIC CHECKLIST	
EFFECTS / IMPACTS	ACTIONS
What are the impacts on Incident location, Vehicles, Facilities and inability to meet the requirements?	Keep identify
Impact on Emergency Services and Equipment	Arrange to send required Emergency Services
Available resources status	Mobilise resources when and where needed
What are the likely effects of the incident and need repair/replacements	Provide assistance
Inability to supply/arrange	Arrange alternate source
Additional supports and services	Keep ready

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

4.7 Support Positions

The following are the procedures for Support personnel who will or may be mobilised to support the Emergency Response Group in the event of an incident or emergency situation.

4.7.1 Recorder


In the event of an emergency and being mobilised follow the steps below:

- Proceed to the Emergency Co-ordination Centre and obtain a full briefing from the HSE Co-ordinator.
- Check off all ERG members against Call-out and Arrival Checklist
- Record and maintain the incident information on the Status Boards.
- Support the ERG by providing maps, plans, diagrams, stationary
- Summarise the main points from the Status Boards for the ERG.
- Where appropriate arrange cover for normal job.
- Keep a personal log of all communications and actions taken.

4.7.2 Reception

In the event of an emergency and being mobilised follow the steps below:

- On arrival in the office advise the Admin Co-ordinator Bangkok who will give a briefing on what to do and how to handle callers.
- Receive instruction from Admin Co-ordinator Bangkok on how to respond to visitors and callers such as:
 - Media
 - Next of Kin
 - VIPs
 - General Public
 - Normal business
- Direct visitors and callers as instructed.
- Inform Admin Co-ordinator Bangkok when visitors are at Reception.
- Request assistance from Security if required to control visitors.
- Keep a log of all calls that come through to reception.
- Contact the Admin Co-ordinator Bangkok for additional advice and support.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

5 OFFICE EMERGENCY RESPONSE

The Company's Emergency Response objectives require that the Company is effectively and efficiently prepared to address any foreseeable emergency situation, which involves any of its assets wherever they are located in Thailand.

In order to comply with this the Bangkok Office has two levels of emergency response:

- **Emergency Response** for dealing with any incident or emergency situation that could occur at any of the Company's assets over which the Bangkok Office has responsibility or interest. The operation of the Emergency Response Group is described in the previous sections of this manual.
- **Office Incident Response** for dealing with any incident which may affect the people or operation of the Bangkok Office.

The Emergency Response Group shall also respond to any Office Incident and co-ordinate the actions and activities required in order to deal with the office incident.

In order to ensure that the Emergency Response Group (ERG) can carry out both the Emergency response and Office Incident response actions in an efficient and effective manner the ERG is required to carry out exercises and drills at regular intervals. These exercises and drills will be carried out in accordance with the plan shown in **Section 5.5**.

In order to test the effectiveness of the office emergency procedures and to ensure that all personnel based in the office are conversant with the office fire and emergency procedures there will be regular drills as shown in **Section 5.5** which will involve everyone in the office.

The Bangkok Office emergency and incident response procedures are contained in the following sections and the details require to be completed by the Administration Manager.

5.1 IDB Office Emergency Alarms and Actions

Fire and Evacuation Alarms for Rasa Tower II are: **Ringing Bells!!** or **'Whistle Blowing' preceded by Shouting 'Fire', 'Fire', 'Fire'.**

5.2 Evacuation Procedure

All personnel shall follow the following procedure on hearing the alarm. All personnel will be trained and exercised in the procedures to follow in the event of an incident in the office require the office to be evacuated.


5.2.1 General

All personnel are to observe emergency alarm and proceed immediately to the Muster Point at the SCB side of the building at Road Level.

See Attachment 18 – RASA TOWER II FIRE / EVACUATION

In the event of a person discovering a fire or smoke they must activate the fire alarm by alerting the Reception or the Administration manager.

The Company occupies the 12th Floor in the Rasa Tower II building. Fire Wardens have been appointed. All personnel must follow the instruction issued by a Fire Warden.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

5.2.2 Fire Wardens and Duties

	Name	Duty
Fire Warden	Khun Monsicha	Administration Manager
Alternate Fire Warden	Khun Kannika	Administration

5.2.3 Fire Warden – Roles and Responsibilities

The Fire Warden is responsible to the Emergency Response Group Leader for implementing the office emergency procedures. His/her duties are as follows:


- Ensure the safe evacuation of and accounting for all personnel from Rasa Tower II office.
- In the event of an emergency in the Office, the Fire Warden is responsible for the management of the incident/emergency. Alternate Fire Warden will carry the duties of Fire Warden in his/her absence.
- To ensure that all Employees, Contractors and visitors are familiar with the aspect of Office Emergency Procedure.
- To ensure that emergency drills are conducted in accordance with Section 5.5 and personnel are trained to a level of competence as appropriate to their emergency responsibilities.
- Interface with Emergency Response Group for assistance and support and to co-ordinate the office emergency response with Emergency Response Group Leader.
- To mobilise external assistance from the local Emergency Services.
- To co-ordinate office response with that of the Emergency Services and provide them with information and assistance.
- To identify missing persons and make arrangements to locate any missing person or persons.
- In the case of an emergency, the Fire Warden should confirm the location and nature of the emergency.
- Confirm that it is safe for people to re-enter and resume duties in the office, arrange for "All Clear" signal, terminating the emergency.

5.2.4 Personnel in Office without Emergency Duties

Pre-Emergency

- Must remain alert at all times for situations, which have the potential to escalate into an emergency.
- Must read and observe office emergency response procedures posted on the Floor Notice Board

Emergency Actions

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

- Report any unusual situation to the Fire Warden or Administration Manager immediately; provides brief details.
- If observe an emergency situation raise alarm or seek assistance urgently; speak clearly and slowly.
- Remove yourself or any injured persons from any immediate exposure or danger.
- Ensure safety of other personnel and secure/isolate area.
- If safe and trained to do so, attempt to extinguish the fire using available resources.
- If alarm is raised, make your way to the Muster Point; remain there until given further instructions.
- If civil unrest/protest occurs, avoid the disturbance area if possible; do not confront, aggravate or interfere with protestors.

Office Personnel receiving Visitors:

- It is the responsibility of ECO office based staff to take care of their visitors at all times and not to allow them to move around the office unescorted.
- In the event of an alarm he/she must escort the visit to their Muster Point and ensure the Floor Fire Warden accounts for the visitor.


Contractors working in the Office:

- It is the responsibility of the engaging departments to ensure that Contractors working are made familiar with the office emergency procedures and the actions they are to follow.

5.3 End of Emergency

Prior to demobilising the Emergency Response Group the ERG Leader must ensure that the following issues are be considered:

- Confirm that the emergency is concluded.
- What resources are required for recovery?
- Issue of final information release, notification and stand down to all those notified or involved in the emergency response.
- De-brief all personnel involved in the emergency situation and gather all logs and records.
- Close down additional security arrangements
- Continuing counselling for those involved in the emergency
- Compile and file all documents relating to the response
- Initiate investigation into the emergency.
- Initiate a review of the effectiveness of and lessons learnt from the emergency response.
- Recommend revision of Emergency Plans as required.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

5.4 Emergency Response Group Training and Drills

Drill/Exercise Type	Frequency	Who	Remarks
ERG & IRT Exercise	Alternate 2 monthly x 1 hour	All ERG & Support personnel.	Desktop exercise to test responses to a specific incident. Test call out system.
Combined Company wide emergency response exercise	Annually x 3-4 hours	Corporate Office, ERG and a remote location.	Scenario based real time exercise to test effectiveness of the combined Corporate Office & ERG response to a specific incident. Test all call out systems. Test effectiveness of Crisis and Emergency Response procedures.
Office Fire Drill	6 monthly x 30 minutes	All personnel & visitors in the office	All personnel proceed to muster points. Test Office emergency response procedures.

6 BANGKOK OFFICE INCIDENT

In the event of an incident that affects the Bangkok Office it may render the Office unavailable through, for example: -

- Evacuation of the Office Building (s)
- Denied Access
- Partial destruction/failure of business systems

In such cases the ERG function is to act as the Incident Response Team and in the short term is to manage and co-ordinate the continuation of essential business functions and in the medium term to facilitate the restoration of all elements of the business.


Call out of the ERG will follow the established procedures and the ERG Leader will decide on the location for the ERG to convene. In the event that the Bangkok Office is totally unavailable alternative facilities will be brought into use.

In the event that the Bangkok Office is evacuated the ERG Leader should be contacted and the response co-ordinated through mobile phones. The basis for communication is through observance of the preparatory actions listed in the checklists.

A summary checklist is included below.

6.1 Emergency Response Group (ERG) Business Recovery Actions

The principal actions for each of the ERG members are listed below; the points are included to complement the ERG Member Roles and Responsibilities listed below.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

6.1.1 Emergency Response Group Leader

Pre-planning:

- Familiarise with Alternative Business Location

Actions:

- Assess extent of non-availability of the Office, duration of unavailability and the need to use alternative ERG location.
- Decide if/where ERG should convene.
- Ensure that the necessary ERG members are present and identify any additional needs
- Ensure the identified critical business functions are able to function
- Ensure all department managers are contacted to establish how secondary needs are being addressed.
- Ensure communication is made with appropriate staff.
- Ensure all external parties are contacted as appropriate.
- Ensure overall business recovery strategy is in place and is being effective


6.1.2 Administration Co-ordinator with I.T. Manager

Pre-planning:

- Ensure backup and recovery IT requirements are in place (hardware, systems, data and information) for all functions.
- Align backup office facilities with requirements, monitor and implement changes.
- Ensure appropriate protection is in place against system failures (e.g. Virus protection, Firewall requirements etc).
- Ensure roles of outsource companies are defined and agreed.
- Ensure that all Bangkok Office staff are contacted and given instruction on how they are to proceed.

Actions:

- Establish communications systems for ERG and critical business functions
- Re-route or enable alternative, telephone numbers, holding messages, e-mail, network, and fax.
- Obtain required data, information and systems for backup as/if required.
- Liaise with staff at backup facility and/or the outsource contractors.
- Mobilise IT support personnel.
 - Establish disaster recovery requirements.
 - Provide assistance and instruction to core business functions.
 - Arrangements for hardware/software and communications links to enable home working where necessary.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

- Review re-routing of Bangkok Office e-mails.
- Identify and establish alternative contact numbers for business units.
- Assess need for additional alternative office facilities, identify contacts
- Co-ordinate provision of instruction to all staff in the event of office evacuation and provide support for transport, cash loans etc.
- Liaise with department managers to ensure on-going provision of information and instruction for staff and contact all Staff to provide basic instruction or delegate to department management.
- Establish trauma counselling if required.

6.1.3 Administration Co-ordinator Bangkok

Pre-planning:

- Liaison with authorities (City Authorities, Police, Government Departments etc.)
- Familiarise with alternative facilities.
- Conduct exercises and awareness initiatives.

Actions:

- Liaise with ERG Leader to call out ERG and Support personnel.
- Ensure safety and security procedures for alternative office.
- Liaise with appropriate authorities.


6.1.4 Country Manager

Pre-planning:

- Ensure contact data for external support and department staff is maintained off-site (Media contact, call-out and contact list etc.)
- Ensure necessary Legal and Contractual data and information to support the Business Recovery is backed up offsite

Actions:

- Review the need for a Media Release and if necessary establish general Media statement
- Liaise with IT to establish communications and external enquiry room
- If necessary establish 'Media Room' and management of Media.
- Monitor media response to the incident.
- Provide Legal Advice to Business Recovery/ERG on key actions.
- Review the statutory obligations.
- Advise on and initiate contacts with Joint Venture Partners.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

6.1.5 Finance Co-ordinator

Pre-planning:

- Arrangements for securing cash for Business Recovery work
- Ensure key contact data is kept off-site for insurers and support staff
- Ensure key policy information is available off-site.


Actions:

- Provide support to Business Recovery activities requiring cash transfers.
- Review insurance implications of the incident.
- Liaise with Corporate Finance Co-ordinator.
- Ensure remedial actions taken are acceptable on insurance terms.
- Ensure that appropriate records are kept for recovery of losses, increased costs of working etc.
- Support ERG to procure goods and services as part of Business Recovery

6.2 All ERG & Support Team Members


In the unlikely event of a concurrent Bangkok Office incident and a Remote Location incident the ERG function should be performed at the alternative office site.

The ERG Members together with the General Manager must ensure that the information required to support the ERG is backed up at the alternative office.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

6.3 Checklist for Business Recovery

BUSINESS RECOVERY CHECKLIST		
ACTIONS		Responsibility
1	Assess the ERG size and scope requirements for business continuation and identify an alternative address for CRT.	ERG Leader
2	Call-out ERG	ERG Leader
3	Contact the critical business functions and department representatives as per the Disaster Recovery Plan.	ERG Leader
4	Make alternative arrangements for critical business functions, CRT and other functions; if necessary involve alternative facilities as set out in the Business Recovery Plan.	Admin Co-ordinator
5	Ensure effective communications are in place for all individuals and locations.	I.T.
6	Acquire back-up CD's and files and establish the hardware/software facilities at the alternative facilities for critical business functions.	I.T.
7	As soon as the alternative facilities are operational, call-out the critical business functions.	ERG
8	Assess the duration for non-availability of the Bangkok Office and consider to rent alternative office space for all other office users.	ERG
9	Arrange hardware/software facilities for essential staff who are able to work from their home address (PC Rental)	I.T.
10	Inform all office users about the situation	Admin Co-ordinator
11	Inform all other Business Units of the situation	Operations Technical Co-ordinator(s)

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


ATTACHMENT 1 - INCIDENT SITUATION UPDATE PROCEDURE CHECKLIST

The ERG Leader should conduct formal updates on at regular intervals to all members of the ERG and Support personnel.

Updates should normally be held once a month. The ideal duration of an update should be no more than 15 minutes.


Procedure

- ERG Leader gives a 10-minute notice.
- All ERG and Support personnel to attend.
- All telephones in the Emergency Co-ordination Centre (except the ERG telephone line) are diverted to the Reception and instruction given to hold all calls until Update is over.
- Inform IRT of the update meeting.
- Commence update with operations brief on the latest state of incident.
- Follow with short statements from all the ERG members giving the latest situation update and actions from their own area of responsibility.
- Clarification of points of fact, if required, following each statement.
- Update completed. Individual ERG members revert to carrying out their actions.
- Telephone lines diverted back to Emergency Co-ordination Centre.
- Recorder to make a summary of the update / prepare and issue with copies to all ERG members. One copy to be retained on the central incident log.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 2 – EXTERNAL CONTACTS CHECKLIST


Agencies to be Contacted	Date / Time Contacted
• Other Countries / Operations	
Government	
• Thailand	
• Local	
Airlines	
Contractors (i.e. Oil Spill Contractors)	
Consulate(s)	
Consultants	
Customers	
Embassies/ High Commissions	
Environmental Agencies	
Financiers	
Foreign & Commonwealth Office (FCO)	
Hospitals/ Medical Agencies	
Insurers	
Joint Venture Partners	
Lawyers	
Other Oil Companies	
Pressure Groups	
Police	
Security Consultants	
Specialists	
Suppliers	
Others	

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


ATTACHMENT 3 - KIDNAP AND EXTORTION CHECKLIST

This checklist supplements the normal ERG checklists where Kidnap or other extortion is occurring or is possible.

Kidnap And Extortion Checklist	
	Responsibility
1. Call-out Emergency Response Team	ERG Leader
- ERG Leader	
- HSE Co-ordinator	
- Administration Co-ordinator Bangkok	
- Drilling Operations Co-ordinator	
- Production Operations Co-ordinator	
2. Establish secure communications link with IRT	ERG Leader
3. Ensure secure meeting room for ERG.	ERG Leader
4. Maintain effective logs	All
5. Establish:	ERG
- The current situation	
- The political and operational background	
- If any contacts or demands have been made by the instigators.	
- Who is aware of the incident	
• Government	
• Security Forces/Police of country	
• The Embassy/High Commission	
• Local employees	
• Relatives	
- What the country's policy is concerning negotiation with kidnappers etc.	
6. Notify General Manager	ERG Leader
7. Notify Corporate Office and pass on details	ERG Leader
8. Evaluate the situation	ERG
- Is there positive evidence of kidnap?	
- How reliable is the available information?	
- Are the instigators known to be criminals, psychopaths or terrorists?	
- What are the likely future actions of the instigators?	
- What is the risk?	
• What threats have been made? Likely to be carried out?	
• Is there a threat to life - hostage or others?	
• Are other employees/families at risk?	
• What is the business risk?	
• What is the local Government likely to do if you negotiate?	

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

Kidnap And Extortion Checklist	
	Responsibility
- Need for containment of information	ERG
- Is containment of information possible, likely to last and appropriate?	
- What time scale may the Company have to work to?	
- What is likelihood rescue?	
- What attitude is local Government likely to take?	
- What are the immediate implications on operations?	
11. Confirm Company objectives	ERG Leader/ Corporate Office
- Remove threat to life	
- Display Company's determinations to show firm resolves and remain a responsible corporate citizen.	
12. Advise ERG on local laws and potential liabilities relating to communication and negotiation with kidnappers etc. and other liabilities.	Legal Counsel
13. Consider basic Company policies/strategies	Corporate Office
a. Response	
b. Control/secretcy	
c. Risk	
14. ERG Leader to take instruction from Corporate Office.	ERG Leader
15. Discuss options with the Corporate Office (remember security). Confirm roles, powers and delegated authority of both the ERG and the IRT.	ERG Leader
- Who is to be the ultimate Decision Maker?	
- Who is to conduct any negotiations?	
- Who will make up the Negotiating team locally?	
- Is additional support required in Country?	
16. Decide basic policies and initial way ahead. How much is to be pro-active, and how much sit-and-wait?	Corporate Office
17. If agreed by Corporate Office, notify national Police/Security forces if not already aware.	ERG Leader
18. Take all other actions as instructed by Corporate Office	ERG Leader


	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 4 - EVACUATION CHECKLIST


This checklist supplements the ERG checklists in an Evacuation situation.

