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PAN ORIENT ENERGY (SIAM) LTD.

ENVIRONMENTAL MANAGEMENT SYSTEM

FEBRUARY 2023

Document Issue Record

Position	Location	Copy No.	Issue Date
Paper Copies			
Chief Executive Officer & General Manager	Bangkok	01	
Operations Manager	Bangkok	02	
Financial & Accounting Manager	Bangkok	03	
EIA & Government Liaison Coordinator	Bangkok	04	
Field Operation Engineer	Kam Phaeng Saen	05	
Production Supervisor	Kam Phaeng Saen	06	
HSE Officer	Kam Phaeng Saen	07	
Production Foreman	Kam Phaeng Saen	08	

REVISION STATUS

Rev	Date	Description	Originator	Approved
0	30 July 2006	First Working Version	Various	General Manager
1	17 Feb 2010	Second Working Version	Sal Pirrera	General Manager
2	20 April 2012	Third Working Version	Pharada Meengoen	General Manager
3	31 January 2013	Fourth Working Version	Prakaipruek Boonkerd	General Manager
4	29 August 2014	Fifth Working Version	Prakaipruek Boonkerd	General Manager
5	10 July 2015	Sixth Working Version	Prakaipruek Boonkerd	General Manager
6	27 May 2016	Seventh Working Version	Prakaipruek Boonkerd	General Manager
7	8 February 2017	Eighth Working Version	Prakaipruek Boonkerd	General Manager
8	7 February 2019	Ninth Working Version	Prakaipruek Boonkerd	General Manager
9	13 September 2019	Tenth Working Version	Prakaipruek Boonkerd	General Manager
10	16 February 2023	Eleventh Version: General Manager has changed	Prakaipruek Boonkerd	General Manager

FOREWORD

Pan Orient Energy (Siam) Ltd. ("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

[redacted]

General Manager

Date: February 16th, 2023

Area of Application

The policies and associated Environmental Management System (EMS) apply to the activities of Pan Orient Energy (Siam) Ltd. in Thailand.

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Environmental Management System

Pan Orient Energy (Siam) Ltd.

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Executive Summary

It is the policy of The Company to conduct its activities in such a way as to take foremost account of the health and safety of employees and all other persons that come into contact with its activities. The Company will endeavour to give dutiful consideration to the protection of the environment, and to pursue a policy of continual improvement of all health, safety, social and environment issues.

The company also strives to maximize public understanding of the proposed projects and activities through information and exchange between the project proponent and the communities in the vicinity of its operations that might be affected directly or indirectly by the proposed project activities.

The Company's Environmental Management System is designed around its operating experience in the L53/48 concession, basing it on known hazards, existing controls and building on the existing principals and guidelines. It enables the Company's management to obtain assurance that hazards and effects are identified and controlled to an agreed standard.

The Company's Environmental Management System Manual is divided in to six sections, described briefly below:

Section 1:

Identifies the Company's personnel who are directly involved in the Social and Environmental Management System particularly highlighting senior staff members and those involved in operational or onsite supervisory roles.

Section 2:

The Company's HSE Policy Statement is presented in Section 2.

Section 3:

Sets out the Company's Oil Spill Contingency Plan (OSCP). This is designed in such a way that in the event of an oil spill, either on location or off-site, a clean-up process can be quickly and efficiently initiated and the appropriate authorities notified. The OSCP includes listings of priorities, the level of response required related to the severity of the spill and provides a list of emergency contact numbers. Oil spill clean-up techniques and oil spill equipment available both on and off-site are provided in the appropriate appendices.

Section 4:

The Company's environmental management plan is presented in this section. The management plan is based on the outcome of the environmental impact assessments performed by certified independent third party consultants. Methods of mitigating the risks are subsequently employed so that their potential impact can be prevented or reduced.

The establishment of baseline monitoring stations and the systematic monitoring of environmental parameters, at each phase of the operations, are performed to assess the ongoing environmental conditions which measure any changes from the original environmental conditions. Follow up procedures including internal and third party audits are also performed to access the performance and effectiveness of the mitigation measures.

Corrective or remedial actions are performed in the event of non-compliance issues or if parameters are found to be in excess of environmental quality standards due to the Company's activities.

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SECTION 1:

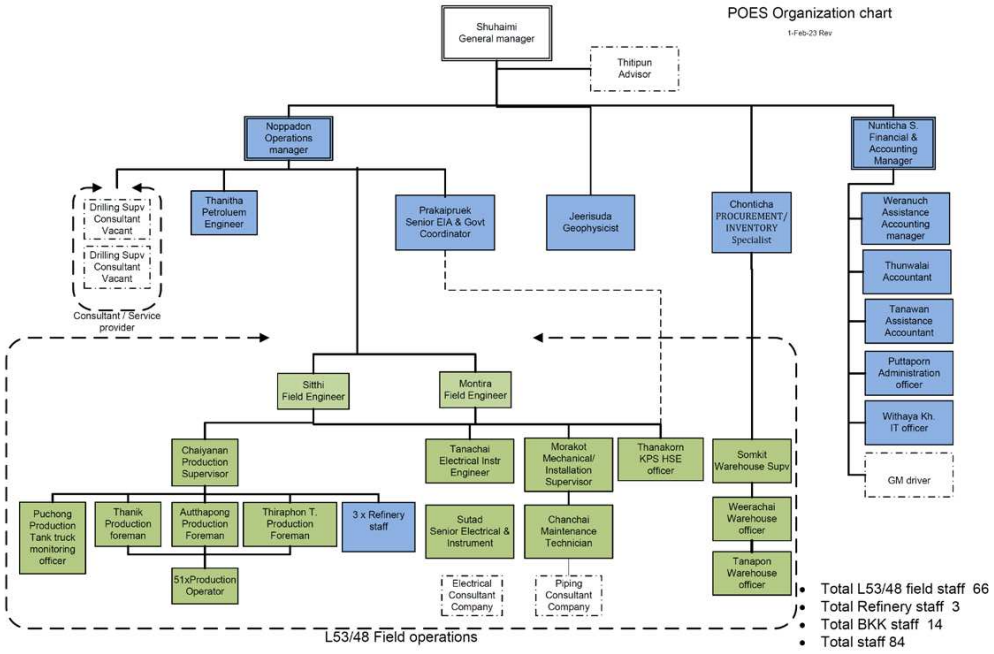
1. Listing of Concerned Personnel in Environment Management System

The protection of the environment and the impact of the Company's operations have upon the environment represents a fundamental concern for all personnel employed by the Company.

The key to the successful management of environmental concerns, however, lies with those in management and supervisory positions, who are also directly involved with the production and drilling operations at L53/48 concessions. Such staff members have a direct impact on the environmental decision making process and may use their expertise and supervisory roles to convey the Company's environmental policy and environmental management procedures to other on-site employees, contractual staff as well as those involved in off-site activities such as transportation.

Company staff with a pivotal role in the environmental management process are shown in highlighted boxes on the Organization Chart attached.

POES Organization Chart



SECTION 2:

2. Pan Orient Energy Health, Safety and Environmental Policy & Objectives

The Company is committed to protecting the safety of everybody involved with our activities, the people who come into contact with our operations and the physical and natural environments in which we work. We aspire to high standards of practice through a process of continuous improvement and the adoption of international codes and standards where practicable.

To meet this commitment we will implement management systems in our operations that accord with the requirements of our health, safety and environmental standards and strive to:

- Ensure that our operations comply with applicable health, safety and environmental laws and regulations.
- Implement controls to protect all personnel involved in our activities, to prevent pollution and protect biodiversity.
- Provide health, safety and environmental training to our employees and actively promote awareness of health, safety and environmental issues.
- Ensure that contractors are aware of our policies and standards and where necessary, work with our contractors to raise their standards to meet them.
- Foster a culture where accidents, incidents and near misses are reported and investigated and the lessons learned are shared throughout the organization.
- Monitor our performance and conduct regular audits to ensure our controls are effective and that our health, safety and environmental aspirations are being achieved.
- Set objectives and targets for improving health, safety and environmental performance and monitor.
- Ensure that a high priority is placed on emergency preparedness.
- Consult with and respond to the concerns of other stakeholders on our health, safety and environmental performance.