It is unlikely that a total or partial evacuation from a country will occur without prior knowledge of a deteriorating situation. Routine monitoring should ensure that a planned and controlled evacuation is possible. The ERG must however be prepared to respond to an evacuation at little or no notice if the unexpected should happen.


Evacuation Checklist	
	Responsibility
1. Call-out ERG. In a potential evacuation situation the ERG is likely to require conducting many of the lower level roles normally associated with the IRT.	ERG Leader
2. Establish communications with the IRT. If communications are not possible, best use must be made of alternative sources, e.g. FCO, Embassies, other companies, airlines etc.	ERG Leader
3. Establish:	ERG
- The current situation locally	
• Political	
• Security	
• Operational sites/equipment	
• And other offices	
- The current alert state	
- The expected rate of change in the situation	
- The immediate plans and intentions of the local management	
4. Confirm objectives:	ERG
- Safety of and associated personnel and their families.	
- Safety of property and operations.	
- Maintenance, where possible, of good relationships with the host government.	
5. Confirm the responsibilities of the General Manager/ERG in relation to the Corporate Office at this stage.	ERG Leader
6. Is additional professional advice required at this time? Does the ERG have the right people available to it?	ERG
7. Evaluate the situation.	
- How reliable is the available information?	
- What is the threat to personnel and their families?	
- What is the threat to contractors and their families?	
- What is the threat to operations/equipment?	
- What are the threat to and other associated offices?	
- What are the implications of Company's relationships with the host Government?	
8. What is the likely change in events	ERG

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

Evacuation Checklist	
	Responsibility
<ul style="list-style-type: none"> - in the next few hours. - over the next few days. - over the next two weeks and more. 	
9. If the decision has already been taken to evacuate all or part of the community: <ul style="list-style-type: none"> - How is this to be done? - Who is leaving? - Where are they going? - What arrangements are being made by the IRT? - What arrangements need to be made by the ERG? - What is happening to active operations? - What is to happen to offices? - What is to happen to confidential documents? 	ERG
10. ERG makes necessary evacuation arrangements. If possible, keep HR ERG informed. <ul style="list-style-type: none"> - Flight bookings. - Charter aircraft. - Ship bookings. - Other transport. - Reception party at local arrival point. - Reception party in arrival Country - Accommodation at local arrival area. - Accommodation in arrival Country - Clothing, cash, immediate needs. - Keep Next-of-Kin or Expatriate based (extended) families informed. 	Admin Co-ordinator
<ul style="list-style-type: none"> - Make necessary arrangements for families to meet evacuees. - Consider safety and welfare of any employees/contractors and families remaining in country. - Safety and welfare of national employees. - Protection of residences, offices and other property. 	Admin Co-ordinator
11. If no decision to evacuate yet, ERG should: <ul style="list-style-type: none"> - Consider arrangements that could be required - Conduct advance planning for transport, accommodation, greeting parties etc. - Keep families outside of affected country informed. - Keep employees updated. - Maintain communications with IRT. 	Admin Co-ordinator
12. Once evacuation has started: <ul style="list-style-type: none"> - Implement agreed actions. - Monitor evacuation progress. 	ERG

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

Evacuation Checklist	
	Responsibility
<ul style="list-style-type: none"> - Maintain communication with ERG as long as possible - Keep families informed 	Admin Co-ordinator
<ul style="list-style-type: none"> - Keep employees informed - Provide PR advice to employees and family 	ERG Leader
13. Establish Media policy. Prepare immediate defensive Press Statement for use if media enquire about the evacuation and its effects upon business.	ERG
14. Consider broader implications <ul style="list-style-type: none"> - Impacts on Company's operations, image and liabilities - Impacts on trading, oil sales and cash flow. - Relationships with host government 	ERG
<ul style="list-style-type: none"> - Likelihood of commercial or other sanctions - Effect on the current and longer term trading position of the Company in the affected country. - How entry back into the country might be effected - Effects on employee morale (local, national, companywide) 	
15. Consider legal and other potential liabilities relating to the evacuation	Legal Counsel

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHEMNT 5 – MEDIA HOLDING STATEMENT

Date:
Press Release No 1
Time:

ECO Orient Energy (Thailand) Limited regrets to confirm that an incident – (describe in broadest terms) –

occurred at – (site/location) –

at – (time) –

today/yesterday – (date)–.

ECO Orient Energy (Thailand) has mobilised its Emergency Response Teams, and is working closely with the Local Emergency Services and is in contact with the relevant authorities.

Details of the incident are not yet confirmed, but every action is being taken to safeguard lives and the environment.


A further statement will be issued as soon as more information becomes available.

Direct enquiry lines have been established as follows:

Media ****

Relatives ****

Notes for Editors:

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 6 - INITIAL STATEMENT TO STAFF

Note: To be sent by electronic mail to all within the Bangkok office, and to all site locations and offices.

From ERG Leader, (name of location)

Date

Time

INCIDENT REPORT

All staff should be aware that an incident has occurred at (place) at (time)


today/yesterday.

(Briefest description of incident, e.g. The Installation is on fire following an explosion).

The local Incident Response Team and the Emergency Response Group in (location name) are taking necessary action.

More information will be made communicated, as it becomes available. In the meantime any staff member approached for information by outside sources should refer them to the ERG Media Information Group in (location tel. No.xxxxx)

ERG Leader (Name/Location)


	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 7 - FIRST TO ARRIVE PROCEDURE

The steps described in this procedure are to be used by the first person arriving in the Emergency Co-ordination Centre. A package of equipment and documents are ready and available for the first to arrive in the Emergency Co-ordination Centre.


- First person to arrive in the Emergency Co-ordination Centre is to assume the roles and duties of the ERG Leader. The 2nd person to arrive is to assume the role of Recorder (unless this person is the designated ERG Leader).
- Set-up the first telephones in the dedicated slots of the Emergency Co-ordination Centre table, set-up the Status Boards.
- Establish contact the IRT Leader at the emergency site and confirm latest details on the emergency and support requested.
- Ensure that the holding statement to press and initial statement to staff is issued by the local office.
- Fax the unlisted ERG telephone numbers to the affected IRT only.
- Make preparations for initial statement to all office staff.
- Make preparations for holding statement to press.
- Make personal notes of all calls and actions.

This procedure and further guidance on the use of the Emergency Control facility and equipment are available in the Emergency Co-ordination Centre.

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 8 - RECEPTION STANDING INSTRUCTION

- All Visitors should be received at the reception.
- Restrict all access to card / pass / permission holders.
- Exercise extra caution during emergency situations.
- Always ensure company assets / personal property and valuables are secured and protected.
- Confidential things should be kept in a secured place.
- The receptionist on duty should inform to concern department to receive the visitor and inform the visitor to wait in the reception till a responsible person arrives.
- Reception to ensure not to leave the visitors to wander around alone.
- Identify strangers and report to Administration Manager

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 9 - ERG AND SUPPORT PERSONNEL LIST

Emergency Response Group Leaders

Drilling Operations Technical Co-ordinators

Production Operations Technical Co-ordinators

Health, Safety & Environment Co-ordinators


Administration Co-ordinators Bangkok

Administration Co-ordinators Wichian Buri

Public Affairs Co-ordinators

Recorders

Receptionists

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 10- TELEPHONE CALL RECORD


(Use One Page Per Call)

Call Taken By:	Extension No:	Date:	Time:
----------------	---------------	-------	-------

Call Source: Government: <input type="checkbox"/>	Media: <input type="checkbox"/>	Employee <input type="checkbox"/>	Employee Family: <input type="checkbox"/>	Public <input type="checkbox"/>
Assistance Offer: <input type="checkbox"/> Other: <input type="checkbox"/>				

Caller details:			
Name:			
Title/Relationship:			
Organisation/Department:			
Phone Number:		Fax Number:	
Message For:		Return Call By:	
Message/Information Request:			

Action Required:	Call Back <input type="checkbox"/>	Send Fax <input type="checkbox"/>	Wants To See You <input type="checkbox"/>	Will Call You <input type="checkbox"/>
Action By:			Date:	Time:

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 17 - BOMB THREAT RESPONSE ACTIONS

Response Actions - Bomb Threat

The person receiving the call will:

- Activate recording equipment if fitted and the threat is received by telephone.
- Adopt helpful attitude and be conciliatory.
- Make written notes using guidelines issued for that purpose - (see Appendix 17A).
- Report immediately to General Manager.

Management will assess the credibility of the threat and possible consequences and consider whether to:

- Do nothing, evacuate or stay and search.
- Notify law enforcement agencies/emergency services.
- Alert neighbouring business/residents.
- Implement emergency shutdown procedures.

Search (only if search is not a Police responsibility)

Searches may be undertaken in response to a specific warning. Attention points:

- Know the police policy and role on search and evacuation.
- Prepare search plans in advance to ensure that premises are checked as quickly and effectively as possible.
- Divide the area into manageable-sized sectors.
- Form search teams familiar with the area.
- Define search priorities.
- Search in a logical and thorough manner so that no part of the sector is left unchecked.

"Do not touch or move any suspicious object"

Suspicious Object


If a suspicious object is found:

- If possible leave a marker near the device.
- Inform the General Manager.
- Stay out of sight of the object at a safe distance (normally at least 25 metres) and report every possible detail to the General Manager.

Evacuation

The decision to evacuate will be taken by management on the advice of the General Manager. The police will be consulted for advice:

- Evacuate as quickly and efficiently as possible using all available exits.
- Provide alternative routes to avoid the danger of passing close to any suspicious device.
- Consult neighbouring premises and emergency services.
- Gather all people in pre-designated "Assembly Areas" taking personal belongings with them.
- Check that everyone has left the premises

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 17A - BOMB THREAT CHECKLIST

- SWITCH ON TAPE RECORDER (IF CONNECTED)
- TELL THE CALLER WHICH TOWN/DISTRICT YOU ARE ANSWERING FROM
- RECORD THE EXACT WORDING OF THE THREAT

ASK THESE QUESTIONS

- Where is the bomb right now?.....
- When is it going to explode?.....
- What does it look like?.....
- What kind of bomb is it?.....
- What will cause it to explode?.....
- Did you place the bomb?.....
- Why?.....
- What is your name?.....
- What is your address?.....
- What is your telephone number?.....

- RECORD TIME CALL COMPLETED.....
- KEEP TELEPHONE LINE OPEN
- WHERE AUTOMATIC NUMBER REVEAL EQUIPMENT IS AVAILABLE RECORD NUMBER
- INFORM THE GENERAL MANAGER

Time informed.....

THIS PART SHOULD BE COMPLETED ONCE THE CALLER HAS HUNG UP AND THE GENERAL MANAGER HAS BEEN INFORMED

Time and date of call.....
Length of call.....
Number at which call is received (Your extension number).....

♦ ABOUT THE CALLER

Sex of caller?.....Male ☐ Female ☐
Nationality?.....Age?

♦ THREAT LANGUAGE


Well Spoken ☐ Irrational ☐ Taped ☐
Foul ☐ Incoherent ☐

Message read by threat-maker ☐

♦ CALLER'S VOICE

Calm ☐ Crying ☐ Clearing throat ☐
Angry ☐ Nasal ☐ Slurred ☐
Excited ☐ Stutter ☐ Disguised ☐
Slow ☐ Lisp ☐ Accent ☐
Rapid ☐ Deep ☐ Familiar ☐
Laughter ☐ Hoarse ☐

If the voice sounded familiar, who did it sound like?
.....

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

♦ BACKGROUND SOUNDS

Street noises ☐ House noises ☐
Animal noises ☐ Crockery ☐ Motor ☐
Clear ☐ Voices ☐ Static ☐
PA system ☐ Booth ☐ Music ☐


Factory machinery ☐ Office machinery ☐
Other (specify).....

♦ REMARKS

.....
Signature.....Date.....

Letter and Parcel Bomb Recognition Points

- Foreign mail, air mail and special delivery
- Restrictive markings such as confidential, personal etc.
- Excessive postage
- Hand-written or poorly typed address
- Incorrect titles
- Titles but no names
- Mis-spellings of common words
- Oily stains or discolourations
- No return address
- Excessive weight
- Rigid envelope
- Lopsided or uneven envelope
- Protruding wires or tinfoil
- Excessive securing material such as making tape, string etc.
- Visual distractions


	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 18. IRT MEDICAL EMERGENCY INFORMATION

Total number of injured persons	
Names of injured persons	
Present location of injured persons	Location
	Crew
	Hospital
	Doctor/s
	Name
	Phone
	Fax
Brief medical description	
Medical treatment given so far (on site, local hospital, etc.)	


Other Emergency

Nature of the emergency.	
Location of the emergency.	
Assistance required	


	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 18A. IRT MAJOR EMERGENCY MEDICAL INFORMATION
(Form to be completed by a Doctor)

1. NAME OF CALLER a) Name: b) Telephone: c) Fax: d) Company:		
2. NAME OF PATIENT a) Name: b) First Name: c) Age: d) Sex: e) Company	F / M	
3. LOCATION OF PATIENT a) Country: b) Telephone: c) Address:		
1. Has the patient been seen by a doctor?	Yes / No	
5. Name of Doctor: Telephone Number:		
6. Medical Condition:	a) Is the patient conscious b) Is patient agitated/confused c) Breathing problems d) Significant bleeding e) Chest pain f) Burns g) Fractures h) Abdomen pain i) Trauma j) Fever k) Vomiting/diarrhea/de-hydration l) Multiple/Serious/Head injury	Yes / No Yes / No Yes / No Yes / No Yes / No Yes / No Yes / No Yes / No Yes / No Yes / No Yes / No Yes / No


	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

7. Comments:	
--------------	--

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


IN CASE OF AN ACCIDENT

1. Date and time of accident		
2. Details of the accident (eg. Fall, traffic accident, etc)		
3. Is there any fracture?	Yes / No	
A – probable	Yes / No	
B – obvious	Yes / No	
C – confirmed by x-ray	Yes / No	
1. Localisation:		
A – skull	()	
B – face	()	
C – cervical column (neck).....level	()	
D – vertebral column	()	
E – ribs.....side.....how many	()	
F – pelvis	()	
G – upper limb left () right ()	()	
H – lower limb left () right ()	()	
I – other places	()	
5. Wounds. Are there any? Locate them, especially the ones located in the thorax and the abdomen; indicate their size and depth:		
6. Bleeding. Has there been profuse bleeding?		


	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

IN CASE OF BURN


1. Date and time of burn?				
2. Cause of burn:				
A – Explosion	()			
B – Fire (flames)	()			
C – Chemical products	()			
D – Others (specify)	()			
3. Localisation and degree of the burn:		1 st deg	2 nd deg	3 rd deg
A Face				
B Neck				
C Thorax				
D Abdomen				
E Left arm				
F Right arm				
G Left leg				
H Right leg				
1. Time of the first treatment:				
2. When did patient last pass urine:				

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


IN CASE OF ILLNESS	
1. Date of first symptoms:	_____
2. Presumed diagnosis of this illness	_____
3. Temperature	_____
4. Spontaneous respiration: If Yes: normal () laboured ()	Yes / No () ()
5. Respiratory rhythm: regular () Irregular ()	() ()
6 Artificial respiration effective () ineffective ()	() ()
7 Number of respiratory movements per minute:	_____
8 Colour of the nails, lips, ears: White () Pink () Black ()	
9 Does the patient cough?	Yes / No
10 Does the patient cough up sputum?	Yes / No
11. Does the patient cough up blood?	Yes / No
12. Has a thorax x-ray been carried out? If so, results:	Yes / No _____
13. Blood pressure	_____
14. Pulse rate	_____
15. Has the patient urinated?	Yes / No
16. If yes, how much per 24 hour?	_____
17. Are the extremities cold? (hands, feet, ears)	Yes / No
18. Is he paralysed?	Localisation: A right arm () B left arm () C right leg () D left leg () E respiratory ()

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

19. Is the patient agitated?	Yes / No
20. Is the patient conscious?	Yes / No
21. Is the patient in a coma? If so, time/date coma began	_____
22. The pupils are: Right A normal () B dilated () C contracted ()	Left A normal () B dilated () C contracted ()
23. Is patient in pain? If so, localisation and degree?	Yes / No _____
21. Has patient had malaria?	Yes / No
25. Is patient diabetic?	Yes / No
26. Does patient vomit?	Yes / No
27. Does patient have diarrhea?	Yes / No
28. Does patient have intestinal bleeding?	Yes / No
29. Is there any other bleeding? If so, where?	Yes / No _____
30. Is patient a psychiatric patient?	Yes / No


	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ALL CASES TREATMENT ALREADY GIVEN	
1. Has the patient been operated on? If so, indicate nature and result of the operation:	Yes / No
2. If fracture, how has it been immobilised?	Yes / No
3. Is the patient on drip? Nature of infusion	Yes / No
1. Treatment initiated – present medications	
5. Does the patient need blood?	Yes / No
6. If known, blood type:	
7. Give any other useful, precise details on the nature of the illness and the patient's condition:	
8. Was the patient suffering from an illness known previously?	
9. Were laboratory tests carried out? If so, which one and state results:	
10. Has the patient been given with any Medicine/ Drugs? If so give details	

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 19. FIELD INFORMATION REQUIRED FOR PROPERTY OR ENVIRONMENT DAMAGE


Name and location of the rig/crew/workshop/other place	
Date and time of the accident	
Description of the accident	
Number of personnel at the location	
Extent / number of casualties (see above)	
Detail of equipment down	
Evacuation / rescue requirements	
Extent of loss	
Action being taken to control losses	
Any external assistance participating	
Weather Conditions if applicable	
Has the client been informed?	
Client contact person and telephone number for this event	
Extent of nature of Environmental damage	
Immediate actions taken to contain the environmental damage.	