Responsibility for compliance with Pan Orient's HSE policy and standards lies with the Directors, Managers and the Staff.

Successful HSE performance requires commitment from all our employees and it is a requirement that every employee and contractor acts responsibly in preventing, injury to themselves and others, or damage to equipment and the environment.

Signed Date: February 16th, 2023

[redacted]

General Manager - Pan Orient Energy (Siam) Ltd.

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Section 3:

3. Oil Spill Contingency Plan (OSCP)

The Company as Operator has a financial responsibility and legal requirement to clean-up any pollution arising from its operations. The Company is committed, however, to operate at all times in such a manner as to minimize the risk of oil spills, blowouts or chemical leakage. In the unlikely event that such an incident occurs, the following OSCP provides guidance on the appropriate actions that will be undertaken.

During petroleum exploration, testing and production there are risks for minor and major oil spills. Due to the high viscosity and pour point, the crude oil is not very mobile and can be easily contained and removed with shovels. However, other spills such as fuels and motor oils are also considered.

The Company has developed an oil spill contingency plan covering all drilling, testing and loading operations. The plan identifies three levels of response and the Emergency Organization and actions required to successfully coordinate the Company's clean-up to the response.

Priorities

1. The following priorities need to be observed:
2. The prevention of emergencies;
3. The safety and saving of life;
4. Protection of the environment; and
5. Salvage of equipment and installations

Levels of Response and Procedures

There are four levels of response relating to accidental discharges:

Oil Spill Classification:

- Housekeeping Oil Spill <1 to <3 bbls, that can be dealt with using onsite equipment deployed by local staff;
- Level 1: (Minor Oil Spill) >3 to < 50 bbls, that can be readily be cleaned-up by field personnel using locally available equipment;
- Level 2 (Significant Oil Spill) >50 bbls to <100 bbls, that requires additional manpower and supplemental resources or third-party companies;
- Level 3 (Major Oil Spill) >100 bbls, that overwhelms the response capability of operator, requiring mobilization of personnel and resources of the central executive bodies and international specialized responders.

Housekeeping Spills:

This refers to on-site spills less than 3 bbls, which are contained and can readily be cleaned-up by field personnel using equipment maintained on site.

Housekeeping Response Procedures:

In case of oil spill less than 3 bbls can be responsed with on site by production operator immediately by using prepared tools and equipment in wellsite.

Level 1:

Minor spills from 3 bbls to 50 bbls that do not affect normal operations and can readily be cleaned-up by field personnel using locally available equipment.

Level 1 Response Procedures

Emergency Organisation
Operations Co-ordinator: Pan Orient on-site Production Supervisor

Job Responsibilities of Operations Co-ordinator

1. Ensure safety of all personnel
2. Ensure that the discharge is cleaned-up properly and that the sites containment facilities have not been breached.
3. Fill out an Incident Report Form. The completed form should be sent to the Production Supervisor, Field Operation Engineer and Operations Manager respectively.

Level 2:

- Significant spills from 50 bbls to 100 bbls when the discharge can still be contained but requires additional manpower and supplemental resources or third party companies to clean up the spill. An example of this would be a ruptured tank.

Level 2 Response Procedures

Emergency Organisation
Operations Co-ordinator: Pan Orient on-site Production Supervisor, Field Operation Engineer & HSE officer

General Manager/Operations Manager: Bangkok Office

1. Ensure safety of all personnel
2. Shut down all ignition sources to minimize the risk of fire.
3. If there is a possibility of fire, then notify the Fire Brigade.
4. Isolate or stop the source of spillage.
5. Inform the General Manager that a Level 2 Response situation exists, state:
   - The nature of the spill
   - If the spillage is continuing and at what rate
   - If the spill is on fire
   - What volume has been spilt
   - Any other information
6. Ensure that the containment system is not damaged.

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7. Decide whether the oil spill contractor is required on-site (in which case it becomes a Level 3 Response).
8. Deploy clean-up equipment to deal with the discharge.
9. Restore normal operations promptly.
10. Fill out an Accident/Incident Report Form. The completed form should be sent to the Operations Manager – Pan Orient Energy (Siam) Ltd. at the Bangkok office within 24 hours.

Job Responsibilities of Field Operation Engineer

1. Inform the Operations Manager POES, and other relevant employees about the situation.
2. If necessary inform the local Water Authority.
3. Act as a focal point for information passing to and from the site.

Level 3:

A major spill of over 100 bbls when the discharge overwhelms the response capability of Pan Orient,, requiring mobilization of personnel and resources of central executive bodies and international specialized responders need to be called in to assist in the containment and clean-up.

Level 3 Response Procedures

When the discharge exceeds the capabilities of the immediate on-site personnel, can not be contained and requires an oil spill contractor to be called in to assist with the containment and clean-up.

An example of such an incident that would require a Level 3 Response would be a blowout or a serious road tanker accident.

Emergency Organisation
Operations Co-ordinator: Pan Orient on-site Production Supervisor, Field Operation Engineer & HSE officer
Operations Manager: Bangkok Office (Emergency Response Team Leader)

Job Responsibilities of Operations Co-ordinator

Initial Response

1. Ensure safety of all personnel
2. Shut down all ignition sources including non-certified and non-intrinsically safe equipment, e.g. Cameras, tape recorders, radios, torches etc, until it is certain that there is no risk of fire or explosion.
3. Attempt to isolate/control source of spill.
4. Contact Emergency Services
5. Inform the General Manager that a Level 3 Response is required and provide the following information:
   - location of the spill (e.g. access road, diesel tank).
   - the kind of incident (e.g. tanker spill, blowout).
   - when the incident occurred.
   - the type of oil/substance involved.
   - the volume spilt (best estimate)

- if it is continuing to spill and what the rate of spillage is.
- is the oil/substance is on fire.
- any other relevant information

6. Try to contain spillage within as small an area as possible, away from points of ignition.
7. Deploy containment equipment.

Follow-up Action

1. Continue to ensure safety of all personnel
2. If source of spill not under control, continue efforts to isolate/control it.
3. Liaise with clean-up contractor, Pan Orient personnel on-site and local authorities.
4. Keep the General Manager informed of the situation.
5. Restore normal operations promptly.
6. Fill out an Accident/Incident Report Form (See Appendix II). The completed form should be sent to the Operations Manager – Pan Orient Energy (Siam) Ltd. at the Bangkok office within 24 hours.

Job Responsibilities of the Operations Manager (Emergency Response Team Leader)

Initial Response

1. Mobilise clean-up contractor and pass on relevant information.
2. Liaise with the Pan Orient Energy on-site Production Foreman and Operations Manager and give technical advice as necessary.
3. Provide a communications channel for passing information to and from site.

Follow-up Action

1. Inform the General Manager of Pan Orient Energy (Siam) Ltd. and other relevant employees about the situation
2. Inform the Director General Department of Mineral Fuels that a Level 3 Incident has occurred.
3. If necessary inform the local Water Authority.
4. Co-ordinate press releases with the Pan Orient Corporation.
5. Liaise with the Intergovernmental Affairs Advisor as appropriate.
6. Liaise with the Logistics Co-ordinator and Logistics Support Advisor.
7. Act as a focal point for information passing to and from the site.

Public Relations in the event of a Level 3 Incident

A press statement may be arranged between the Operations Manager (Thailand) and the General Manager of Pan Orient Energy (Siam) Ltd. in Bangkok, Thailand.

Emergency Services Contact Numbers and Call-out Procedures

The Production Foreman from the site should contact the Emergency Services.