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 20A - BANGKOK AREA HOSPITALS


Recommended Hospitals (Closest to the office)

Name	Contact Number
1. Vibhavadi General Hospital	02-561-1111
2. Kesemraj Prachachuen Hospital	02-910-1600
3. Paolo Memorial Hospital	02-271-7000
4. Nonthavej Hospital	02-596-7888
5. Phayathai 2 Hospital	1772

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


ATTACHMENT 20. IMPORTANT TELEPHONE NUMBERS

Organisation	Service/Supplier	Position	Phone	Mobile
ECOE/R (T)	Bangkok Office	General Manager	02-937-1124-9 ext 112	081-924-3854
		Deputy General Manager	02-937-1124-9 ext 111	081-928-9164
		Administration Manager	02-937-1124-9 ext 107	089-925-7929
		Production Manager	02-937-1124-9 ext 127	089-925-7932
		HSE Manager	02-937-1124-9 ext 128	081-845-9143
	Wichian Buri Office	Upcountry Admin/CR Manager	056-718-318 ext 108	089-813-7223
		Production Leader	056-718-318 ext 312	081-902-1763
		Senior Shift Supervisor	056-718-318 ext 316	089-892-4717
		Engineering Leader	056-718-318 ext 203	081-841-6954
DMF Office	DMF	Ms. Jirakha Sakthamjan	02-794-3391	081-850-1260
		Mr. Porasak Ngamompak	02-794-3002	089-969-0141
		Mr. Jancroh Rattapabha	02-794-3375	081-810-1053
		Ms. Nisium Komthue	02-794-3377	086-374-9308
		Ms. Pichann Kachwanannam	02-794-3383	089-969-0141
		Mr. Witsarut Tungontorakhan	02-794-3390	081-830-8917
		Mr. Verasak Puengrasamee	02-794-3359	081-810-1059
Drilling Rig Company	ELITE Drilling	Rig - Radio Room	-	085-4095-291
		Rig Manager	-	083-162-8321
Drilling Fields Supplier	Scout Oilfield	Country Manager	02-204-2910-3	081-854-3377
Logistics	Onshore Logistics	Managing Director	02-279-6380-1	081-855-6945
Wireline Logging	Schlumberger	Thailand Manager	02-937-0700	081-896-4251
Waste Disposal	NM Logistics	CEO	02-322-7979	081-826-1758

	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


ATTACHEMENT 20B – WICHIAN BURI EMERGENCY CONTACT NUMBERS AND LOCAL EMERGENCY SERVICES

Type of Medical service provider	No. of beds	No. of Emergency room	No. of Operation room	No. of Nurse	No. of Doctor	Basic medical equipment	Contact Number
Wichian Buri Hospital	150	1	2	90	10	X-ray =1, Blood bank Lab =1, Ambulance = 4	056-751319, 056-928169, 056-791269
Tarong First Aid Station	5	-	-	3	-	-	056-751629
Bo-Rang Health Center	2	-	-	1	3	-	056-718067
Na Samun First Aid Station	2	-	-	1	-	-	087-1124485
Si Thep Hospital	30	1	1	40	4	X-ray =1, Lab =1, Ambulance = 2	056-799467, 056-799498
Phetchabun Province Hospital	508	1	8	300	48	X-ray = 2 Blood bank =1 Ambulance= 2	056-717600-1

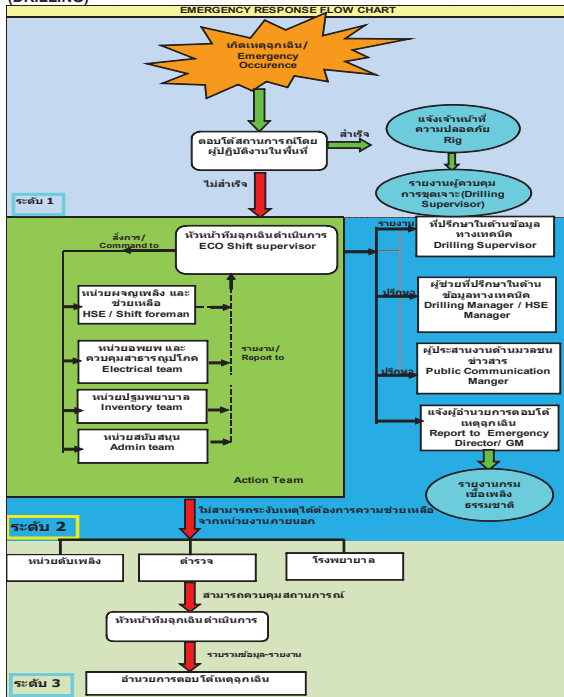
	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		


ATTACHEMENT 20B – WICHIAN BURI EMERGENCY CONTACT NUMBERS AND LOCAL EMERGENCY SERVICES (CONTINUED)

Name of Fire Brigade/ Police	No. of Fire Truck	No. of Water Truck	No. of Foam Truck	No. of Hose	No. of Portable Fire extinguisher	Other Equipment	Contact Number
Wichian Buri Police Station	-	-	-	-	-	Communication device available for police network - 30 staff	056-791306 056-792191 056-752225
Wichian Buri Municipality, Fire Brigade	4	1 x 1,000 L 1 x 2,000 L 1 x 6,000 L 1 x 12,000 L	40 Liter	1 1/2" = 7 2 1/2" = 2	Dry chemical 15 lb =15 Cylinders	Fire suit 7 suits	056-791388 ext 111
Si-Thep Police Station	-	-	-	-	-	- Communication device available for police network - 30 staffs	056-799365
Si Thep Municipality, Fire Brigade	1	1x 5,500 L	-	1 1/2" = 10 2 1/2" = 10	Dry 15 lb = 6 Cylinders	Fire suit 5 suits	056-799433

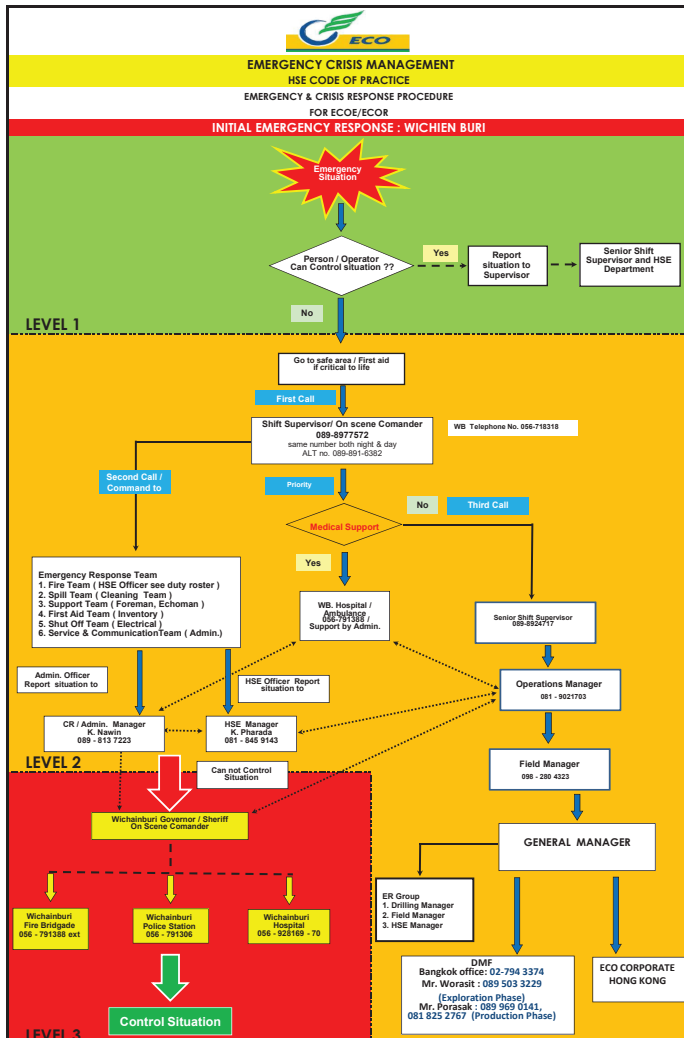
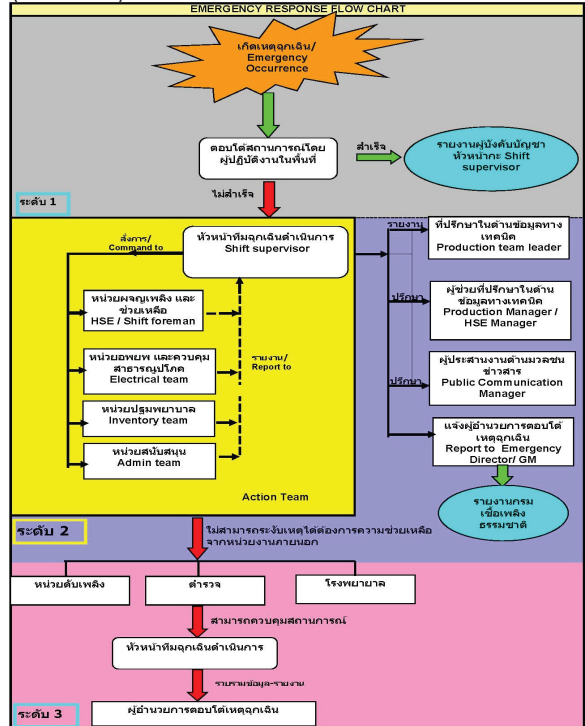
	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 21 A, WICHIAN BURI EMERGENCY RESPONSE DIAGRAM (DRILLING)



	Document / Rev No:	HSE-PM-001-Rev 0
THAILAND EMERGENCY RESPONSE	Revision Date:	25 July 2013
PROCEDURE MANUAL		

ATTACHMENT 21 B, WICHIAN BURI EMERGENCY RESPONSE DIAGRAM (PRODUCTION)




ภาคผนวก จ-2

การตรวจสอบเครื่องจักรอุปกรณ์



แบบฟอร์มการตรวจสอบเครื่องจักรอุปกรณ์



 HSE Wellsite Audit				Well Name (ชื่อน้ำมัน) : Date (วันที่):					
รายการที่ต้องตรวจเช็ค Checklist				Good ปกติ	Broken ผิดปกติ	รายละเอียดการ ผิดปกติ Broken Condition Description	การทำการ แก้ไข Corrective actions required	ผู้รับผิดชอบ Respondent	เสร็จวันที่ Estimated close out date
แหล่งพลังงาน Power supply									
1	Power cord สายไฟ ตรวจสอบว่ามีรอยฉีกขาด หรือไหม้								
2	Ground wire สายดิน มีการต่อสายดิน และ สายไฟกับแท่งสายดินต้องไม่มีหลุด หรือมีการฉีกขาดของสายไฟ								
3	Power plug extension ปลั๊กไฟ ตรวจสอบ ว่ามีรอยแตก หรือรอยไหม้ ปลั๊กกับเต้าเสียบ ต่อกันแน่นสนิท								
4	Cable tray รางสายไฟ ตรวจสอบรางสายไฟต้อง ไม่มีบิดเบี้ยวหรือแบน สายไฟ ต้องวางอยู่บนรางไม่หลุดออกมาข้างนอก								
หัวหลุม Wellhead									
5	Wellhead valve & stuffing box. วาล์วหัวหลุม ตรวจสอบวาล์วต่างๆ และ สดไฟฟุ้ง บล็อกสที่หัวหลุม ต้องไม่มีการรั่วซึม ปิดได้สนิท ตามจับต่าง ๆ ต้องอยู่ครบ								
6	Wellhead nameplate. มีป้ายบอกชื่อที่หัวหลุม								
7	Sampling point จุดเก็บตัวอย่าง วาล์วปิดสนิทไม่มีการรั่วซึม และมีคราบน้ำมันและสกปรกอยู่ตรงพื้นบริเวณที่เก็บหรือไม่								
8	Cellar grating ตะแกรงพื้นหัวบ่อ มีการติดตั้งไว้ให้ครบทุกหลุม หรือไม่ รวมทั้งหลุมที่ยังไม่มีได้ชุดเจาะด้วย อันที่มือยกก็ต้องปิดสนิท แข็งแรง ไม่มีรั่วให้ร่วงตกหล่น และควรตรวจดู รอยผ หรือสนิม								
9	Mouse hole grating ตะแกรงพื้นเมาส์โฮล มีการติดตั้งไว้ให้ครบทุกหลุม หรือไม่ รวมทั้งหลุมที่ยังไม่มีได้ชุดเจาะด้วย อันที่มือยกก็ต้องปิดสนิท แข็งแรง ไม่มีรั่วให้ร่วงตกหล่น และควรตรวจดู รอยผ								
10	Cellar หลุมใต้หัวบ่อ มีช่องเหลว น้ำมันสกปรก ซิงอยู่หรือไม่ ระดับ ช่องเหลวหรือ น้ำมันซึ่งสูงมากน้อยเท่าไร								
11	Flow line piping ท่อผลิตมีการรั่วซึมหรือไม่ รอยต่อข้อต่อต่าง ๆ แน่นสนิทหรือไม่								
บริเวณ แทงค์ผลิต Storage tank area									
12	Storage tank แทงค์ผลิต มีการรั่วซึมหรือไม่ บันไดมี ราวจับ และ สายดินต่างๆ มีติดตั้งไว้และอยู่ในสภาพดี หรือไม่								
13	Stack Storage tank ปล่องควันแทงค์ผลิต ใช้งานได้ดี หรือไม่								
14	Storage tank Burner เบอรันเนอร์ ที่แทงค์ผลิต ใช้งานได้ตามปกติ ไม่รั่ว								
15	Storage bundle แผงคอนกรีตรอบบริเวณ แทงค์ผลิต มีครบทุกด้านและ อยู่ในสภาพดีหรือไม่ ต้องไม่มีการแตก กระเทาะของปูน และการเจาะรู เพื่อป้องกันน้ำมันไหลออกนอกบริเวณ								
บริเวณโหลดน้ำมัน Loading Bay									
16	Ground rod แท่งและสายดินถูกติดตั้งไว้ถูกต้อง และไม่มีขาด หรือชำรุด								
17	Loading arm จวงโหลด สามารถหมุนอย่างสมดุลย์และใช้งานได้ตามปกติ หรือไม่ ต้องไม่หย่อนห้อย สามารถ หมนเก็บได้อย่างถูกต้อง								
18	Concrete pad ลานคอนกรีต ต้องไม่แตก และไม่มีสิ่งกีดขวางเส้นทางรถ และ ไม่มีคราบน้ำมันหยดเปรี้ยว								
สภาพแวดล้อมหัวบริเวณ Site location environment									
19	Fence รั้วรอบอาณาเขต เสาร์ต้องตั้งตรง และลดหนาม ไม่ถ่าง และ ขาด								
20	Main Gate ประตูทางเข้า มีป้อมยาม, ประตูกัน และยามมาประจำสถานที่ หรือไม่ ป้ายชื่อหลุม และป้ายเตือนต่างๆ ต้องมีครบ และอยู่ในสภาพดี ไม่แตกหัก สดหาย								
21	Waste pit ป่อพักน้ำเสีย ตรวจสอบสภาพบ่อคอนกรีต ต้องไม่แตกร้าวรั่วซึม และไม่มีขยะ								
22	Drainage & Oil trap ร่องระบายน้ำ และ บ่อดักไขมัน อยู่ในสภาพดีหรือไม่ ต้องไม่แตกหัก และไม่มีสิ่งกีดขวางเส้นทางน้ำไหล								
23	Flare bund & shield แนวกันไฟแฟลร์ พื้นและแนวกันต้องเป็นปูน ไม่มีการเจาะรู และ สามารถกันไม่ให้น้ำมันรั่วไหลลงสู่พื้นได้ สังเกตสีกันไฟ ควรอยู่ในสภาพที่ดี ไม่ผพัง หลุดลย และมี สลิ่ง								
24	Oil spill spot คราบน้ำมัน พบเห็นมีคราบน้ำมันหยด ตามพื้นรอบๆ อาณาบริเวณ หรือไม่ โดยเฉพาะบริเวณที่โหลดน้ำมัน และ บริเวณที่วางเครื่องปั้นไฟ								
25	Spill cleaning kits อุปกรณ์ทำความสะอาดคราบน้ำมันต้องมีอยู่ครบ และพร้อมใช้งาน ได้แก่ พลังกระแ่ง ถังทราย และผ้าดูดซับคราบน้ำมัน								
26	Waste bin มีถังขยะอยู่ภายในอาณาบริเวณ 2 ชนิด คือ ถังขยะทั่วไป และ ถังขยะปนเปื้อน ขยะที่นำมาทิ้ง ต้องคัดแยก และทิ้งลงถังให้ถูกประเภท								
27	Well site good housekeeping บริเวณบ่อผลิตไม่มีขยะและจัดของเป็นระเบียบ								
28	Toilet ห้องน้ำอยู่ในสภาพใช้งานได้ดี สะอาด								
29	Tree Planting มีการปลูกต้นไม้รอบอาณาบริเวณ								
อุปกรณ์ ความปลอดภัย Safety Equipment									
30	Fire Extinguisher ถังดับเพลิง อยู่ในสภาพพร้อมใช้งาน และตรวจดูแรงดันจากเกจว่ามีอยู่ในระดับที่ใช้งานได้								
31	First aid box & Eye washer ตู้ยาและ ที่ล้างตาฉุกเฉิน ต้องมียาและน้ำล้าง และอยู่ในสภาพพร้อมใช้งาน								
32	Wind sock & Safety sign กรวยลม อยู่ในสภาพดีไม่ขาด ป้ายความปลอดภัยอยู่ในสภาพที่ดีไม่ชำรุดเสียหาย								
33	PPE. พนักงานที่ปฏิบัติงานสวมใส่อุปกรณ์ความปลอดภัยครบ								
34	Access road ถนนพื้นที่ในบ่อผลิต ไม่เสียหาย								

ตัวอย่างการติดตามตรวจสอบ และซ่อมบำรุงของเจ้าหน้าที่



**OIL STORAGE TANK CHECKLIST**

DATE: 17-Jul-2023

LOCATION: L33-1

MECHANICAL ENGINEERING DOCUMENT

Doc No.