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Police

In the event of a major discharge, the Police provide control of traffic to and from the incident area. Where a number of services are involved and no suitable communications centre is available, the police can provide a control and co-ordination post to facilitate clearance operations.

Kam Phaeng Saen: 034 351-219
Song Pi Nong : 035-531-019

Fire Brigade

The Fire Brigade should attend all incidents where a risk of fire or ignition is present. If a fire occurs, the Senior Fire Service Officer assumes control of the incident until the fire is extinguished.

TAO Thung Luk Nok : 091-880-9791
TAO Hua Pho : 035-531-031

Hospital

The Hospital Service should be called as necessary.

Kam Phaeng Saen Hospital : 034-281-686
Somdej 17 Hospital : 035-531-077

Clean-up Contractors

Pan Orient Energy (Siam) Ltd. has made arrangements with government licenced hazardous waste transporters and disposal companies to provide oil spill containment and clean-up and disposal services in the event of a Level 3 incident.

Call-out Procedure

In the event of a Level 3 incident, clean-up contractors should be called and told what level of response is required (e.g. standby, full call-out).

Government Departments

In the event of a Level 3 incident, the General Manager should notify:

Department of Mineral Fuels (DMF)

Mr. Sarawut Kaewtathip
Director General
555/2 Energy Complex B, 21th Floor
Viphavhadi-Rangsit Road,
Chatuchak, Bangkok 10900
Ph: (662) 794 3001 Fax: (662) 794 3058

Local Authority Contact Numbers

The Emergency Controller should notify the following agencies in the event of any offsite spills Level 1, 2 or 3 incidents, if appropriate:

L53/48 Concession Area

District Offices
Muang Nakhon Pathom – 034-258-411
Kam Phaeng Saen – 034-351-086, 034-281-102
Song Pi Nong – 035-531-001

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Section 4

4. Environmental Management System

The Environmental Management System is divided in to five main categories as follows:

1. Identifying potential environmental impact and risks;
2. Managing and mitigating the potential impacts;
3. Environmental Monitoring and Mitigation Compliance Auditing;
4. Reporting and Documentation;
5. Environmental Management for Potential Impacts;

4.1 Identifying Potential Environmental Impacts and Risks

An environmental impact assessment (EIA), encompassing risk assessment and social impacts, is performed by a third-party consultant for each exploration and production project. In addition, community attitude surveys are performed twice a year and a health impact assessment is performed and updated on a yearly basis.

4.2 Managing and mitigating the potential impacts

The potential impacts identified in the EIA studies can be prevented or reduced by employing the mitigation measures recommended in the EIA. Mitigation measures have been

4.3 Environmental Monitoring and Mitigation Compliance Auditing

The regular internal and third party auditing schedule ensures the environmental management plan stated in the EIA is implemented. This includes the monitoring of environmental components and the measures required to

The auditing system consists of the following:

4.3.1 Monitoring

The monitoring measures stated in the EIA are comprised of:

- Environmental Monitoring:
- Social Attitude Monitoring:

Environmental monitoring measures the key characteristics of operations that can have a significant impact on the environment. It provides the means of measuring performance against established requirements (objectives, targets, and performance criteria).

Baseline surveys are conducted to provide information on the chemical and biological environment relevant to the field before start-up of production or drilling operations. Subsequent, ongoing monitoring provides data on waste-stream emissions in order to ensure an ongoing assessment of operating standards and data to measure any recordable changes from the original environmental conditions.

Monitoring determines:

- The types and quantities of substances entering the environment
- Where the substances go
- The effect of substances on the biota
- Environmental change over time

The following is monitored during exploratory drilling:

- Weather
- Drilling waste volumes and type

During production, the following is monitored:

- Quantities of water disposed
- Volumes of other waste generated and disposed

The following surveys are undertaken and reported on prior to the start-up of any SW1A operation that requires the construction of a new site. The surveys continue during the operation and also for a given specific time-period after the decommissioning of any particular site.

4.3.1.1 Groundwater Quality Monitoring

Although surface casing is set at around 80 to 100m to protect surface aquifers, groundwater quality is monitored to determine whether locally used aquifers have been contaminated by drilling or production activities. As a potassium sulphate drilling fluid is used, SO_4 monitoring can act as a useful tracer to determine seepage of any drilling fluid into aquifers.

Sampling is undertaken as follows:

Monitoring Stations:

Exploration Phase: Nearest available groundwater wells up and down flow from the proposed wellsite location. Also onsite monitoring wells up-flow and down-flow from the wellhead

Production Phase: Onsite monitoring wells up-flow and down-flow from the wellhead.

Frequency and Duration

Drilling Phase:

- During the EIA study prior to a site preparation (for areas with now previous baseline data);
- Within 15 days after any drilling activity ceases;

Production Phase:

- After site construction;
- Within 15 days after production drilling;
- Annually thereafter.

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In addition, groundwater samples are taken in the event of a level 2 spill at onsite monitoring wells (in the event of an onsite spill) and at groundwater wells within 50 to 100m of any offsite level 2 spills.

Parameters
Samples are analysed for the following parameters:

- Temperature
- Salinity parameters: pH, conductivity, suspended solids, total dissolved solids, chloride, sulphate, potassium and calcium.
- Total Petroleum Hydrocarbon (TPH),
- HMs: As, Cd, Total Cr, Pb, Hg, Se, Ni, Ba, Zn Fe, Cu and Mn

4.3.1.2 Surface Water Quality

Water quality is sampled at the same location as follows:

Frequency

- Within 15 days after drilling
- Annually thereafter during production

Parameters
Samples are analysed for the following parameters:

- Temperature
- Salinity parameters: pH, conductivity, suspended solids, total dissolved solids and chloride.
- Total Petroleum Hydrocarbon (TPH).
- HMs: As, Cd, Total Cr, Pb, Hg, Se, Ni, Ba, Zn, Fe, Cu and Mn.
- Dissolved Oxygen
- BOD
- Coliform Bacteria

4.3.1.3 Soil Quality Monitoring

Soil quality is sampled at two locations outside the boundary of any new site in preparation, 1 upstream of the groundwater gradient, the other downstream.

Frequency

- Prior to site preparation (laterite soil)
- Within 15 days after drilling
- Annually thereafter during production

Parameters
Samples are analysed for the following parameters:

- Salinity parameters: pH, salinity, conductivity and chloride.
- Total Petroleum Hydrocarbon (TPH) and BTEX.
- HMs: As, Cadmium and Cadmium compound, Hexavalent Chromium, Pb, Hg, Ni, Se, Ba, Cu, Zn, Fe, Mn and Manganese and Manganese compound.

4.4 Reporting and Documentation

The following reports are generated on a daily basis and cover the day-to-day operations at all concessions.

4.4.1 Daily Production Report

A Daily Production Report includes the amount crude oil produced over the last 24 hours and its properties and the amount of BS&W. Also recorded are any incidents, accidents, unsafe acts or environmental issues that have occurred at the production sites.

4.4.2 Daily Drilling Report

For well control purposes it is standard practice to monitor the time breakdown of activities at the rig site. The current depth of the well, geological prognosis, weather, mud volumes, mud weight and circulation rate are recorded. Also included are any mud volumes and the amount and nature of cuttings that have been produced into the waste pit.

4.4.3 Other Reports related to Environmental Issues

The following reports are produced by POES at the conclusion of drilling a well or in the event of an incident:

End of Well Report

Daily data is supplemented by end of well reports (after the well has been drilled and flow tested), which contain information on the composition and properties of the hydrocarbon (volumes of gas, condensate, oil and water; chemical content; oil gravity; gas gravity etc.).

Accident/Incident Report

Should any accident or incident occur during the day-to-day operational activities then the on-site company representative files an accident/incident report to the Bangkok office. Such a report may record an environmental incident, its causes and its immediate impact on the environment. The report should also include any clean-up measures that have been undertaken and their effectiveness in reducing or cancelling the impact of the incident.

4.5 Environmental Management for Potential Impacts;

4.5.1 Management of Pollution from Noise and Vibration - Exploration

Sources of Impact
During drilling significant noise and vibration is emitted from the drilling rig, the drilling rig engine and generators. The noise is characterized as a continuous monotone, low pitch emission. Other sources of noise and vibration emissions include medium pitch noise and vibration emissions from the diesel powered generators on the rig site and variable pitch noise and vibration emissions from the rig engine as it is engaged to power the draw-works and rotary table.

Evaluation of Impact
The General low pitch of the drilling noise is such that it is difficult to detect during normal daytime activity only a small distance from the drilling site. The 24-hour nature of drilling, means that during quiet night time hours there is more potential for the local community to hear the drilling noise at levels above that of the normal ambient background noise.

The distance to the nearest village and the nature of the sound of drilling activity indicates that the environmental impact is likely to be minimal even in the quiet hours of darkness. Similarly vibrations from drilling activities, emanating from the rig engines, drill bit and the

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drill string will be only detectable within close proximity (less than 500m) to the drilling rig. It is expected that the environmental impact of vibrations on the nearest communities will be minimal.

Management Controls
In the event of drilling activity being unacceptably close to a rural settlement as far as noise and vibration levels are concerned, then POES will erect temporary sound barriers between the drilling rig and the settlement so that the effect from noise and vibration from the rig is reduced to more acceptable levels.

4.5.2 Management of effects from drilling

Cuttings and Drilling Fluids – Water-based Muds

Sources and Evaluation of Impact
Leakage or overflow of cuttings and waste drilling fluids has the potential to contaminate surface waters, soils and ground water, with subsequent effects on agricultural crops and aquatic flora and fauna.

The cuttings and fluids contain potassium chloride and possibly residual hydrocarbons. The entry of saline and hydrocarbon contaminated fluids into the ground water may affect the growth of agricultural crops and be potentially toxic to terrestrial and aquatic flora and fauna. Cuttings and fluids may also contain heavy metals, which may contaminate soils and affect the growth of agricultural crops.

The relatively low volumes of cuttings produced during the 1000m +/- wells drilled by POES are unlikely to cause major local environmental impacts, particularly as storage capacity is well in excess of the volumes expected. Salinity levels are not predicted to be high, and the short duration of the drilling activity will not allow for the excessive evaporation levels required to concentrate and produce highly saline liquids.

Examination of the local geology indicates that high levels of potentially polluting heavy metals are not expected. The greatest quantities of component chemicals in the drilling fluids mud are normally PHPA polymer and potassium chloride. Reference to chemical safety data sheets for these constituents shows that both these chemicals are of low or zero toxicity.

Management Controls

POES plans to use potassium sulphate PHPA water based mud (WBM) for exploration appraisal and development wells. Water based muds have been shown to be non-toxic and have negligible impact on the environment. However, to ensure that minimal amounts of mud will be discharged to the waste pit, the cuttings are separated from the mud via a solids control system-vibrating shale shakers and a centrifuge system. The mud is not disposed of, but is stored in drums or tanks for reuse in future drilling campaigns.

POES permanently disposes of cuttings and associated fluids into a specially compacted and Bitumat Polyflex waste pit on-site. The waste pit is constructed to a height one meter above the site, which is above the wet weather groundwater level.

This will ensure that contaminants will not be able to leach into the groundwater or soils.

Exhaust and GHG Emissions

Sources and Evaluation of Impact
The air emissions will be the products of combustion from the diesel engines, carbon dioxide (CO_2,) carbon monoxide (CO), nitrogen dioxide (NO_2), and sulphur dioxide (SO_2). Emissions will only continue during the short 2-week drilling program.

Exhaust fumes emissions will disperse quickly into the clear rural air and cause no discernable air pollution**.**

4.5.3 Management of the effects of production processing

Facilities Installation

Sources of Impact
The activities involved in establishing a site for production include the digging of trenches for the installation of electricity and water lines to the site. It also involves setting up buildings on site, and the establishment of the oil/gas heater and separation equipment vessels, pipe work and storage tanks.

The installation phase of any production facilities project will be marked by a short phase of transport activity where the processing and supporting infrastructure will be trucked to the site. Production chemicals will also be brought in to the site by truck. The transportation activity will usually have a relatively short duration of 1 to 2 days. The number of truck movements is about 5 to 6 per day.

Evaluation of Impact
There is expected to be some mild dust emissions due to the truck movements on the rural roadways leading to the site. For the majority of the journey of trucks will be on sealed roads, but often a compacted, laterite rig road lies between the highway and the site (up to 1 km). The potential for dust emissions is estimated as moderate, and may result in a short–term reduction in air quality, although the reduction in air quality is likely to be localized and of short duration.

The transport activity is also likely to cause a certain amount of localised noise of short duration. The noise levels will not be more than that associated with the movement of large trucks. The noise levels are expected be similar to the agricultural-related which operate in the area.

The establishment of the production site has the potential to affect the local aesthetics. The effects are considered moderate, as the current production facilities do not dominate the local landscape, even if slightly visible from the main highway. The nearest village is 2km away from current production facility sites.

Management Controls

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Vehicle movements would normally be restricted to daylight hours and should not disturb villagers during the hours of darkness, the time of lowest ambient noise. The number of vehicle movements will also be kept to the safe minimum; this will have the effect of:

1. reducing the exposure time of the drivers to traffic
2. reducing the amount of dust, noise and exhaust emissions
3. reducing the number of transport loads through settlements

Petroleum Extraction

Sources of Impact
The physical extraction of hydrocarbons and associated fluids from the reservoir could have a number of impacts. There is a possibility of very slight noise from the continuous operation of beam pumps and moderate noise from at surface jet pump delivery pumps.

Soil quality could possibly be environmentally impacted, through contamination of the area around the well bore by oil.

Evaluation of Impact
Noise emissions from beam pumps, although long-term, are low and are not expected to rise above background ambient levels, even during the hours of darkness. The nearest community is too far away from any current production sites for noise to become a nuisance. The impact from noise can best be described as moderate to minimal. Jet pump delivery pumps will possibly require sound proofing in the longer term depending on the noise profile.

Soil around a well bore may well become contaminated with oil. This oil may contaminate the soil on the laterite pad, and wash off during storm events to the liquid storage waste pit. The contamination of the laterite pad is of minimal significance as the soil can be removed and treated offsite. The compacted nature and design of the pad will not allow oil to permeate to groundwater. Oil will wash to the waste pit during rainfall events, and be captured. Overflow from the waste pit, however, may allow hydrocarbon-contaminated waters onto adjacent agricultural land if not cleaned up regularly.

Management Control
POES ensures that any crude oil leaked or spilled via the extraction process on to the laterite pad is immediately cleaned. Should a beam pump need to be located close to a settlement such that the noise from the pump rises above the ambient noise of the settlement, then POES will provide a shield between the pump and the settlement.

Produced Sand Disposal

Sources of Impact
Sands will be produced during the production phase of any project. The sand is brought up with the crude oil. Burning it in a small high temperature incinerator treats the sand. Waste incinerator gases will be released to atmosphere and the resultant incinerator ash will be land filled on site.

Evaluation of Impact
The use of an incinerator leads to the release of combustion product gaseous emissions to atmosphere. Carbon monoxide, carbon dioxide, nitrogen dioxide and sulhpur dioxide will be released in small quantities when sand is being burnt.

The relatively small volume of sand produced implies that the volumes of waste gasses produced will also be too small to have and major impact local air quality.

Separation Processes

Sources of Impact
The separation process involves the transfer of well fluids via pipes to the heater-treater, where produced gas is used to heat and separate the oil from water. The crude oil is then piped to heated storage tanks and separated produced water is disposed to the produced water tank.