PROJECT NO.		AREA		Revision	0
TAG NO.	T-R2209	SYSTEM		Sheet	


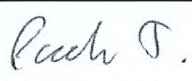
Checking Procedure:


- 1) Prepare permit to work and necessity facilities to work
- 2) Prepare equipment which is used for work preventive maintenance
- 3) Onsite PM practice by recognising & strict to HSE commandment
- 4) Take recording the inspection results in table below
- 5) Check the work area clean and tidy then call to Production Operator sign close permit to work document

JOB TASK	INSPECTED	
	YES	NO
1 Stairways, Ladders and Platforms	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1.1 Steelwork	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ตรวจสอบโครงเหล็ก		
1.2 Attachment welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ตรวจสอบแนวเชื่อม		
1.3 Pedestals	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ตรวจสอบชั้นบันได		
1.4 Handrail	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ตรวจสอบราวบันได		
2 Tank Roof	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.1 Perforations from rust	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ตรวจสอบรอยพรุนจากสนิม		
2.2 Seam inspect for leakage, crack and corrosion	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ตรวจสอบตะเข็บรอยเชื่อม การรั่วซึม รอยร้าว และการสึกกร่อน		
2.3 Handrail	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ตรวจสอบราวกันตก		
2.4 Bridging of frangible joints	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ตรวจสอบแนวเชื่อมขอบถัง		
2.5 Stack Vent	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ตรวจสอบอุปกรณ์ระบายอากาศ		

Remark:

TEST / VERIFIED BY	FOREMAN WITNESS BY	ENGINEER WITNESS BY	ENDORSED BY
		<i>Pach S.</i>	
DATE :	DATE :	DATE : 17/Jul/23	DATE :

		OIL STORAGE TANK CHECKLIST		DATE: 17-Jul-2023	
		MECHANICAL ENGINEERING DOCUMENT		LOCATION: L33-1	
PROJECT NO.		AREA		Revision	
TAG NO. T-R2209		SYSTEM		Doc No. 0	
Checking Procedure: 1) Prepare permit to work and necessity facilities to work 2) Prepare equipment which is used for work preventive maintenance 3) Onsite PM practice by recognising & strict to HSE commandment 4) Take recording the inspection results in the list as table below 5) Check the work area clean and tidy then call to Production Operator sign close permit to work document					
JOB TASK				INSPECTED	
				YES	NO
3 Tank Shell				<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.1 Condition of surface coating ตรวจสอบสภาพสีเคลือบถัง				<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.2 Corrosion and leakage of shell ตรวจสอบการสึกกร่อนและการรั่วซึมของถัง				<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.3 Denting and swelling of shell ตรวจสอบการบุบและการบวมของผนังถัง				<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.4 Weld condition ตรวจสอบสภาพแนวเชื่อม				<input checked="" type="checkbox"/>	<input type="checkbox"/>
4 Tank Foundation				<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.1 Corrosion of tank floor ตรวจสอบการสึกกร่อนของพื้นถัง				<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.2 Uneven settlement of tank ตรวจสอบการทรุดตัวของพื้นถัง				<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.3 Signs of leakage ตรวจสอบสิ่งบ่งชี้ว่ามีการรั่วซึม				<input checked="" type="checkbox"/>	<input type="checkbox"/>
5 Tank Fitting				<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.1 Distortion of connecting pipeling ตรวจสอบการบิดงอของท่อ				<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.2 Valve operation ตรวจสอบการทำงานของวาล์ว				<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.3 Pressure relief valve ตรวจสอบวาล์วลดความดันที่ถัง				<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.4 Cracks associated with nozzle and manhole ตรวจสอบรอยร้าวบริเวณท่อเข้า-ออก และช่องสำหรับคนเข้า				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Remark: 					
TEST / VERIFIED BY		FOREMAN WITNESS BY		ENGINEER WITNESS BY	
					
DATE :		DATE :		DATE : 17/Jul/23	
				DATE :	

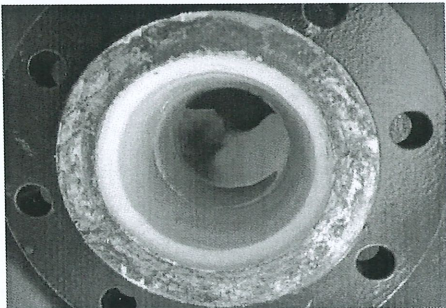

		OIL STORAGE TANK CHECKLIST		DATE: 17-Jul-2023	
		MECHANICAL ENGINEERING DOCUMENT		LOCATION: L33-1	
PROJECT NO.		AREA		Revision	0
TAG NO. T-R2209		SYSTEM		Sheet	

Checking Procedure:

- 1) Prepare permit to work and necessity facilities to work
- 2) Prepare equipment which is used for work preventive maintenance
- 3) Onsite PM practice by recognising & strict to HSE commandment
- 4) Take recording the inspection results in table below
- 5) Check the work area clean and tidy then call to Production Operator sign close permit to work document

JOB TASK	INSPECTED	
	YES	NO
6 Hydro Static Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6.1 Full Fill up water in oil tank เติมน้ำให้เต็มถึงน้ำมัน	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6.2 Held for 24 hr. ทิ้งไว้ 24 ชั่วโมง	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6.3 Check any leak ตรวจสอบหารอยรั่ว	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Figures

Remark:

TEST / VERIFIED BY	FOREMAN WITNESS BY	ENGINEER WITNESS BY	ENDORSED BY
		<i>Pach S.</i>	
DATE :	DATE :	DATE : 17/Jul/23	DATE :

ภาคผนวก จ-3

การฝึกอบรมด้านอาชีวอนามัยและความปลอดภัย



**Annual Emergency drill exercise Spill case / Fire case
and First Aid Case on 15 November 2023
At L44V – D3 well site**



Annual Emergency drill exercise Spill case / Fire case and First Aid Case on 15 November 2023 At L44V – D3 well site



Annual Emergency drill exercise Spill case / Fire case and First Aid Case on 15 November 2023 At L44V – D3 well site



Annual Emergency drill exercise Spill case / Fire case and First Aid Case on 15 November 2023 At L44V – D3 well site



Annual Emergency drill exercise Spill case / Fire case and First Aid Case on 15 November 2023

At L44V – D3 well site



Summary Inhouse Training 2023

หลักสูตร คปภ.ในการขับรถโฟล์คลิฟท์ รถยก

Safe work for Forklift - 10 Mar 2023

วันที่ 10 มีนาคม 2566



หลักสูตร ความปลอดภัยในการทำงาน+การจัดเก็บสารเคมีและการโต้ตอบกรณีเกิดเหตุฉุกเฉิน

Safe work for Chemical usage , handling and emergency response - 12 June 2023

วันที่ 12 มิถุนายน 2566



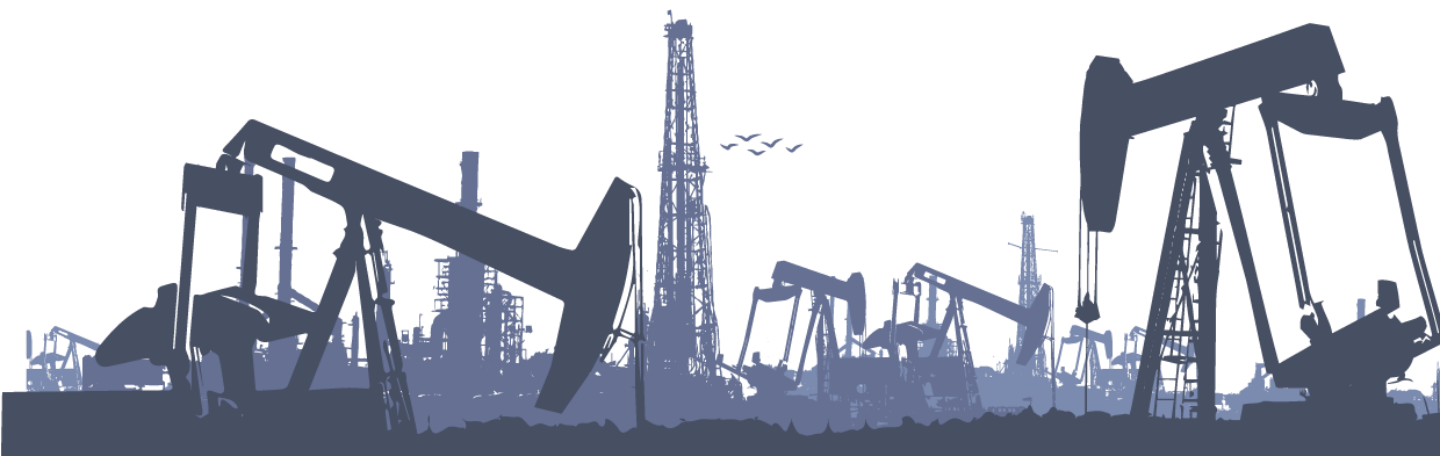
หลักสูตร ดับเพลิงเบื้องต้น

Basic Fire Fighting - 25 Sep 2023

วันที่ 25 กันยายน 2566



ภาคผนวก จ-4
ระบบบริหารงานด้านอาชีวอนามัย
ความปลอดภัยและสิ่งแวดล้อม





ECO ORIENT ENERGY (THAILAND) LTD
ECO ORIENT RESOURCES (THAILAND) LTD

Health Safety Environment
MANAGEMENT
SYSTEM

REVISION STATUS				
Rev	Date	Description	Originator	Approved
0	25 July 2013	First Working Version	HSE Manager	General Manager

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

FOREWORD

ECO Orient Energy (Thailand) Limited and ECO Orient Resources (Thailand) Limited ("The Company") recognises that effective health, safety and environmental management contributes significantly to its long-term business success.

This document sets out The Company's social and environmental management system. It emphasises the systematic approach in the way we manage our business activities and our belief that our performance can always be improved over time. The integration of social responsibility and environmental protection into our day-to-day activities is the key to successful management.

The application and success of this system requires the participation and commitment of management, employees and contractors at all levels.

This policy and management system has the Board's full support but we require your commitment through a personal understanding of this document and full participation in the effective implementation of the system.

It is imperative that everyone involved in the business of The Company familiarise themselves with their roles and responsibilities in this document. Only by total commitment by everyone can we ensure the best possible protection of our personnel, contractors, the public, our assets and the environment.

Signed

Poon Ka Lok

General Manager

Date: 25 July 2013

Area of Application

The policies and associated Safety Management System (SMS) apply to the activities of ECO Businesses in Thailand.

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Document Issue Record

Position	Location	Copy No	Issue Date
Paper Copies			
Corporate HSE Towngas	Hong Kong	01	
ECO HSE	Hong Kong	02	
All BKK Staff	Bangkok Server	03	
All WB Staff	Wichian Buri Server	04	


	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Safety Management System

ECO ORIENT Energy (Thailand) Ltd
ECO ORIENT Resources (Thailand) Ltd

Contents

SECTION 1: INTRODUCTION	1
SECTION 2: HSE POLICY & OBJECTIVES	4
SECTION 3: ORGANIZATION AND RESPONSIBILITIES:	5
3.1 MANAGEMENT STRUCTURE AND ORGANIZATION CHART	5
3.2 PERSONNEL RESPONSIBILITIES	5
3.2.1 Senior Management	5
3.2.2 Field Management Team	5
3.2.3 Field Support Team	10
3.3 EMPLOYEE RECRUITMENT, SELECTION AND INDUCTION	11
3.4 EMPLOYEE TRAINING AND DEVELOPMENT	12
3.5 EMPLOYEE PERFORMANCE APPRAISAL	12
3.6 EMPLOYEE COMPETENCE ASSURANCE	13
3.7 MANAGEMENT OF CONTRACTORS	14
3.8 PROCUREMENT OF EQUIPMENT AND SERVICES FROM CONTRACTORS AND SUPPLIERS	14
3.9 WORKFORCE INVOLVEMENT AND COMMUNICATION	15
3.10 DOCUMENT CONTROL, REVIEW AND UPDATE	16
SECTION 4: PLANNING AND IMPLEMENTATION	17
4.1 ECO ORIENT ENERGY BUSINESS PROCESSES	17
4.2 HAZARD AND RISK MANAGEMENT	18
4.3 HSE COMMUNICATION	19
4.3.1 Safety Consultation	19
4.3.2 Management Safety Meetings	19
4.3.3 Worksite Pre-Job Discussions	20
4.3.4 Hazard Reporting by the Workforce	21
4.3.5 Safety Alerts and Safety Information	21
4.4 OCCUPATIONAL HEALTH STANDARDS	22
4.4.1 Employee Occupational Health Standards	22
4.4.2 Substance Abuse	22
4.4.3 Control of Substances Hazardous to Health	22
4.5 STANDARDS AND PROCEDURES	23
4.6 EQUIPMENT EXAMINATION	23
4.7 MAINTENANCE SYSTEM	24
4.8 PERMIT TO WORK SYSTEM	24
4.9 MANAGING WORKING TIME	25
4.10 MANAGING FIRST AID	25
4.11 MANAGING INCIDENT REPORTING AND INVESTIGATION	25
4.12 CONTINGENCY PLANNING AND EMERGENCY RESPONSE	26
4.13 MANAGING ENGINEERING DESIGN AND CONSTRUCTION CHANGE	27


	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

SECTION 5: PERFORMANCE MEASUREMENT	28
5.1 ACTIVE SAFETY MONITORING	28
5.2 REACTIVE MONITORING	28
SECTION 6: REVIEWING HEALTH AND SAFETY PERFORMANCE	30
6.1 MANAGEMENT PERFORMANCE REVIEW	30
SECTION 7: SMS AUDITS.....	31
7.1 SMS IMPROVEMENT PLANS.....	31
APPENDIX 1: ECO ORIENT BUSINESS ACTIVITY LISTINGS	32
APPENDIX 2: DOCUMENTATION STRUCTURE	33
APPENDIX 3: LIST OF HSE DOCUMENTS	34

List of Figures

Figure 1: The POPMAR Management Model	2
Figure 2: Organization Chart June 2013	6

4

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Section 1: Introduction

The management of health and safety and the protection of the environment, by industry in Thailand, has evolved along with technological and management change. This Health Safety and Environment Management System (SMS) provides a **structured** approach to the way we manage safety and environmental issues. It identifies individual responsibilities in respect of who does what, when and how against policy, objectives and business activities to ensure the creation, implementation and maintenance of safe systems of work in a safe working environment.

1.1 This Document

The SMS represents the Company's corporate management standards for health, safety and environmental management performance. It includes the underpinning standards and instructions referred to in the document and listed in the Document Management System in Appendix 1. The structure of The Company's SMS documentation is illustrated in Appendix 2.

Implementation of the SMS will result in the health safety and environmental risks arising from the Company's activities, being effectively managed, to ensure that they are reduced to **as low as reasonably practicable (ALARP)**. This will also ensure **compliance** with all the relevant statutory requirements applying to the Company.

The SMS is a controlled document and the custodian is the **General Manager**. It will be reviewed periodically with the assistance of HSE Manager.

1.2 Background to Health, Safety and Environment Management

The Company will strive for world class HSE performance at its operations in Thailand. The company's Management Team and Board of Directors all bring with them experience from larger international Operating companies. This experience will be employed at its operations in the creation and maintenance of a fit-for-purpose HSE Management System.

1.3 The HSE Management Model

The Health Safety and Environmental management model, based on HSG 65, is illustrated in Figure 1. The aim is not only to provide effective policies and procedures but also to incorporate the necessary management control systems to ensure that they are being applied correctly. Improving performance is achieved by management monitoring and feedback. The **Risk Assessment** process (See Section 4.2) compliments the overall HSE policy.

1.4 The HSE Management Principles

Policy and Objectives:


The Company's Health, Safety and Environmental Policy (see Section 2.0) sets out the overall statement of policy along with its objectives for health and safety management.