Evaluation of Impact
The operation of pumps and other machinery will emit combustion gases resulting in localized air quality reduction, and will also generate localized noise. Air emissions are likely to be small and will disperse quickly in the atmosphere. There may be some small process emissions during the operational phase but these will be small and will also not adversely impact the local air quality.

If there is a leak or spill during the separation process, then there is the potential for contamination of the laterite pad. Wash during storm events may carry the oil into the waste pit or into neighboring agricultural areas. This may cause some impacts on aquatic and terrestrial flora and fauna. Small leaks are likely to cause only moderate impacts on soil and surface water quality. Air emissions, and the potential for spills, are predicted to have only moderate potential environmental impacts.

Management Control
An Oil Spill Contingency Plan is in place (see Section 3). Oil spill equipment is available both onsite and available locally (Appendix III and IV) should a leak or spill occur during the separation process.

Product Storage and Transfer

Sources of Impact
The transfer of crude oil from the storage tanks to the transport vehicles may lead to the minor spillage of product.

Evaluation of Impact
If there is a leak or spill during these operations, then there is the potential for contamination on the laterite pad. Wash through during storm events may carry the oil into the waste pit or into neighboring agricultural areas. This may cause some impacts on aquatic and terrestrial flora and fauna. Small leaks are likely to cause only moderate impacts on soil and surface water quality.

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Management Control
An Oil Spill Contingency Plan is in place (see Section 3) and Oil spill equipment (Appendix III & IV) is available onsite should a leak or spill occur during the separation process.

All bunding should be checked for coherency and capacity to contain at least the volume of fluids in storage.

4.5.4 Management of other wastes

Waste Gas Flaring and Venting

Sources of Impact
The flaring of waste gas as a result of the production separation processes has the potential to negatively impact the local air quality. Crude oil is heated and the liquid fractions separated from the gaseous phase. Much of the gas produced, however, is re-cycled to heat the separation equipment, but a small proportion of the gas is flared. The emissions to air will be carbon dioxide, carbon monoxide, nitrogen dioxide and sulphur dioxide, along with negligible amounts of methane and ethane.

Evaluation of Impact
The local air quality is good, although periodic wide-scale agricultural burning occurs. The use of flaring does, however, almost entirely eliminate the need to vent off volatile hydrocarbon gases which are more likely to have an effect on workers or community health and safety. The health and safety impacts of the comparatively small-scale flaring occurring at the SW1A concession are considered negligible.

The main impacts surround the emission of greenhouse gases such as carbon dioxide and gases of concern such as oxides of sulphur and nitrogen. The amount of gas flared is miniscule in comparison with other oil and gas, and industrial applications and flare height is usually less than one meter. This taken together with limited other air pollution sources suggests that local dispersion and replenishment rates should easily exceed the emission rates from the site. Also of significance is the large buffer zone between SW1A exploration and production sites and local villages. This zone allows for sufficient dispersion so that odour or poor air effects are not likely to be encountered by the local population.

Also of note are the chemical characteristics of the production gas. The gas is comprised of light fraction hydrocarbons, which will be completely combusted on flaring. This will result in the very small levels of particulate matter, which will help to eliminate soot and dust fall out. For this reason ground based effects are considered likely minimal, and the removal of hydrocarbon smokes reduces the potential for negative visual impacts.

Fugitive emissions from a plant of this small scale are considered to be too small to produce significant impacts.

Air pollution impacts from production gas flaring are moderate to minor, with no ground-based or visual impacts.

Management Control
A daily record is kept of the height and quality of burning of the flares.

Produced Water Treatment and Disposal

Sources of Impact
Water is separated from the crude oil by an oil/water separator and the heat separation processes. After treatment the produced water still contains some residual hydrocarbons, metals and other contaminants from the geological formation and the production process.

Evaluation of Impact
Storage of produced waters in produced water tank. Spillage could cause the tank to overflow and as a result the produced water may be potentially polluting, and cause detrimental effects to soil, surface and groundwater if discharged. Saline and alkaline discharges to soil may affect rice crops and other sensitive terrestrial flora in the area. Hydrocarbons may affect crops, flora and some terrestrial species. Spillage and overflow are considered to be a moderate impact risk. The produced water was injected to a sealed sub-surface geological structure, thus reducing the risk of surrounding land and water contamination.

Management Control
The concrete bund around produced water tank has been designed so that it can store the produced water in case of spillage. The quality of produced water in the tank is monitored on a yearly basis.

On-site Sewage Systems

Sources of Impact
Sewage is produced from the toilet facilities in place on-site. The waste domestic sewage is treated in septic tanks. The septic tank system has a herringbone drainage system with a sand filter at its base. This septic tank effluent soaks away to the surrounding soil where it receives natural biological treatment.

Evaluation of Impact
The potential impacts are related to a degradation of soil, surface and ground water quality. The main issues are biological contamination and an increase in water nutrient levels. As the groundwater and surface waters at the site are not used for drinking purposes, no impacts are expected from the natural drainage of septic tank effluent. The toilet facilities are only used for a short period of time during drilling operations (up to four weeks), or used only sporadically during the production phase.

Management Control
Septic tank levels are regularly monitored by POES. Local contractors are employed to empty full tanks.

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4.5.5 Management of effects from a well blow out

POES employs a number of measures in order to prevent a petroleum blow-out. As well as using standard Well Control Procedures and staff trained in well control procedures, POES employs:

- Seismic surveys and archive well database to accurately determine potential risk
- A mud system
- A Blow-out Preventer Stack (BOP) with shear rams
- A qualified Drilling Supervisor

These measures are described in more detail below.

Seismic surveys and archive well database
The thorough interpretation of the available 3D seismic survey over the L53/48 concession, combined with data gathered from previous wells drilled in the area ensures that a detailed database exists of the geology and formation pressures likely to be encountered by drilling. This enables the design of the mud program, where mud-weights will be maintained higher than the predicted formation pressures. Interpretation of the seismic surveys may also indicate if an area selected for drilling is prone to shallow gas pockets.

The Mud System
If sufficient pressure were not maintained on porous and permeable formations while drilling, the pressured fluid contained within the reservoir units (hydrocarbon or water combinations) would enter the well bore and flow to surface. The normal method of maintaining control pressure is to provide a full column of mud in the well bore in order to exert sufficient excess pressure at the formation face. This overbalances the natural pressure in the formation and holds formation fluids in place.

Loss of overbalancing pressure from a column of drilling mud can occur in one of two ways:

- The bit can penetrate an unexpectedly high-pressure, porous and permeable formation, the fluids from which can lift the mud column. Should higher than anticipated pressures be encountered in the formation being drilled, extra weight is added to the mud to counter that pressure.

- The bit can penetrate a low-pressure “thief” zone, which carries the mud away into the formation. Loss of circulation occurs as annular mud stops returning to the surface. Reduced column pressure allows higher pressure hydrocarbon fluids from other zones into the well bore and up the hole, lifting the remaining mud out. Should mud volume be lost to a thief zone, circulating additives including LCM pills (Loss Circulating Material) to the mud are required in an attempt to seal the zone.

The Blowout Preventer Stack
Should the mud system fail to maintain sufficient over-pressure to contain the flow of hydrocarbons into the well, then the blowout preventer (BOP) stack affords a further line of defense. The BOP stack includes three separate sets of valves, each of which can seal off the

well independently of the others. Once closed, the BOP valves are designed to withstand all subsequent hole pressures.
If a well control incident, such as a blowout, occurred and control could not be regained through use of the BOP stack and mud, then well blowout specialists would be mobilised to implement special well-kill procedures.

Such an incident would inevitably lead to drilling fluids and possibly crude oil being lost to the environment. If such an incident occurred then the Oil Spill Contingency Plan (Section 3) will be immediately activated.

4.5.6 Management of hazardous gas

Hazardous gases such as H_2S have been encountered within the some wellsites. Hence there is need for hazardous gas detection equipment on the rig, or the special training of the on-site crew in the H_2S survival techniques.

4.5.7 Management of the storing and transportation of hazardous materials

Storage and Handling of Hazardous Materials

Sources of Impact
Chemicals such as fuels, paints, grease, oil, detergents, waxes and emulsions are stored on-site. During storage there is a potential for chemicals to leak, contaminating soil, surface and groundwater. During handling the potential exists for minor spills and personnel contact with chemicals, causing occupational health hazards (if inhaled, ingested or contacted by the skin).

Evaluation of Impact
Chemical spills, depending on their size, have the potential to cause contamination of soils, surface and groundwater. Secondary effects include mortality and sub-lethal effects (ecological, physiological and behavioural) among a wide range of organisms in the receiving environment. Contact with chemicals can also lead to occupational health and safety impacts. Volatile chemicals may evaporate and case a health hazard and a reduction in the local air quality.

The chemicals being used during drilling and production operations, however, are for the most part inert.

Drilling Mud Constituents
Drilling mud constituents such as barite, calcium carbonate, potassium chloride and various polymers are relatively non-toxic, particularly from a human health perspective.

Fuel
Fuels such as diesel, and hydrocarbon breakdown products can be toxic, particularly in the water environment. It is planned that diesel will be stored in purpose made enclosed tanks and will not be in contact with the atmosphere.

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Environmental Impacts
Due to the small volumes of chemicals stored and handled on site, and their relatively non-toxic nature, the environmental impact of a leak, or spillage is considered moderate.
Management Controls
Mitigation measures include storing chemicals on a concrete pad with drains to a separate cement waste pit, to collect any spills or leaks during storage. To ensure safe handling, the chemical material safety data sheets (MSDS) will be kept on site at all times. A full listing of the MSDS is given in Appendix V.

Spills and leaks can be minimised by good housekeeping practices, such as routine maintenance on equipment, proper storage and handling, routine checks of stored chemicals and the use of drip trays or bunding.

Transportation of Hazardous Materials

Safety and spills are linked in that a properly trained driver should have a lower incidence of accidents and therefore spills.

Driver training and the choice of haulage contractor is the most important factor in minimizing potential risk. The contractor used will be obliged by the terms of the contract to have equipment of high integrity and a formal driver-training program. The contractor will have an oil spill contingency plan, notification procedures and first aid spill equipment on each truck.

Explosives

The explosives will not be stored on-site at any time. They will be stored in a military magazine under supervision in Petchabun. They will be brought on-site immediately prior to use, and handled by a specialist contractor.

4.5.8 Management of pollution from accidental petroleum leakages

POES's Oil Spill Contingency Plan (OSCP) for all Concession Blocks is incorporated within Section 3 of this Manual. The OSCP is consistent with the requirements of the National Oil Spill Response Plan for Thailand. The OSCP covers POES's exploration and production drilling activities, indicates how to cope with emergencies, details the actions to be taken in the event of more serious and widespread occurrences and lists the clean-up equipment.

4.5.9 Management of pollution from voice, light and odours

Voice

Pollution to the adjacent environment by the voices of employees is not considered a major issue at the current POES concession locations. Usually the noise emanating from machinery such as generators, production equipment and the drilling rig will far exceed and be more noticeable than those of the workers on-site. There are also no nearby settlements that will be close enough to the POES sites to be disturbed by the voices of the personnel working on-site.

While off-site, POES employees are expected to behave in such a manner as to not disturb the local community.

Light

Sources of Impact
The most powerful source of light during the hours of darkness emanates from the drilling rig, and drilling rig mast. These lights can be clearly seen from the highway by passing motorists. The remoteness of the drilling locations from nearby settlements, however, means that the lights of the drilling rig is usually obscured by trees and hedges and do not interfere with the normal ambient/domestic lighting of the villages.

Only a limited amount of light emanates from the production stations, such as perimeter and security lighting, which is comparable to similar light industrial complexes. Light emanating from the production flares is also visible from passing vehicles on the highway during hours of darkness. The size of the flare is comparable to that of a small bonfire.

Evaluation of Impact
The light sources of the drilling rig and production stations and flare are not considered to be above those of similar small industrial complexes, or contribute significantly or adversely to the illumination of the area. The nearest settlements are located at a distance too far from the light sources to be noticeable. Due to the relative remoteness of the area, the increase in light levels provided by the WB1 production facilities may indeed act as a marker for passing motorists and somewhat help to illuminate the otherwise unlit road.

Odours

Sources of Impact
Petroleum type odours from both the drilling and production facilities are noticeable when on-site. The odour is not strong and dissipates until it is unnoticeable only a short distance from the sites.

Management Controls
Chemicals and diesel fuel are kept in sealed containers that help to limit any dispersion of odours in to the surrounding atmosphere.

4.5.10 Management of the abandoning of a wellsite

Well abandonments, either after logging or at the end of a production life-cycle, will involve placing cement plugs to seal all potential aquifers within the well bore and the conductor will be cut off below ground level. The well will also be sealed at the surface and covered in soil.

The waste pit will be abandoned as follows: liquids will be drained out of the waste pit and either re-injected into designated injector wells. A cement cap will then be placed over the top to seal the entire pit. Finally, a layer of soil will be placed over the top.

Sources of Impact
The activities involved in decommissioning a site include: the removal of production equipment, the removal of concrete pads and the chemical storage containers. It may also involve the sealing and plugging of the well.

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The abandonment phase will have some transportation activity, although the duration should be only a few days. The transportation will be light and will be in the form truck movements.

Evaluation of Impact
There is expected to be some mild dust emissions due to truck movements on the rural roadways leading to the sites. The majority of the journey of trucks, however, will be on sealed roads.

The potential for dust emissions is estimated as minimal, and is unlikely to cause any reduction in air quality.

The transport activity is also likely to cause a certain amount of noise. Again the noise will be localized and of very short duration. The noise levels will not be more than that associated with the movement of a large truck. The noise levels are expected be similar to the agricultural vehicles and trucks, which operate in the area. Vehicle movements are also planned to be restricted to daylight hours and should not disturb villagers during the hours of darkness, the time of lowest ambient noise.

Noise Impacts will be of short duration and levels are unlikely to be above the daytime ambient noise created by local agricultural and truck activity.

The digging up of trenches to remove infrastructure and the removal of the concrete pad may produce small quantities of dust into the atmosphere. Dust emissions are likely to be small and confined to the immediate vicinity of the digging activity, although the movement of digging machinery may move loose earth onto roadways spreading the potential for dust.

The effects of dust emissions are likely moderate, due to the short- term nature of the activity, and will be localized.

The machinery involved in the digging and pipe and cable laying may produce some noise. Again the noise levels are not expected to exceed the noise generated by local agricultural activity, and will be of short duration. The activity will also be limited to daylight areas, which will minimize the nuisance cause by the noise emissions.

Noise Impact will be of short duration and levels are unlikely to be above the daytime ambient noise created by local agricultural and truck activity.

Appendix 1: Oil Spill Equipment Held On-site

The oil spill contingency equipment held locally is of a basic nature, but should prove adequate for most purposes:

1. Shovels,.
2. Open top oil drums for the storage of contaminated soil or recovered soil. Some on-site and readily available locally.
3. Sand bags (or grain/rice bags as a good substitute). Quantity held on-site.
4. Sand for absorption of spills. Small quantity held onsite for minor spills but large quantities (20 ton loads) available from various local building merchants.
5. Heavy plant ie. Excavators, Tractors, Trucks, available locally.
6. Labour: Site personnel available but additional local personnel can be hired direct.
7. Broom
8. Gloves and apron

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Appendix 2: Oil Spill Equipment Held Elsewhere

1. Small vacuum tankers are available for lease in Kam Phaeng Sean village.
2. Flat bed trucks are available for lease from Kam Phaeng Sean village.