Organizing:

The effective implementation of the management system requires a clear company organizational structure, with staff at all levels committed to the implementation and having an understanding of all the following requirements to achieve success:

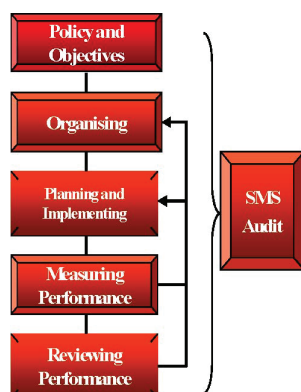
- an explicit organizational structure
- identification of safety critical activities & resultant tasks

1

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

- ensuring personnel are competent to carry out assigned tasks
- clearly defined roles, responsibilities and accountabilities
- distinct lines of communication
- effective management and integration of contractors.


Figure 1: The POPMAR Management Model



Planning and Implementing:

Planning for safety and environmental protection involves the identification of The Company's business activities and identifying the associated hazards, risks and control measures required. For the major safety critical activities, the hazards and risks associated with the activity are identified, controls defined, performance standards set and roles, responsibilities and competency standards defined.

Implementation takes the results of the planning phase and puts in place the systems, controls, procedures and performance measures to eliminate or control identified hazards and risks. As required by health and safety legislation, wherever possible, risks are eliminated by the use of engineering controls through selection and design of facilities and equipment and through physical control measures. Where risks cannot be eliminated in this ways, then safe systems of work, selection, training and competence of individuals and occupational health measures, including personal protective equipment, are used.

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Measuring and Reviewing Performance

HSE performance measurement is based on the comparison of actual performance against the standards for each key activity. Performance is also assessed by the analysis of SMS audits, planned inspections and incident statistics. Performance is fed back to management and used as part of the performance review process.

Management of Health Safety and Environment is the day-to-day responsibility of managers and supervisors. Their own HSE commitment and performance will be the **major influence on the success in achieving the Company's objectives**. This involves **them monitoring the standards of performance of hardware, systems and personnel**.

The objective of monitoring is not only to identify sub-standard performance but also to determine the underlying causes and implications. This allows for action plans to be developed and through their implementation, the improvement in safety performance.

Audit

Auditing is a structured and formal process for the evaluation of the implementation and effectiveness of the overall SMS against the laid down objectives, goals and performance standards.

Audit is an independent review of the SMS, including each of the key elements. The auditor assesses how the system complies with The Company's requirements, and compares the SMS with accepted industry standards.


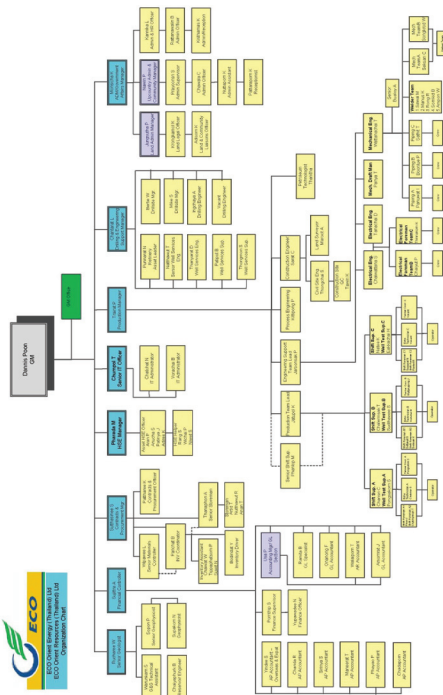

 Health Safety and Environment MANAGEMENT SYSTEM	Document / Rev No: Revision Date:	ECO-HSE-001-Rev 0 25 July 2013
--	--------------------------------------	-----------------------------------


Figure 2: Organization Chart June 2013



6

 Health Safety and Environment MANAGEMENT SYSTEM	Document / Rev No: Revision Date:	ECO-HSE-001-Rev 0 25 July 2013
--	--------------------------------------	-----------------------------------

Section 2: HSE Policy & Objectives



Health, Safety and Environment (HSE) Policy

ECO & ECOM pledges to conduct its operations in a manner which poses no risk to the health, safety and environment of its employees, contractors, the public at large and to make every effort to protect the environment and ensure sustainable development.

Therefore, ECO & ECOM strives to achieve the following HSE objectives:

- To ensure health & safety of all employees and contractors
- To achieve a standard of zero accident, a high standard of environmental care through continuous improvement
- To eliminate HSE hazards in its operations, facilities and projects
- To carry out necessary HSE activities to all major projects and to conduct periodic HSE audits to ensure compliance
- To ensure that all employees and contractors are trained through education and training
- To achieve full compliance with all relevant legislation, standards and regulations
- To promote economic recycling of materials and conserve resources.

We ask that managers ensure that this policy is fully explained to and then observed by subordinates and by all contractors under their supervision. Managers' performance is judged, in part, by the HSE performance of their unit.

All employees and contractors are responsible for:


- Assuring their own health and safety and the health and safety of others
- Following HSE rules and procedures and obeying statutory HSE regulations;
- Exercising professional judgment and cautionness in order to identify and eliminating HSE risks in their work environment.

The HSE Department is responsible for the development and periodic review of this policy, for providing HSE information, training, programmes and training courses, for distributing HSE information, for monitoring and auditing the performance of this Policy. The HSE Department is also responsible for ensuring that all employees and contractors are trained and implement this Policy.

We ask that all employees actively support this Policy and do all they can to fulfill its objectives.

Room K-1 Ask
General Manager
1 February 2013
Issue No.1

4

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment MANAGEMENT SYSTEM	Revision Date:	25 July 2013

Section 3: Organization and Responsibilities:

3.1 Management Structure and Organization Chart

The effective implementation of the HSE Management System requires a clear company organizational structure, with staff at all levels understanding their respective roles and lines of communication together with their commitment to its implementation.

The continuing success of the Company and its subsequent growth has called for reorganization, as shown in Figure 2.

The major changes have been applied to the field operations which is organized to bring greater focus on meeting the Company's production volume targets, as well as driving ownership down into the organization.

3.2 Personnel Responsibilities

Each employee within the Company has a role to play with regards to health, safety and environment. Personnel at all levels are required to understand their respective roles and responsibilities within the HSE Management System and be committed to implementation of this system as specified in this document.

3.2.1. Senior Management

General Manager


The General Manager has ultimate responsibility for the performance of the Company and is in charge of developing the organization and controls to achieve the corporate objectives to ensure that all activities under his control are conducted in compliance with the relevant statutory provisions. The General Manager is also responsible for providing direction and guidance for all business activities and for safeguarding and communicating Company's principles and policy on HSE ensuring that the necessary resources are provided and that appropriate actions are taken to effectively implement and maintain the requirements of the HSE Management System.

Production Manager

The Production Manager oversees the Field Management Team and reports to the General Manager. He is responsible for upholding the implementation of the HSE procedures and delegating responsibility to Production Team Leaders and Senior engineers ensuring they are competent and capable of carrying out their work to the required standard. The Production Manager's primary role is to:

- Account for production, sales and the proper disposal of all waste fluids streams (gas and water), as required by local regulations.
- Motivate staff, promote their growth and fully participate in the career planning and competence development process including HSE training;

5

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment MANAGEMENT SYSTEM	Revision Date:	25 July 2013

- Ensure appropriate management controls and processes for operations activities (including HSE) are established and deployed in an effective and efficient manner and regularly appraised in order to achieve objectives and reach targets.
- Develop and implement HAZOPs plans;
- Comply with Thai Regulations and other relevant industry standards.

Drilling Manager

Drilling operations are controlled by the Drilling Manager. The site location will determine which Asset this comes under. The Drilling Manager is directly responsible to ensure all industry standards specified in the Company's HSE procedures are being applied and HSE policy and procedures cascaded down to subordinates and contractors. Other HSE responsibilities include:


- In coordination with the HSE Manager and Asset HSE Officer, performing frequent site checks on processes, equipment, rig working conditions and HSE standards.
- The supervision of contractors in applying the required procedures for safe operations with regards to all drilling activities especially blowout prevention; handling and storage of hazardous substances such as chemicals, radio-active sources and disposal of hazardous waste.
- Perform regular safety drills to ensure emergency preparedness.
- Responsibility in case of an emergency and initiate all required actions in accordance to the emergency response procedures.

HSE Manager

The HSE Manager assisted by the Asset HSE Officers is accountable for establishing a good environment, safe and healthy workplace by monitoring the standards, communications, training, processes and systems to ensure the HSE Management System is effectively implemented and that performance levels are aligned with the Company's HSE targets and objectives. The key enabling functions to achieve this are:

- Provision and promotion of suitable information concerning HSE policies and practices;
- Establishing HSE objectives and targets and monitoring performance;
- Ensuring all activities are performed in accordance with the HSE Management System meeting all the goals, standards and as required by law;
- Preparation and consultation with personnel on improving HSE standards, standing instructions and safe operating procedures;
- Prevention, precautions and adequate control against exposure to hazardous substances and danger from flammable, explosive, electrical, noise, radiation and equipment handling risks;
- Provision and supervision of emergency exercises, first-aid facilities, safety signs, relevant protective clothing and equipment, and incident reporting to the relevant authorities;
- Liaison and consultation with organizations and relevant authorities for assistance and cooperation in HSE issues.
- Participation and development of HAZOPs / corrective action plans and ensuring follow up and close out.

7

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

3.2.2 Field Management Team

Production Team Leader and Engineering Support Team Leader

Both Team Leaders has total responsibility for all HSE issues and coordinating with the Support Team to supply their respective services to all Company's Assets and is responsible for supervising all activities which may pose a risk to health, safety and environment to ensure they are completed in a safe manner without damage to the environment by:

- Ensuring all subordinates follow HSE procedures at all time;
- Act as the focal point of liaison between Asset HSE officers to ensure all operational requirements are met and carried out in accordance to the SMS;
- Ensuring the safety and welfare of field staff employees, contractors and all visitors to the Company's Assets;
- Meeting HSE targets and objectives, as specified by HSE Manager;
- Creation & implementation of field policies and procedures;
- Creation and development of safe working procedures;
- Assuming on-site responsibility in case of an emergency and initiate all required actions.
- Reporting all incidents, accident or spills immediately to Production Manager.

Senior Engineer

Senior Engineer's roles with regards to HSE include to:


- Integrate health, safety and environment in the design and specifications of construction and production sites by adopting and adhering to the relevant industry standards, as specified in the appendices of this document and environmental impact assessment (EIA) report;
- Approve the quality of design and engineering prior to construction and installation;
- Perform regular inspections during construction and installation to ensure approved designs are adhered to;
- Perform pre-start-up safety review and inspection of all equipment prior to commissioning;
- Administer preventative maintenance;
- Reporting all incidents, accident or spills immediately to both Team Leaders and Asset HSE Officer.

Senior Shift Supervisor

The Senior Shift Supervisor is responsible for supervising the field operators and contractors to ensure they are completed in a safe manner and adhered to the Company's HSE policy and procedures without damage to the environment by:

- Cascade the HSE policy and procedures down to subordinates and contractors to improve HSE awareness among staff and contractors;
- Ensuring all subordinates and contractors follow HSE procedures at all time;
- Supervising all subordinates and contractors in meeting HSE targets as specified by HSE Manager;
- Ensuring all possible precautions are taken to prevent incidents from happening or escalating and scheduling activities in such a way that no conflicting or potentially hazardous situations arise;

8

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

- In coordination with the Asset HSE Officer, performing frequent site checks on processes, equipment, plant working conditions and safety standards.
- Act as emergency team leaders;
- Reporting all incidents, accident or spills immediately to both Team Leaders and Asset HSE Officer.

Shift Supervisor

The Shift Supervisor is the delegated person to check and control the on-site Permits to Work system and ensure that safe job executions. He reports to the Senior Production Shift Supervisor and shares the same HSE responsibilities.

Shift Foreman

The Shift Foreman is a member of the emergency response team (ERT) / on scene commander in case of an emergency. His roles also include:

- Monitoring of chemical injection operations and performance. Ensuring relevant safety precautions are taken with regard to chemical handling, storage and disposal.
- Maintaining an awareness of HSE issues at all times and immediately reporting any unsafe or unhealthy acts or conditions to his supervisor, if it is not possible to take action himself.

Production Operators

Each Production Operator is responsible for the maintenance of their designated sites by:

- Maintaining cleanliness and housekeeping at all times;
- Reporting all incident/accident/spills immediately to his field foreman or shift supervisor.

Refinery Supervisor


The Refinery Supervisor acts as a company representative, supervising crude oil loading at the refinery. He is responsible for ensuring all activities are carried out safely and in an environmentally acceptable way and that the Company's HSE policy is cascaded down to contractors. He is also tasked with:

- Ensuring competent staff operates the facilities and develops skills where necessary. Acting as mentor and "on the job" trainer for staff under control. Assisting in developing staff competency level.
- Improving safety awareness among staff;
- Assuming on-site responsibility in case of an emergency and initiate all required actions.

Refinery Operator

- Follow up on crude oil loading & HSE procedures at the refinery and ensure HSE regulations are adhered to;
- Maintain an awareness of safety with the road tanker drivers and immediately report any unsafe act or conditions to his supervisor, if it is not possible to take action himself;
- Reporting all incident/accident/spills immediately to his supervisor.

9

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Crude Loading and Tanker Coordinator

- Report spills immediately to his supervisor;
- Maintain safety awareness with the tanker truck drivers and take action and immediately report any unsafe acts to his supervisor.
- Carry out & minute of HSE meetings for tanker trucks on a monthly basis

Asset HSE Officers

Asset HSE officers assist in managing the overall HSE assessment process and provide specialist HSE services including to:

- Perform regular onsite audit inspections all operational phases (site construction, drilling, testing and production) to monitor compliance and report results to the Production Team Leader;
- Arrangement and coordination of site inspection and audits and timely assessment of risks to HSE and implementation of measures identified prevent or reduce further occurrences;
- Participate and conduct HAZOP, root cause analysis (RCA) studies / corrective action plans and execute as required, ensuring all non-compliance issues are addressed and closed out;
- Perform regular inspections of contractor's equipment;
- Educate and train staff within the Assets, using toolbox talks etc;
- Investigation of all reported incidents;
- Conduct the dust control and road cleaning program;
- Support road show and community relation activities;
- Reporting and documentation of all HSE matters.
- Be a part of the emergency response team (ERT).


3.2.3 Field Support Team

Upcountry Administration & Community Manager

The Administration Manager assisted by the Upcountry Administration & Community Manager and Land Administration Manager are accountable for the site procurement and community relation. In coordination with the Land & Legal Officer and Land & Community Liaison Officer, their health and safety responsibilities include:

- Ensuring all subordinates follow HSE procedures at all time;
- Ensuring all emergency contact numbers of the emergency response team and local emergency services are updated and available to all staff;
- Coordinating with Asset HSE Officers to distribute health, safety and environment information to staff;
- Coordinating with Asset HSE Officers with regards to health, safety and environment in the office, staff accommodation and for the Company's vehicles;
- Coordinating with Asset HSE Officers for PPE equipment;
- Providing specific health and safety training to personnel so that they are competent and capable of carrying out their work to the required standard and as required by regulations;
- Provision and supervision of all security issues;

10

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

- Reporting all incidents, accident or spills immediately to Production Team Leader and Asset HSE Officers.
- Conducting the road show activity for the villagers in the areas of sensitive receptors;
- Recording all complaints in the log sheet and coordinating with relevant parties for clarification and reducing any conflicts between the company and nearby communities.

All Employees

All employees are encouraged to actively engage and participate with line management and supervisors in the implementation of and compliance to the requirements of the HSE Management System.

3.3 Employee Recruitment, Selection and Induction

Recruitment and Selection

The Company has procedures in place to ensure that all approved vacancies are filled by individuals with the appropriate qualifications and experience to fulfill the requirements of the position. All recruitment and selection is undertaken in accordance with the relevant legislation.

The management goals for recruitment and selection are to:

- conduct recruitment and selection in line with good practice and legislation;
- identify the best candidate for the position using job description, competence profile, and structured interview.

Induction

The company recognizes that communication and dissemination of information, rules and regulations is essential for any new employee. This is a staged process, as follows:

- initial induction with personnel which includes HSE awareness, fire, first aid and evacuation procedures as well as day-to-day personnel issues; This will be oriented by Asset HSE Officer.
- departmental induction by line management which includes pre-job discussions.


The management goals for induction are to:

- provide sufficient information specific to the job so that the individual is competent to perform the work in a safe and efficient manner;
- provide every new employee with general information on the Company;
- provide every employee with all necessary health and safety information including a general awareness of the Safety Management System.

Management performance standards for recruitment and selection:

- objective evidence that recruitment and selection processes and procedures have been successful;
- record of the induction, endorsed by the employee;
- personnel are fully aware of the information provided during inductions.

11

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Management responsibility for meeting performance standards:

- General Manager/ Managers

3.4 Employee Training and Development

The company recognizes the importance of the training and development of its entire staff in order to maintain and improve standards of performance and to maximize individual employee development.

Management goals for training and development:

- to train and develop employees, as necessary, against the requirements identified by performance appraisal and competence assessment and maximize their contribution to the Company;
- to ensure that employees maintain up-to-date knowledge of their specialist discipline and are aware of technological changes/advancements in their particular area.