ภาคผนวก ง
สังคม



ภาคผนวก ง-1
กลไกการรับเรื่องร้องเรียน



4.6.3 ผังขั้นตอนการจัดการรับเรื่องร้องเรียนของโครงการฯ

โครงการฯ ได้จัดทำผังขั้นตอนการจัดการรับเรื่องร้องเรียน โดยระบุถึงแนวทาง และระยะเวลาในการแก้ไขปัญหาข้อร้องเรียน ทั้งเรื่องร้องเรียนที่สามารถจะดำเนินการแก้ไขในระยะสั้น (14 วัน) หรือแก้ไขได้ทันทีเช่น ฝุ่นละออง เสียงรบกวน เป็นต้น และเรื่องร้องเรียนที่จะต้องใช้ระยะเวลาในการดำเนินการแก้ไข จะเป็นกรณีเหตุเกิดจากโครงการฯ ที่ไม่สามารถแก้ไขได้ทันที หรือไม่สามารถแก้ไขให้แล้วเสร็จได้ภายใน 14 วัน เช่น ถนนชำรุดเสียหาย หรือกรณีเหตุที่ต้องใช้ระยะเวลาพิสูจน์ว่าเหตุดังกล่าวมาจากการดำเนินการของโครงการฯ หรือไม่ เช่น กรณีคุณภาพดิน น้ำผิวดิน หรือน้ำใต้ดินเสื่อมโทรมลง เป็นต้น โดยจะโครงการฯ จะแจ้งให้ทราบถึงความก้าวหน้าในการแก้ไขปัญหาทุกๆ 15 วัน จนกว่าจะแก้ไขปัญหาข้อร้องเรียนแล้วเสร็จ รายละเอียดดัง**รูปที่ 4.6.3-1**

4.6.4 แผนการมีส่วนร่วมของประชาชนของบริษัท แพน โอเรียนท์ เอ็นเนอยี่ (สยาม) ลิมิเต็ด

เพื่อให้การดำเนินการมีส่วนร่วมของประชาชนเป็นไปอย่างต่อเนื่อง ประกอบกับข้อแนะนำของผู้มีส่วนได้เสียที่บริษัทฯ ได้รับจากการประชุมเพื่อรับฟังความคิดเห็นที่ผ่านมา แพน โอเรียนท์ จะดำเนินการตามแผนที่วางไว้ดังนี้

- การประชาสัมพันธ์และการติดตามตรวจสอบคุณภาพชีวิต
- แจกจ่ายข้อมูลข่าวสารต่างๆ
- สำรวจความคิดเห็นของประชาชนในชุมชน

4.6.4.1 การประชาสัมพันธ์และการติดตามตรวจสอบคุณภาพชีวิต

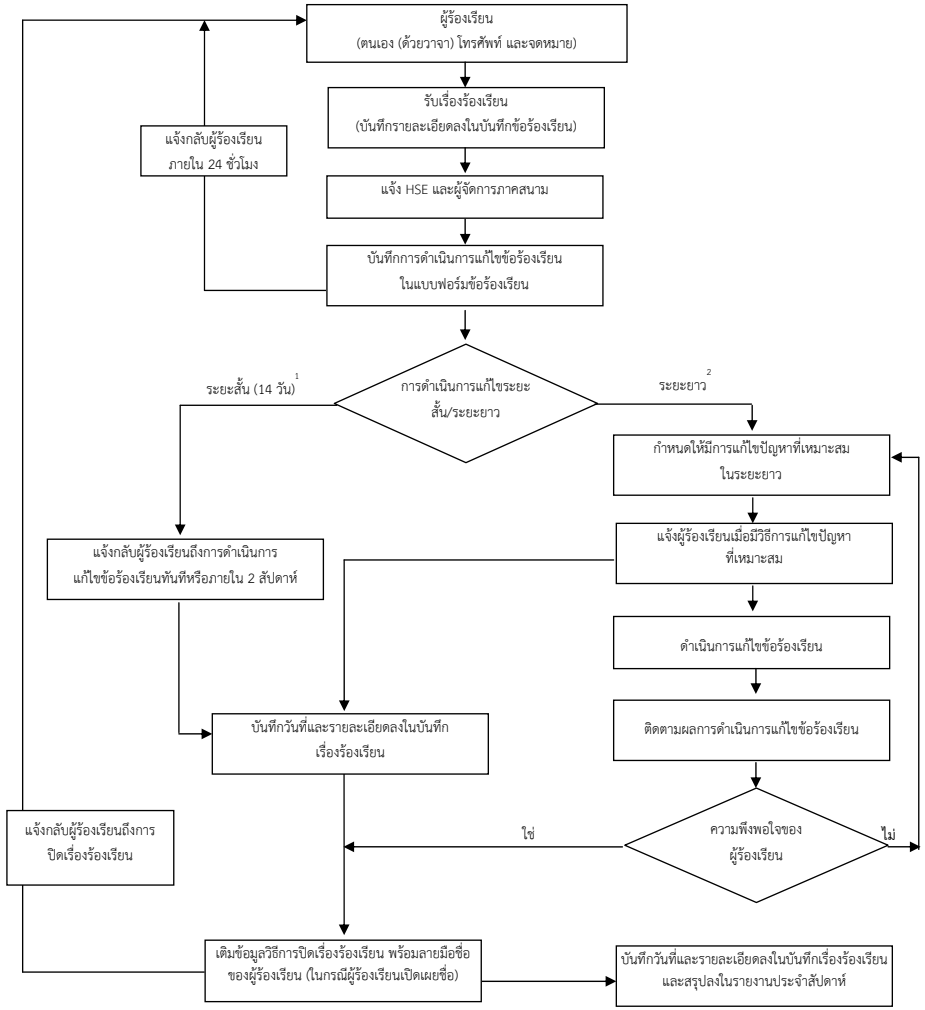
แพน โอเรียนท์ ได้ดำเนินการจัดทำแผนการมีส่วนร่วมของประชาชน เพื่อให้การดำเนินการมีส่วนร่วมของประชาชนเป็นไปอย่างต่อเนื่อง ประกอบกับข้อแนะนำของผู้มีส่วนได้เสีย ที่บริษัทฯ ได้รับจากการประชุมเพื่อรับฟังความคิดเห็นที่ผ่านมา ทั้งนี้ เพื่อเป็นการบรรเทาข้อขัดแย้งต่างๆ และผลกระทบทางด้านสังคมซึ่งจะส่งผลต่อคุณภาพชีวิต และยังมุ่งหวังที่จะสนับสนุนและปรับปรุงชุมชนให้มีคุณภาพชีวิตที่ดีขึ้น

4.6.4.2 การแจกจ่ายข้อมูลข่าวสารต่างๆ

การนำเสนอข้อมูลโครงการฯ ในแต่ละหมู่บ้าน แพน โอเรียนท์ จะทำการส่งจดหมายไปยังผู้นำชุมชนอย่างเป็นทางการเกี่ยวกับกิจกรรมที่จะเกิดขึ้น ก่อนการดำเนินกิจกรรมอย่างน้อย 2 สัปดาห์ โดยจะแจ้งรายละเอียดแก่ผู้นำชุมชนเกี่ยวกับเส้นทางการขนส่ง การดำเนินการกิจกรรม และการรบกวนที่อาจมาจากกิจกรรมต่างๆ ของโครงการฯ

4.6.4.3 การสำรวจความคิดเห็นของประชาชนในชุมชน

แพน โอเรียนท์ ตระหนักถึงความสำคัญของการรับฟังความคิดเห็นและข้อกังวลต่างๆ จากผู้มีส่วนได้เสีย ซึ่งการได้รับทราบข้อกังวลและได้แก้ไขข้อกังวลจะนำไปสู่ความสัมพันธ์ที่ดีของบริษัทและประชาชน และเป็นการให้เกียรติแก่ชุมชนที่บริษัทได้เข้าไปดำเนินการด้วย โดยอาศัยวิธีการต่างๆ ตาม**ตารางที่ 4.6.4-1** ดังนี้