Specific Health Safety and Environmental Training

Specific HSE training is conducted as necessary and is specifically targeted to the requirements of the employee and his job. Specific HSE training includes, but is not limited to:

- specialized fire and first-aid training;
- health, safety and environmental legislative training;
- training in the specific elements of the Safety Management System
- Instructors of training courses will be both recognized private organization and government officers.
- Training requirement for concerned will be provided per HSE-PM-013.

Management performance standards for HSE training:

- identification of competence development requirements for all employees and the relevant training to address these requirements;
- evidence that training and development has been completed by individuals;
- maintenance of records for training & development.


Management responsibility for HSE Training:

- The Asset HSE Officers are responsible for finding the interesting courses together with the effective trainers to provide the training for all personnel in the oilfield to keep filling the gap of improvements on safety awareness.

3.5 Employee Performance Appraisal

The Company has a formal performance appraisal process which is conducted on an annual basis. The immediate supervisor reviews the past performance of the employee against previously set objectives and determines the objectives for the forthcoming year. Individual career development and direction is discussed, as is training and development needs. From this, an individual training and development plan is developed, which is also linked to any competence development needs identified during the performance appraisal review.

12

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

needs, including on-the-job training, professional training schemes, training using the procedures and equipment supplier training;

- maintaining the required competence level by re-validation, updating skills to take account of advancing technologies, refresher training and exercises/drills, as appropriate;
- maintaining a record of the competence assurance process for each individual and documenting all findings.

Management performance standards for competence:

- implementation of job descriptions and required competence levels;
- documentation confirming competence level achievement;
- documentation up to date and signed off by line management.

Management responsibility for competency for employees:

- General Manager / Managers

For The Company's employees, the respective line manager is accountable for their development and training to ensure that they are competent before assigning them responsibilities.

3.7 Management of Contractors

The Company utilizes specialist contractors and materials suppliers to carry out certain operations and for the supply of equipment. The processes of hiring and managing contractors to ensure that The Company's HSE policy is complied with will depend on the tasks to be performed and the hazards posed. Safety critical tasks and equipment will be targeted as being crucial for management to address. The Company's contract procedures will be followed for contract placement.

The relevant manager responsible for hiring the contractor will assess whether the tasks, or equipment, being tendered for, are safety critical. If they are assessed as such, then the tender document will insist on the following management goals being achieved:


The management goals for contractor management are to:

- assess whether the contractor has a Health Safety and Environment Management System that complies with The Management of HSE Regulations and is capable of being interfaced with The Company's SMS;
- assess the contractor's HSE Management System for standards that are commensurate with the level of risk to be imported;
- assess the level of contractor compliance with their own procedures;
- assess the commitment of the contractor management to The Company HSE's requirements;
- approve / qualify contractors meeting the required standards;
- determine the on-going performance of the contractor;
- provide a database of information on contracting companies for future use.

3.8 Procurement of Equipment and Services from Contractors and Suppliers

As part of the SMS policy and procedures on procurement, The Company only purchases approved equipment from qualified suppliers. The requisitioning manager is responsible for the relevant technical specifications and information, safety and quality assurance requirements, delivery programme and vendor pre-qualification.

14

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Management goals for performance appraisal:

- to give a constructive overview of achievement over past year;
- to evaluate effectiveness of the individual's performance against their set objectives;
- to review training undertaken over past year and its effectiveness;
- to identify future training and development needs;
- to set objectives for the forthcoming year;
- to discuss individual's future career development and aspirations;
- to record performance and outcome of performance appraisal.

Management performance standard for performance appraisal:

- completion of annual performance assessments for all employees.

Management responsibility for performance appraisal:

- General Manager /Managers

3.6 Employee Competence Assurance

The effective management of health, safety and environmental risk relies on the competence of all the personnel engaged in operations. Competence is defined by an employee or a contractor having suitable skills, experience and training in order for them to carry out their responsibilities safely and effectively. This requires not only professional, technical and personal skills but also the necessary HS&E awareness to ensure that the role is carried out without endangering the individual, others, property or the environment.


Competence assurance is an ongoing process and begins prior to recruitment and selection and continues throughout an individual's employment with the Company. It comprises of a number of elements:

- the individual's job description which defines the activities to be carried out;
- the individual's competence profile, i.e. competence levels required to conduct those activities and responsibilities against the performance standards required by the Company;
- the individual's competence assessment, i.e. validation of skills, on-the-job assessment, performance appraisal, signed off by the line manager;
- the development and maintenance of an individual's competence, i.e. training, re-validation, updating.

Management goals for competency for employees and contractors

- the clear understanding by all employees of the work to be carried out using their job descriptions, which include accountability to others, responsibility to others, main tasks, HSE responsibilities, qualifications and experience, and personal attributes;
- developing levels of competence against each task and responsibility within the job description;
- conducting competence assessment on a regular basis, using on-the-job assessment, satisfactory completion of training, performance appraisal;
- ensuring that each employee is involved throughout the competence assurance process and understands and resolves any areas of competence shortfall;
- developing an individual training and development plan linked to competence development

13

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

The management goals for the procurement of equipment and materials are to:

- ensure that The Company safety procedures Contractor Safety (HSE-PM-014) are complied with throughout the procurement process;
- purchase only approved equipment from qualified suppliers against specification and performance standards.

Management performance standards for the management of contractors and procurement of equipment:

- standards and procedures for selecting and monitoring contractors are in place and that they are being utilized effectively;
- effective and suitable arrangements are used for controlling purchasing of equipment and materials.

Management responsibility for the management of contractors and procurement of equipment:

- General Manager/ Procurement Manager

3.9 Workforce Involvement and Communication

(See Section 4.3 for detail on managing HSE communication.)

Involvement in Procedures and Work Instructions

Involving the workforce in the development of procedures and work instructions is crucial to their relevance and utilization. Wherever possible, line managers, including supervisors will consult with their colleagues and the HSE Manager, during the preparation of procedures and work instructions.

Involvement in Incident Reporting and Investigation

In line with the Company policy and objectives, employees at all levels may be required to be involved in the investigation of incidents per Accident investigation report procedure (HSE-PM-002). The level of involvement is defined in the investigation procedure but in all cases maximum use will be made of specialist employee knowledge when identifying direct and indirect causes of incidents and determining the actions to prevent recurrence.

Involvement in Management Safety Meetings

See section 4.3 for The Company policy and performance standards for safety meetings.


Involvement in Pre-Job Discussions

The objective of these meetings is to ensure that all members of a work team understand the hazards, controls (PTW etc.) procedures, work instructions, are familiar with the work environment, have the correct tools and equipment and are competent to carry out the work.

Involvement in SMS Inspections and Audits

The inspections and audits required by the SMS (see Section 5) require the participation of the workforce to demonstrate their understanding of the system. The quality of audit reports relies on accurate feedback from the workforce. It should be recognized as a positive exercise, as the results of these audits provide the basis for performance improvement.

15

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

3.10 Document Control, Review and Update

Maintenance of SMS Documentation

In order to ensure that the content of the SMS is maintained current with regard to legislation, industry standards and company requirements, the SMS documentation is controlled. The Company SMS document structure is shown in Appendix 2 and the master SMS document listing is contained in Appendix 3. The custodian for the SMS overall is, on behalf of the Chief Executive Officer, the General Manager, HSE Manager.


Management Goals

- SMS documentation is maintained in accordance with HSE document control procedures;
- revisions are originated, reviewed and approved at the appropriate level;
- documentation is issued in a controlled manner;
- the SMS documentation complies with current legislation.

Review and Update

- Requests to amend the SMS should be addressed to HSE Manager and will be approved by the Chief Executive Officer and/or General Manager during the annual review of the SMS.

16

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

- manage well performance;
- manage tanker operations;
- plan and execute inspection and maintenance;
- procure and control materials, equipment and services;
- modify facilities;
- provide health, welfare and emergency services;
- environmental and waste management;
- manage office and warehouse facilities;
- abandonment and decommissioning.

Managing Production Well Intervention Operations

- well programme design, planning and execution.

Within each of these business processes there are numerous activities that generate hazard potential and the requirement to manage the risks. These are managed by the introduction of written controls, either generic standards or project-specific procedures. All of the controls are controlled documents under the SMS (see Appendix 3 for the master listing). The general principles of the risk management process are described in Section 4.2.

4.2 Hazard and Risk Management

The Company requires that risk assessments be undertaken to ensure that it complies with any relevant statutory provisions and thereby reduce the risks so far as reasonably practicable.

The Risk Management Process

Risk management consists of the following activities:

Hazard Identification, Risk Assessment, Control and Mitigation

Identifying the Hazards

A hazard is defined as something with the potential to cause harm. The techniques used to identify hazards depend on the nature and complexity of the operation or activity. They could range from observation and recording to the use of specialist techniques such as HAZOP/HAZID.

Assessing the Risk

- Risk is defined as the likelihood that the harm from a particular hazard may occur. The level of risk is dependent on the frequency of exposure to the hazard, the potential severity and the probability that the hazard will be realised.


Managing Risk

Eliminating the risk is the preferred option. If risk cannot be eliminated, then reducing the risk to an acceptable level will be achieved through the identification and implementation of control measures.

Mitigation Measures

In the event of failure to manage risk then contingency plans are developed to minimize loss.

18

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Section 4: Planning and Implementation

Planning and implementation of the Safety Management System is integrated into the management of the normal business activities of the Company. The listing of the main risk generating activities, typical of any upstream oil operating company, are summarized below. These activities will be managed by utilizing the controls and standards referred to in the Business Processes Listings contained in Appendix 1. The controls and standards listed there represent the Company's corporate policy for managing the activities and thereby for reducing the risks to as low as reasonably practicable.

A number of specific management activities that relate to health, safety and environmental issues are included below the business processes in this section.

4.1 ECO Orient Energy Business Processes

Managing Seismic Operations

The following summarizes the activities that would be undertaken by the Company in connection with seismic operations:

- prepare for seismic operations;
- execute seismic operations.

Managing Exploration, Appraisal and Development Well Operations

The following summarizes the activities that are undertaken by the Company in connection with exploration and appraisal drilling operations:

- well design and planning;
- prepare drilling facilities and worksite;
- well construction and handover (or abandonment);
- management of well equipment and materials;
- selection and management of contractors;
- logistics management;
- environmental and waste management;

Managing Facilities Design and Installation

The following summarizes the activities that are undertaken by the Company in connection with the development of existing or new field(s):


- prepare field development plan and a basis for design;
- prepare a field development specification and implementation plan;
- preparation of detailed design;
- procure and control material, equipment and services;
- construct and commission facilities.

Managing Production Operations

The following summarizes the activities that are undertaken by The Company in connection with production operations:

- plan and execute field activities;

17

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

The management goals for risk management are:

- to carry out hazard identification and risk assessments at work sites; by area supervisors/manager with advising from HS department.
- to ensure hazard identification and risk assessment is carried out by personnel with appropriate training and experience;
- to establish acceptable levels of risk;
- to prioritize the identified hazards by the risks presented;
- to develop achievable action plans for the reduction of risk;
- to measure progress against the action plans;
- to review the assessments when conditions significantly change;
- to develop contingency plans to deal with emergency events.

The management performance standards for risk management:

- completion of hazard identification, risk assessment and development of controls for business processes and specific projects/assets;
- evidence of an effective approach to and implementation of controls;
- evidence of hazard identification and risk assessment in the design of new facilities or equipment;
- effective contingency plans.

Management responsibility for risk management:

- General Manager/ Production Assets Managers/ HSE Manager

4.3 HSE Communication

Efficient communication, both up and down the organization, is essential for the SMS and other management systems to function effectively. The communication structure is designed not only for the passage of information but to motivate people through their involvement and understanding. It is recognized that well motivated employees will contribute more towards the overall success of the Company.

4.3.1 Safety Consultation

The management goals for safety consultation are:

- to arrange a consultation;
- to provide the information required under regulations.


The performance standards for safety meetings are:

- HSE Committee meeting procedure HSE-PM-015 in place and functioning effectively;
- information required under regulations is provided to the workforce.

4.3.2 Management Safety Meetings

Safety meetings are essential for assessing HSE performance, for involving the workforce and as a means of expressing management commitment to the safety culture. The following formal meetings will be held. The purposes of the meetings are to review health, safety and environmental performance and to seek improvements.

19

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Site Management Safety Meetings

The site management meetings will be held monthly at Wichian Buri, and will follow a structured process chaired by the chairman of HSE Committee. The meetings will be minuted and the actions arising will be recorded, with responsibilities for the actions identified. The secretary of HSE Committee will collate the actions and assigned responsibilities register.

Corporate Safety Meetings

Corporate safety management meetings will be held annually and will be chaired by the **General Manager**. The meeting minutes will be taken and the actions arising will be recorded with responsibilities for the actions identified. The HSE Manager will collate the actions and assigned responsibilities on an action register.

The management goals for safety meetings are:

- to review safety performance and assess results;
- to produce and maintain an SMS improvement plan;
- to provide the necessary resources to implement the improvement plan;
- to maintain effective communication with all employees and contractor staff.

The performance standards for safety meetings are:

- agenda produced and circulated prior to each meeting;
- minutes produced and circulated within 5 working days;
- action list produced by HSE Manager and updated before next meeting.

Management responsibility for safety meeting:

- General Managers/ HSE Manager/Production Manager/ Drilling Manager/Relevant Managers

4.3.3 Worksite Pre-Job Discussions

Effective communication on the worksite involving the entire workforce is a major component of incident prevention. Pre-job discussions should address the work to be undertaken, the identified hazards, precautions and controls. Significant topics or identified problem areas may be the subjects of further discussion especially if there is an impact on company standards or procedures.


The management goals for worksite discussion are:

- to ensure a satisfactory level of understanding of the work to be undertaken;
- to ensure that all hazards have been identified and that adequate controls and follow up are in place;
- to ensure that PPE and the equipment are fit for purpose for the work;
- to ensure that the permit to work system is being complied with;
- to ensure that the Emergency duty roster are updated.

The performance standards for work site discussions:

- full understanding of the work to be undertaken;
- all hazards have been identified and that adequate controls and follow up are in place;
- PPE and the equipment are fit for purpose for the work;

20

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

- the permit to work system is being complied with;
- Emergency duty roster are updated.

Management responsibility for worksite discussion:

- General Manager/ HSE Manager / Area Managers / Team Leaders / Senior Engineers

4.3.4 Hazard Reporting by the Workforce

Any hazard perceived by any employee can be raised to the area supervisor/ Manager and HSE Manager. This system provides the workforce with an effective mechanism for communicating to management any hazards or occurrences that are perceived. The HSE Manager will ensure that matters are addressed by the appropriate manager. Valid feedback will always be given to the originator.

The management goals for hazard reporting are:

- to provide a credible hazard reporting and communication system;
- to ensure a rapid response to all hazard information.

Responsibility for hazard reporting: All Employees

Responsibility for hazard report collation and dissemination: HSE Manager

4.3.5 Safety Alerts and Safety Information

The company communicates important HSE information through the issue of Safety Alerts and by maintaining an up to date library with relevant safety information at its main sites. Safety Alerts are issued by the Asset HSE Officer from information supplied by personnel from any of The Company's locations or from government or trade associations. If applicable, the information may be incorporated into processes, procedures or working instructions, safety board.

The management goals for safety alerts and safety information are:


- to communicate critical health and safety information to all relevant personnel and locations;
- to amend company processes and procedures based on the alerts;
- to make available up to date health, safety and environmental information.

Management performance standard for safety alerts

- the timely issue and distribution of safety alerts;
- the timely update of safety and environmental information.

Management responsibility for Safety alerts and Safety Information: HSE Manager

21

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

4.4 Occupational Health Standards

4.4.1 Employee Occupational Health Standards

All employees are subject to health surveillance by the Company. The process begins at the employment stage and periodic examinations are carried out at appropriate intervals.

Program of Health Checkup per HSE-PM-005

- Pre-employment Health Checkup
- Annual Health Check up
- Comply by local laws

The management goals for health surveillance are to:

- comply with company and legislative standards;
- maintain a programme of periodic medical examinations;
- ensure professional medical attention is available to all company location.
- maintain First Aid Station with qualify personal and medicine by laws

The management performance standards for health surveillance are:

- employees health is monitored and appropriate assistance provided throughout their employment;
- appropriate medical records and results of health monitoring are maintained.

Management responsibility for Occupational Health standards:

- HSE Managers

4.4.2 Substance Abuse

The potential of substance abuse is recognized by the Company. Management will place the emphasis on initially identifying that a problem exists and then working with the employee to resolve the problem. Continued abuse in the workplace however, will be handled under the disciplinary procedure.

The management goals for substance abuse are to:

- actively discourage substance abuse in the workplace;
- proactively identify potential abuse and provide counseling.

The management performance standards for substance abuse are:

- the elimination of substance abuse at the workplace.

Management responsibility for substance abuse:


- Production Assets Manager/ HSE Manager/ Up-country Admin Manager

4.4.3 Control of Substances Hazardous to Health

The company is committed to eliminating, or controlling, the risks arising from the use of any substance that presents a health risk to employees. To do this all such substances in use will be identified and the risks arising will be evaluated. Controls will then be put in place to reduce that risk to an acceptable level.

Although The Company provides suitable personal protective equipment per Personal Protective Equipment HSE-PM-004 for use by employees this is not considered to be the primary control

22

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

measure. Elimination or substitution with a less harmful substance is the preferred management option.

The Production Assets Manager, or project manager, is responsible for implementing all the necessary precautions and controls and for ensuring that the product has been assessed and any hazards/risks evaluated.

The management goals are:

- to carry out assessments at all company sites;
- to produce data sheets for all the identified substances;
- to implement controls to reduce the risk to an acceptable level (in order of preference), by:
 - substitution of safer products;
 - personal protective equipment;
 - instructions and pre job briefings prior to use of hazardous substances;
 - hazard identification, risk assessment and implementation of control measures;
- to monitor the effectiveness of the control procedures;
- to provide health hazard, risk and control measures information to employees.

Management performance standards

- assessments carried out at all company sites;
- data sheets available for all the identified substances;
- controls are implemented to reduce the risk to an acceptable level;
- employees are aware of the health hazard, risk and control measures.

Management responsibility for Control of Substances Hazardous to Health:

- Production Manager

4.5 Standards and Procedures

Clear, concise, well understood procedures, guidelines and controls are essential to reduce injury to people, damage to plant and equipment and the environment.


For standards and procedures to be effective they must follow a standard format, be developed and updated by the personnel who will eventually use them. They must always be easily accessible and up to date.

The Company's management standards and procedures are covered in section 4.1. Document management is covered by Section 3.10

4.6 Equipment Examination

The Company will ensure that examination of certain equipment and operations is carried out by competent persons, as required. The examinations can be carried out by competent persons employed by the Company or by a nominated contractor. The well examiner must be independent of the line management. A separate written scheme for these examinations will be in place for each site and will comply with the relevant regulatory guidance.

23

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

The management goals for examination are to:

- set up an examination scheme for the equipment or operation;
- ensure that all the appropriate equipment is identified and subject to examination;
- maintain records of examination;
- ensure any reported defects are acted upon.

Management performance standards for examination

- examination schemes in place;
- all the equipment has been identified and is subject to examination;
- records of examination are maintained;
- all defects have been acted upon.

Management responsibility for Equipment Examination:

- Asset Leader/ Production Assets Manager

4.7 Maintenance System

The Company will ensure that all equipment which presents a risk to employees, other facilities or to the environment is in a safe and efficient condition. The company operates a maintenance system that identifies the level of maintenance that is required, including the frequency and maintains records of all maintenance carried out.

The management maintenance goals are to:

- identify which equipment is subject to planned maintenance;
- provide defined maintenance routines for the equipment;
- maintain such equipment in a safe and efficient condition;
- maintain records of all maintenance carried out.

Maintenance management performance standards

- all safety critical equipment in a safe and efficient condition;
- up to date records of all equipment requiring maintenance are maintained;
- up to date maintenance routines, including frequencies are available;
- up to date maintenance records are available.

Management responsibility for Maintenance Systems:

- • Production Assets Manager /Asset Leader


4.8 Permit To Work System

The Company's Permit to Work system must be utilized for risk operations. It provides for a written instruction from the person in charge of the area to the person carrying out the work. The permit to work records where, when and how the work is to be executed, identifies hazards, any additional precautions and the control measures and requires that the site and plant/equipment status be recorded on close out of the work.

The management goals for the permit to work system are to:

- provide a level of control for high risk operations;

24

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

- ensure all personnel who may be affected by the work are aware and involved;
- monitor compliance with the permit to work system through audit.
- Comply with Work Permit Procedure (HSE-PM-003).

4.9 Managing Working Time

All the Company's sites will ensure that the requirements of the Working Time Regulations are complied with by ensuring that staff does not work excessive hours without their agreement.

The management goals for managing working time are to:

- To comply with the Working Time Regulations.

Performance standards for working time management

- Regulatory compliance achieved.

4.10 Managing First Aid

All company locations will have suitable first aid equipment and facilities available in compliance with the First Aid at Work Regulations.

The management first aid goals are to:

- identify and provide sufficient, trained, first-aiders; by comply per HSE Training requirement procedure HSE-PM-013 as a minimum.
- identify the appropriate first aid equipment and facilities required;
- provide the equipment and facilities;
- maintain first aid equipment and facilities in a safe and efficient condition.

First aid provision performance standards

- sufficient, trained, first-aiders provided;
- appropriate first aid equipment and facilities provided;
- equipment and facilities provided;
- first aid equipment and facilities maintained in a safe and efficient condition.

Management responsibility for Managing First Aid:

- HSE Manager


4.11 Managing Incident Reporting and Investigation

Incident reporting and investigation positively contribute to the process of accident prevention. The Company's management will be involved in the process of investigation, dependent upon the severity or potential severity of the incident, in order to identify the underlying causes and to implement actions to prevent recurrence.

Reporting and Investigation Procedure

Employees are required to report all accidents and incidents in which they are involved to their line manager/ supervisor. These include injury to personnel, damage to plant and equipment, harm to the

25

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

environment and near misses. Accurate and timely reporting is essential to ensure effective follow-up.

Following the initial report, the formal company incident reporting and investigation procedures HSE-PM-002 are followed.

Significant accidents and incidents are reviewed at the Management Safety Meetings.

The management goals for accident reporting and investigation are to:

- to encourage the reporting of all accidents, incidents and near misses;
- to investigate all reported accidents and incidents at a level commensurate with their potential;
- to develop realistic, achievable recommendations to prevent recurrence;
- to communicate the findings of investigations to all interested parties to prevent recurrence;
- to provide a database of information for performance measurement.

The management performance standards for accident reporting and investigation are:

- the timely provision of data on incident occurrence and incident reports;
- the full completion of investigations, determining root causes;
- high quality investigation report;
- follow up recommendations prevent any recurrence.

Management responsibility for accident reporting and investigation:

- Area Managers/ HSE Manager

4.12 Contingency Planning and Emergency Response

The Company recognizes that even with the implementation of an effective management system there is always the potential for incidents to occur. At all sites, management will identify high-risk scenarios, develop emergency response plans and train employees to provide an effective response should it be required. Emergency procedures HSE-PM-001 and contingency plans will be regularly updated and exercises carried out in order to maximize their effectiveness.

Separate emergency plans will be prepared for major operations, such as well operations, that involve a significant change to normal site operations.

A corporate emergency response procedure will also be in place to ensure that emergency communications can be established with senior management.


The management emergency response goals are to:

- identify potential emergency scenarios associated with all company's operations;
- provide easily understood procedures to be followed by personnel at all sites;
- ensure sufficient trained personnel and resources are available to support the control of an incident.

Emergency Response Training

Emergency response information is provided to employees during induction. Specific training per HSE-PM-013 HSE Training Requirement will be given relating to the site where an employee is likely

26

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

to work and emergency response training given when new plans are issued or if plans are amended.

The emergency response training management goals are to:

- provide a competent response to emergencies;
- to evaluate the effectiveness of response to an emergency.

Emergency response management performance standards:

- availability of clear and concise contingency plans and emergency procedures at all sites;
- sufficient training carried out for identified personnel;
- exercises are planned and carried out regularly;
- documented debriefing and feedback leads to improvements in plans and procedures.

Management responsibility for Emergency Response Plan:

- General Manager/ Production Asset Manager/ HSE Manager

4.13 Managing Engineering Design and Construction Change

A design review process will be in place at all company sites which will ensure compliance with all regulatory requirements, codes and standards. Design reviews, held during the various stages of a project, may generate changes to the original design; these are managed using the plant modification procedures.

The management goals for design change control are:

- to ensure all potential hazards connected with a project or design change have been identified;
- to control changes and obtain the necessary approvals before the change is implemented;
- to check the design and consider whether any of the conditions which may occur from either a malfunction or operation, have the potential to cause a hazard to people working on the location or to the installation/equipment;
- to check the precautions incorporated in the design are sufficient;
- to ensure the safety engineering of the design meets the requirements of legislation and any inspection scheme;
- to ensure that the original design has not been compromised by changes at design stage;
- to ensure any operating manual addresses all the safety aspects required by changes.


Performance Standards:

- roles, responsibilities and reporting lines are clearly identified for managing changes;
- design reviews identify the hazards and changes required to mitigate risk;
- design changes are undertaken in accord with the plant modification procedure.

Management Responsibility for Managing Engineering Design and Construction Change

- General Manager/ Production Assets Manager/ Asset Leaders

27

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Section 5: Performance Measurement

Measurement is essential for improving health safety and environment performance. Measurement of performance is achieved by pro-active and reactive monitoring to provide information for feedback and correction.

5.1 Active Safety Monitoring

Planned Inspections

Planned inspections will be carried out at each site in accordance with a pre-arranged schedule and an inspection checklist. These will be carried out by the line manager responsible for the site. The condition of plant and equipment is measured against pre-determined standards. In this way sequential inspections become comparable and the results can be utilized as a performance indicator. Non-compliance with standards generates nonconformance reports, which are prioritized for action.

The management goals for planned inspections are:

- to establish the condition standards for plant and equipment;
- to measure the level of compliance to the standards;
- to involve employees in the development of standards and in measuring compliance;
- to record and collate inspection records;
- to provide a valid indicator in respect of safety management performance.
- to comply on facility Safety Inspection Procedure (HSE-PM-008).

Safety Meetings Follow Up

Safety meetings and pre-job discussions provide a performance indication of the effectiveness of the SMS.

The management goals for active monitoring are:

- to measure the level of compliance to standards;
- to record and analyze the outputs from monitoring;
- to ensure that follow-up action is taken.


5.2 Reactive Monitoring

Statistical Reports

The HSE Manager and Area Manager record and analyses the statistics on all accidents, damage to plant and equipment, harm to the environment and near misses. Following each accident or incident report the causes of incidents are reviewed to provide an incident as to where increased emphasis or effort needs to be placed.

Incidents are assessed by the HSE Manager and Area Manager for their potential severity to identify the level of risk associated with the incident potential.

Incident frequency rate statistics are compiled using conventional frequency rate calculations.

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

The management goals for reactive monitoring are:


- to provide company performance indicators for safety management against incident and potential incident occurrence;
- to identify the root causes of accidents and incidents;
- to identify areas where resources should be directed to prevent recurrence;
- to identify procedural deficiencies that can be addressed to prevent recurrence.

Management performance standards for active and reactive monitoring:

- confirmation that the programme of inspections is being met and reports issued;
- confirmation that the schedule of safety meetings is being met;
- quality of safety meeting minutes and defined actions;
- compilation of on-going incident statistics and identification of trends;
- issue of annual report on monitoring;
- completion of corrective actions following inspection, audit and incident investigation.

Management responsibility for active and reactive monitoring:

- Area Managers/ HSE Manager.

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Section 6: Reviewing Health and Safety Performance

Review and audit of the SMS provides the feedback loop as identified on the management model in Section 1.3.

6.1 Management Performance Review


The overall company health and safety performance is reviewed by collecting evidence from various sources:

- results of audits
- assessment of active and reactive monitoring activities
- feedback from employees
- new legislation.

The evidence is used to feedback into the SMS any changes required to improve performance.

The goals for management review are to:

- review all HS performance indicators and other relevant information;
- identify areas requiring additional resource or redirection of emphasis;
- review Company HSE objectives and amend these as necessary.

	Document / Rev No:	ECO-HSE-001-Rev 0
Health Safety and Environment	Revision Date:	25 July 2013
MANAGEMENT SYSTEM		

Section 7: SMS Audits

Auditing is a structured process of collecting independent information on the efficiency, effectiveness and reliability of the total HSE management system and drawing up plans for corrective action. Auditing is not a substitution for the other essential parts of the SMS.

Auditing seeks to establish:

- that the appropriate management arrangements are in place;
- adequate risk control systems exist and are implemented;
- appropriate workplace precautions are in place.

Authority and Responsibility

The HSE Manager and relevant Managers are responsible for the development of audit program with advising by General Manager.

Audit Frequency

The scope and frequency of internal (and external) audits will be determined according to specific needs and risk rated priorities.

The management goals for auditing the SMS are to:

- determine and report the level of compliance to the SMS standards and procedures;
- determine the level of understanding by employees of the contents of the SMS;
- provide the performance indicators as to achievement in the implementation of the SMS which will contribute towards the improvement process;
- recommend the remedial action(s) where necessary.

7.1 SMS Improvement Plans

SMS improvement plans are generated during HSE management review meetings. These provide the detailed actions to be implemented to improve The Company's HSE performance. The implementation of the plans is the responsibility of the **General Manager** who reports to the Board of Directors. They are monitored on his behalf by the HSE Manager.

The management goals for improvement plans are to:

- provide an action plan for the improvement of the SMS;
 - what is to be achieved
 - who will do it
 - when will it be completed by
- provide a single reference point for the improvement of the SMS.

The management performance standards for improvement plans are:

- development of an SMS audit plan;
- completion of the annual SMS audit plan,;
- completion of the SMS management review;
- generation of management improvement plans with clear objectives, tasks and timescales.



ECO ORIENT ENERGY (THAILAND) LIMITED
ECO ORIENT RESOURCES (THAILAND) LIMITED

ENGINEERING DOCUMENT

**HAZARD AND OPERABILITY STUDY
(HAZOP STUDY)
(ED-ECOR-HES-14102-01)**

Original By Name : Kittipong P.
Position : Engineering Team Lead
Signature : Date : 09-Oct-2014

Approved By Name : Kittipong P.
Position : Engineering Team Lead
Signature : Date : 09-Oct-2014

Endorsed By Name : Trairat P.
Position : Production Manager
Signature : Date : 09-Oct-2014

The information contained herein is the property of Eco Orient Resources and is provided on condition that it will not be reproduced, copied, lent or disclosed, directly or indirectly, nor used for any purpose other than that for which it was specifically furnished.

PERSON RESPONSIBLE
SR PROCESS ENGINEER

ED-ECOR-HES-13-001 HAZOP Study Rev.0

ECO ORIENT RESOURCES (THAILAND) LTD

HAZOP STUDY REPORT



Area	WB, L33 and L44		Department	PRODUCTION	
Project	HAZOP	Project No.: J1002	Section	ENGINEERING	
Location	WICHIANBURI, PHETCHABUN, THAILAND		Doc.No.	ED-ECOR-HES-14102-01	Rev. 0

TABULATION OF REVISED PAGES

Page	Revision			
	0	1	2	3
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

Page	Revision			
	0	1	2	3
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				

Page 2 of 12

ECO ORIENT RESOURCES (THAILAND) LTD

HAZOP STUDY REPORT



Area	WB, L33 and L44		Department	PRODUCTION	
Project	HAZOP	Project No.: J1002	Section	ENGINEERING	
Location	WICHIANBURI, PHETCHABUN, THAILAND		Doc.No.	ED-ECOR-HES-14102-01	Rev. 0

REVISION DETAIL TABULATION

Date	Page	Revision	Revision Details

ECO ORIENT RESOURCES (THAILAND) LTD

HAZOP STUDY REPORT



Area	WB, L33 and L44		Department	PRODUCTION	
Project	HAZOP	Project No.: J1002	Section	ENGINEERING	
Location	WICHIANBURI, PHETCHABUN, THAILAND		Doc.No.	ED-ECOR-HES-14102-01	Rev. 0

TABLE OF CONTENTS

SECTION PAGE	DESCRIPTION	
1.0 INTRODUCTION		5
1.1 General		5
1.2 Objective of Document		5
2.0 HAZOP BASIS AND DOCUMENTATION		6
2.1 Basis		6
2.2 Documentation		6
3.0 HAZOP METHODOLOGY		6
3.1 Node of Study		6
3.2 Guidewords / Parameters		6
3.3 Worksheets		8
3.4 Recommendations		8
3.5 Assumptions		8
4.0 HAZOP SESSIONS		9
4.1 Study Periods		9
4.2 Study Team		9
4.3 Follow Up		9
5.0 APPENDICES		9

HAZOP STUDY REPORT

Area	WB, L33 and L44		Department	PRODUCTION	
Project	HAZOP	Project No.: J1002	Section	ENGINEERING	
Location	WICHIANBURI, PHETCHABUN, THAILAND		Doc.No.	ED-ECOR-HES-14102-01	Rev. 0

1.0 INTRODUCTION**1.1 General**

ECO Orient Resources (Thailand) Ltd and ECO Orient Energy (Thailand) Ltd (ECOR & ECOE) produces crude oil in the WB Concession area, L33 area and L44 area. As a characteristic of Well production. There are the difference well production in both lower and higher water cut that are produced in this area. In order to reduce gross liquid production, new dehydration and injection facilities shall be provided at this area.

These process design parameters will form part of the Basis of Design for the facility to be installed at field operation area. The information presented in this document have been extracted from various classification requested.

1.2 Objective of Document

The objectives of the HAZOP study are to identify and evaluate safety hazards and to identify operability problems which, although not hazardous, could compromise the process's ability to achieve design intent and productivity. In particular, the objectives of the study are to:

- Identify safety related hazards and operability problems related to the design and operation of the systems;
- Determine the seriousness of the consequences for the identified problems;
- Identify engineering design and procedural safeguards that will reduce the consequences related to the hazards;
- Evaluate the adequacy of engineering design and procedural safeguards; and
- Recommend additional safeguards and improvements, where necessary.

HAZOP STUDY REPORT

Area	WB, L33 and L44		Department	PRODUCTION	
Project	HAZOP	Project No.: J1002	Section	ENGINEERING	
Location	WICHIANBURI, PHETCHABUN, THAILAND		Doc.No.	ED-ECOR-HES-14102-01	Rev. 0

2.0 HAZOP BASIS AND DOCUMENTATION**2.1 Basis**

The basis for the HAZOP study is the P&IDs issued for design, marked-up with additional information. The HAZOP P&IDs with indicating the Nodes are presented in Attachment - 2.

2.2 Documentation

The following documentation is also made available during the HAZOP study and used as reference during meetings:

- Process flow diagrams
- Piping and instrument diagrams
- Material balance
- Plot plan
- Escape and Evacuation Layouts
- Major equipment data sheets (as required)

3.0 HAZOP METHODOLOGY**3.1 Node of Study**

The process is broken down into manageable sections (nodes) based on the plant design and its complexity. Attachment -1 includes a list of nodes and their description. The design conditions, the identification numbers of equipment involved in the node and the reference drawing numbers are also included in the node listing. The Nodes are marked on the Master P&IDs, presented in Attachment -2

Some systems which are operated in side kick mode and/or operated intermittently are considered as a single node. Applicable guide words and deviations, which may differ from the generic list, are considered for analysis and recording.

3.2 Guidewords / Parameters

Each node is considered in detail to identify any potential problems in safety or operations that may arise due to deviations in the process parameters. The Causes and

HAZOP STUDY REPORT

Area	WB, L33 and L44		Department	PRODUCTION	
Project	HAZOP	Project No.: J1002	Section	ENGINEERING	
Location	WICHIANBURI, PHETCHABUN, THAILAND		Doc.No.	ED-ECOR-HES-14102-01	Rev. 0

Consequences of each deviation were identified and the HAZOP team then evaluated the adequacy of existing safeguards, and where necessary, additional safeguards recommended as Actions.

Table 3.1: HAZOP Guidewords/Parameters and Related Deviations

Deviations	Guide Word	Parameter	Comment
No/Low Flow	No/Low	Flow	
More/High/Flow	More/High	Flow	
Reverse/Misdirected Flow	Reverse	Flow	
More/High Pressure	More/High	Pressure	
Low Pressure	Low	Pressure	Includes vacuum
More/High Temperature	More/High	Temperature	
Low Temperature	Low	Temperature	
High Level	High	Level	Includes interface high level
Low Level	Low	Level	Includes loss of level, interface low level and loss of interface level
Contamination	As well as	Composition	
Start-up/Commissioning	Others		
Shutdown/Maintenance	Others		Isolation, drain, purge
Utility Failure	Others		Includes air, power, and nitrogen
Others	Others		Other process and utility interconnections

HAZOP STUDY REPORT

Area	WB, L33 and L44		Department	PRODUCTION	
Project	HAZOP	Project No.: J1002	Section	ENGINEERING	
Location	WICHIANBURI, PHETCHABUN, THAILAND		Doc.No.	ED-ECOR-HES-14102-01	Rev. 0

3.3 Worksheets

The session proceedings are recorded using spreadsheet. The records are projected on a screen for comment and agreement by the team members during the sessions.

Although there are many formats for recording, such as recording by exception (where an entry is recorded only when the team makes a recommendation or the issue is considered significant), a full recording approach was adopted for all guidewords/deviations listed in

Attachment-3 whereby every deviation considered by team was recorded even when no significant causes or consequences were found. For guidewords/ deviations listed in Table 3.1, recording by exception was adopted.

3.4 Recommendations

A number of recommendations for changes to equipment, control systems, alarms and trips and procedures were identified during the HAZOP study, which, in the team's opinion, will improve the safety or the operability of the facility. A list of recommendations for the Generic is included in Attachment - 3. The completed HAZOP Review Action Sheets for each recommendation raised have been issued as a separate report, upon resolution of the actions raised.

3.5 Assumptions

Several assumptions were made regarding the basis of the design and these were generally agreed by the HAZOP study team. The main item is listed below:

In case of multiple equipments (with duty and standby/spare equipment) inside a unit, the study was conducted for one set of equipment. Similarly, in case of similar equipments in series, such as (Oil Storage Tank and Heater Treater) in series, the study was conducted on one Oil Storage Tank or Heater Treater only. The recommendations from this study will therefore apply for such similar systems as well. The study has however, considered the impact of simultaneous operation of systems in parallel or series including the control requirements and the effect of trip of one system on the other.

Power Generation Systems were not studied It is assumed that sufficient safeguards will be in place to ensure adequate and reliable supply



HAZOP STUDY REPORT

Area	WB, L33 and L44	Department	PRODUCTION
Project	HAZOP	Section	ENGINEERING
Location	WICHIANBURI, PHETCHABUN, THAILAND	Doc.No.	ED-ECOR-HES-14102-01
		Rev.	0

4.0 HAZOP SESSIONS

4.1 Study Periods

The HAZOP Study for the Surface Production Facilities System will be planned on October 10, 2014 at ECO Orient Energy at Wichianburi Office 10:00 AM. A total of 1 day is spent on the HAZOP of this project.

4.2 Study Team

The HAZOP team comprised of a multidisciplinary team of personnel involved with the Project and having adequate experience of design, instrumentation, operations, maintenance, safety and loss prevention. Representatives from Engineering team (Process, Mechanical, Electrical, Instrument and Operation team, HSE team that participated in the HAZOP session. The details (names and discipline) of the HAZOP team members who attended the HAZOP sessions are presented in Attachment -1.

4.3 Follow Up

Proper follow-up and close-out of all recommendations have been monitored through the HAZOP Review Action Sheet.

5.0 APPENDICES

Attachment -1 – Attendance List

Attachment -2 – Node List

Attachment -3 – HAZOP Worksheets



HAZOP STUDY REPORT

Area	WB, L33 and L44	Department	PRODUCTION
Project	HAZOP	Section	ENGINEERING
Location	WICHIANBURI, PHETCHABUN, THAILAND	Doc.No.	ED-ECOR-HES-14102-01
		Rev.	0

Attachment -1 –Attendance List

Study Team Attendance

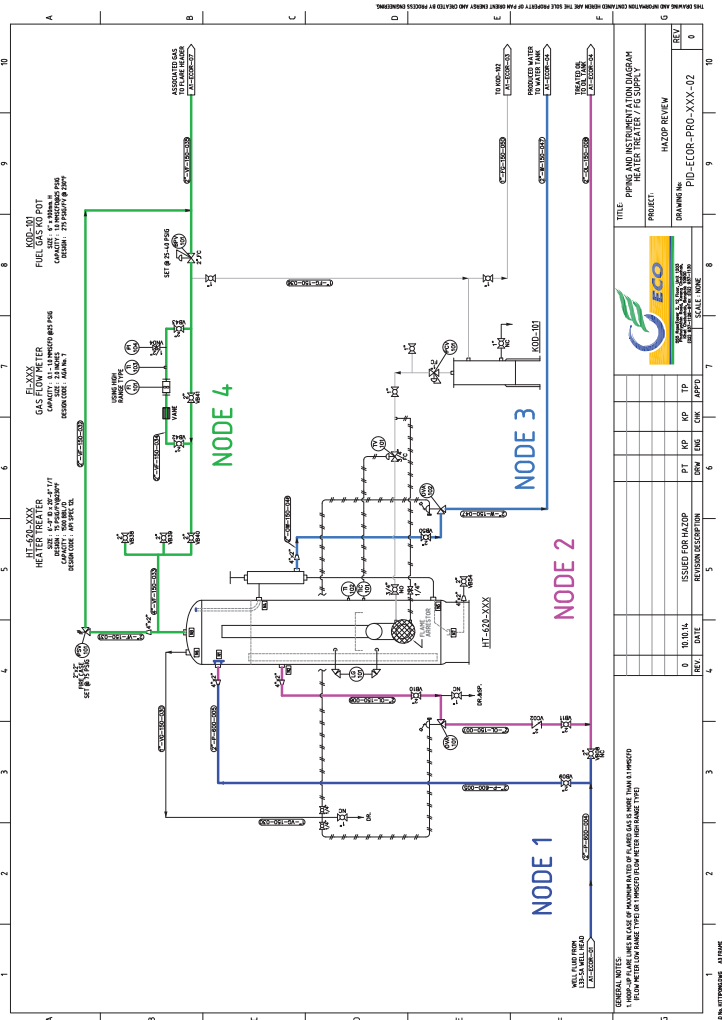
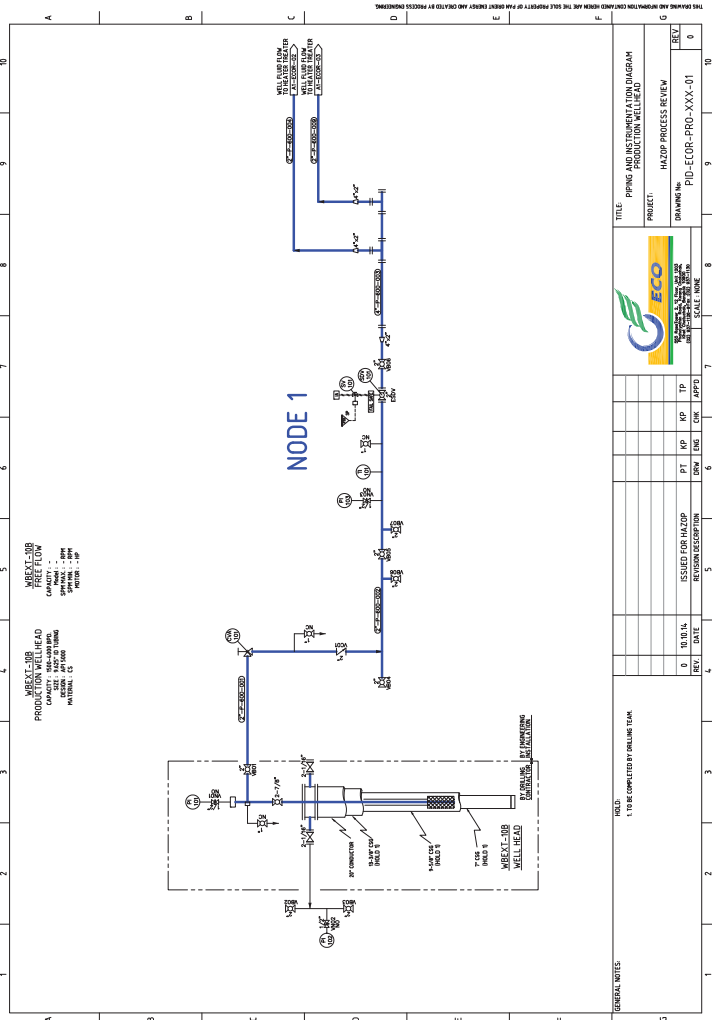
Name	Company	Role	Date
Kittipong P.		Chairman	10/09/14
Kittipong P.		Scribe	
Jatupol K.		Operation Leader	
Planlap M.		Sr. Supervisor	
Sudhawee S.		Supervisor – Well Test	
Pongsakorn S.		Supervisor – Well Test	
Ekkachai H.		Supervisor – Well Test	
Chansri C.		Supervisor – Shift Operation	
Natee K.		Supervisor – Shift Operation	
Chatchawan T.		Foreman - Shift Operation	
Supparat P.		Foreman - Shift Operation	
Songsak K.		Foreman - Shift Operation	
Phyo J.		Foreman - Shift Operation	
Pumler R.		Foreman - Shift Operation	
Thanathip P.		Sr. Mechanical Engineer	
Panya T.		Mechanical Draftman	
Panawat T.		Foreman - Piping & Installation	
Salit T.		Foreman - Piping & Installation	
Chatchai K.		Lead - Mechanical	
Songrood W.		Lead - Mechanical	
Naradol P.		Electrical & Instrument Engineer	
Thinnakorn K.		Supervisor – Electrical & Instrument	

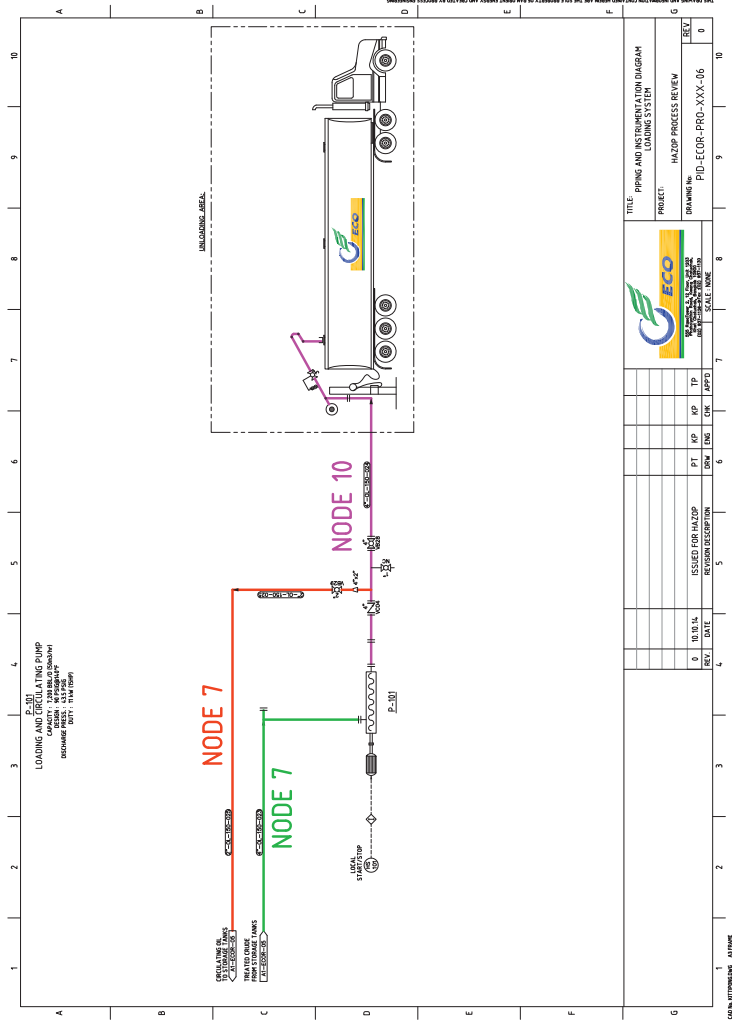
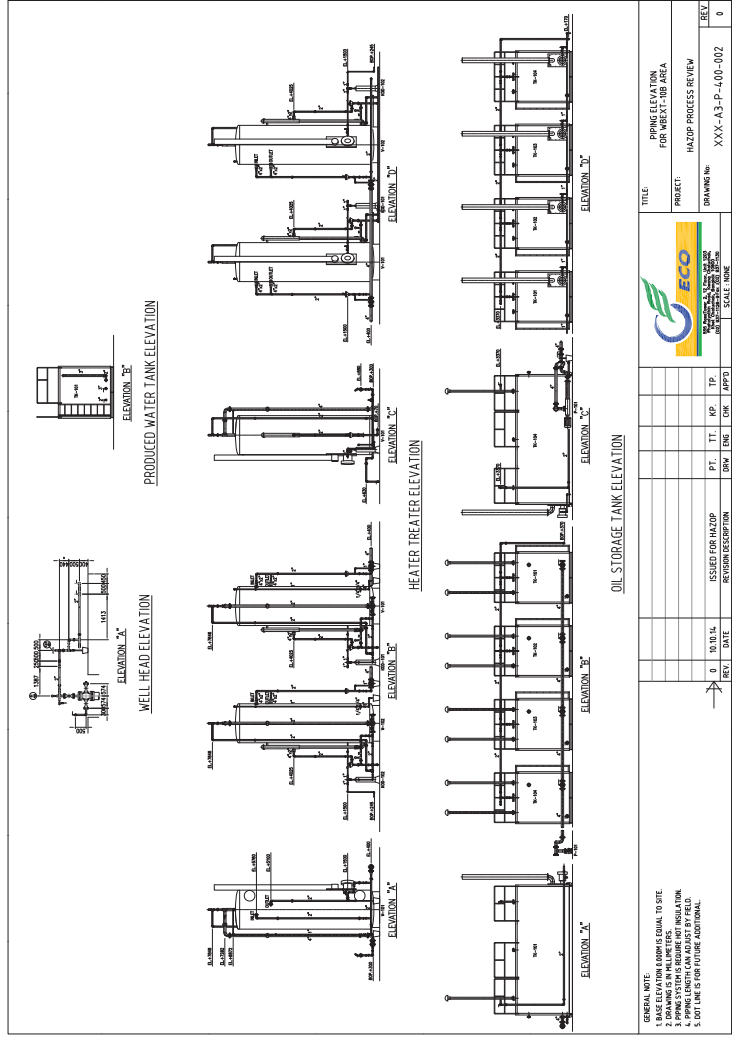
Name	Company	Role	Date
Anon		Foreman - Electrical & Instrument	10/09/14
Adirek K.		Asset HSE	
Ann P.		Asset HSE	
Settawat S.		Petroleum Technologist	
Prapaporn K.		Petroleum Technologist	
Part-time Participation			



Project	HAZOP	Project No.: J1002	Section	ENGINEERING	
Location	WICHIANBURI, PHETCHABUN, THAILAND		Doc.No.	ED-ECOR-HES-14102-01	Rev. 0

Attachment -2 –Node List







The information contained herein is the property of Eco-Offset Resources and is provided on condition that it will not be reproduced, copied, lent or disclosed, directly or indirectly, nor used for any purpose other than that for which it was specifically furnished.

Area	WB-EXT Concessionaire		Department	Production	
Project	PWT AND INJECTION SYSTEM	Project No.: J0113	Section	Engineering	
Location	WICHIANBURI, PHETCHABUN, THAILAND		Doc.No.	ED-ECOR-HES-13-001	Rev. 0

Attachment -3 –HAZOP Worksheets

[illegible][illegible]