หมายเหตุ: [1] เรื่องร้องเรียนที่จะดำเนินการแก้ไขในระยะสั้นเช่น ฝุ่นละออง เสียงรบกวน เป็นต้น
[2] เรื่องร้องเรียนที่จะดำเนินการแก้ไขในระยะยาว จะเป็นกรณีเหตุเกิดจากโครงการฯ และไม่สามารถแก้ไขได้ทันที หรือไม่สามารถแก้ไขได้ภายใน 14 วัน เช่น ถนนชำรุดเสียหาย หรือกรณีเหตุที่ต้องใช้ระยะเวลาพิสูจน์ว่าเหตุดังกล่าวมาจากการดำเนินการของโครงการฯ เช่น กรณีคุณภาพดิน น้ำผิวดิน หรือน้ำใต้ดินเสื่อมโทรมลง เป็นต้น โดยทางโครงการฯ จะแจ้งให้ทราบถึงความก้าวหน้าในการแก้ไขปัญหาทุกๆ 15 วัน จนกว่าจะแก้ไขปัญหาข้อร้องเรียนแล้วเสร็จ

รูปที่ 4.6.3-1 ผังขั้นตอนการจัดการรับเรื่องร้องเรียนของโครงการฯ

ตารางที่ 4.6.4-1

กระบวนการในการสำรวจความคิดเห็นของประชาชนในชุมชนและกระบวนการในการรับเรื่องร้องเรียน

กระบวนการ	วิธีการ/ขั้นตอน
การทำป้ายประกาศ และกล่องรับฟังความคิดเห็น	แพน โอเรียนท์ จะติดประกาศซึ่งมีข้อมูลรายละเอียดโครงการฯ ไว้ ณ ตำบลที่ฐานหลุมผลิตตั้งอยู่ พร้อมกับเตรียมกล่องรับฟังความคิดเห็นเพื่อรวบรวมข้อคิดเห็นที่มีต่อโครงการฯ ของชุมชน หน้าฐานหลุมผลิตและในชุมชนที่ฐานหลุมผลิตตั้งอยู่ ทั้งนี้จะทำการตรวจสอบกล่องรับฟังความคิดเห็นทุกสัปดาห์ว่ามีการเขียนข้อร้องเรียนถึงบริษัทฯ หรือไม่ ทั้งยังสามารถร้องเรียนได้ด้วยตนเอง (ด้วยวาจา) โทรศัพท์ แฟกซ์ จดหมาย และอีเมลล์ และในทุกๆ ข้อร้องเรียนจะได้รับการจัดการตามขั้นตอน
ผังขั้นตอนระบบการจัดการเรื่องร้องเรียน: เรื่องร้องเรียนทั้งหมดจะได้รับการตอบกลับโดยเร็วที่สุดเท่าที่จะเป็นไปได้ แต่จะไม่นานกว่า 2 สัปดาห์ หลังจากได้รับเรื่องร้องเรียน	แพน โอเรียนท์ ได้พัฒนากลไกการรับเรื่องร้องเรียนเพื่อให้มั่นใจว่าทุกเรื่องร้องเรียนจากชุมชนได้รับการแก้ไขได้อย่างเหมาะสม ถูกต้องและเท่าเทียมกัน รวมถึงจะนำข้อร้องเรียนที่เกิดขึ้นมาใช้เป็นข้อมูลประกอบการพิจารณาแก้ไขปัญหาที่จะเกิดขึ้นในอนาคตได้อย่างเหมาะสม ผังขั้นตอนระบบการจัดการเรื่องร้องเรียนแสดงดังใน**รูปที่ 4.6.3-1** **ขั้นตอนการรับเรื่องร้องเรียน** 1. รับแจ้งข้อร้องเรียน - ผู้รับเรื่องร้องเรียนรับแจ้งข้อร้องเรียนจากผู้ร้องเรียน สามารถร้องเรียนได้ด้วยตนเอง (ด้วยวาจา) โทรศัพท์ แฟกซ์ จดหมาย และอีเมลล์ โดยสามารถติดต่อได้ที่ บริษัท แพน โอเรียนท์ เอ็นเนอยี่ (สยาม) ลิมิเต็ด 555 อาคาร รสา ทาวเวอร์ 2 ชั้น 17 ห้อง 1702 ถ.พหลโยธิน แขวงจตุจักร เขตจตุจักร กทม. 10900 โทร: (02) 937-1138-40 แฟ็กซ์: (02) 937-0841 2. แจ้งข้อร้องเรียนถึงผู้เกี่ยวข้อง - หลังจากผู้รับข้อร้องเรียนได้รับแจ้งข้อร้องเรียนแล้ว จะทำการบันทึกรายละเอียดลงในบันทึกข้อร้องเรียน จากนั้นทำการแจ้งไปยังทีม HSE และผู้จัดการภาคสนาม เพื่อพิจารณา/ตรวจสอบประเภทข้อร้องเรียนและประเมินระดับความรุนแรง 3. ตรวจสอบและหาสาเหตุของข้อร้องเรียน - เจ้าหน้าที่ของบริษัทจะลงพื้นที่ตรวจสอบที่จุดแจ้งเหตุร้องเรียน เพื่อวิเคราะห์สาเหตุ - เจ้าหน้าที่ประสานงานชุมชนลงพื้นที่พบผู้แจ้งเหตุร้องเรียน - ทำการบันทึกวิธีการแก้ไขเรื่องร้องเรียนลงในแบบฟอร์มเรื่องร้องเรียน 4. แจ้งกลับผู้ร้องเรียน - เมื่อบันทึกวิธีการแก้ไขเรื่องร้องเรียนลงในแบบฟอร์มเรื่องร้องเรียนเรียบร้อยแล้ว เจ้าหน้าที่ประสานงานชุมชนจะแจ้งกลับผู้ร้องเรียนภายใน 24 ชั่วโมง ในกรณีที่ไม่สามารถแก้ไขปัญหาได้ภายใน 24 ชั่วโมง เจ้าหน้าที่ประสานงานชุมชนจะชี้แจงต่อบุคคลที่ร้องเรียนภายใน 2 สัปดาห์ และในกรณีที่บริษัทไม่สามารถแก้ไขปัญหาได้ ภายใน 2 สัปดาห์ ทางบริษัทฯ จะมีการกำหนดให้มีการแก้ไขปัญหาที่เหมาะสมในระยะยาว และแจ้งกลับผู้ร้องเรียนให้รับทราบถึงวิธีการดำเนินการแก้ไขที่เหมาะสมและดำเนินการแก้ไขข้อร้องเรียน โดยทางโครงการฯ จะแจ้งให้ทราบถึงความก้าวหน้าในการแก้ไขปัญหาทุกๆ 15 วัน จนกว่าจะแก้ไขปัญหาข้อร้องเรียนแล้วเสร็จ จากนั้นทำการติดตามผลการดำเนินการแก้ไขข้อร้องเรียนว่าผู้ร้องเรียนมีความพึงพอใจหรือไม่ ในกรณีที่ไม่พอใจ บริษัทฯจะต้องทำการทบทวนการแก้ไขปัญหาอีกครั้ง 5. การปิดเรื่องร้องเรียน และสรุปปัญหาลงในรายงานประจำเดือน - เจ้าหน้าที่จะทำการบันทึกวันที่และรายละเอียดการดำเนินการแก้ไขข้อร้องเรียนลงในบันทึกเรื่องร้องเรียนและปิดเรื่องร้องเรียนพร้อมลายมือชื่อผู้ร้องเรียน (ในกรณีผู้ร้องเรียนเปิดเผยชื่อ) และมีการสรุปลงในรายงานประจำเดือนเพื่อนำเสนอต่อผู้จัดการด้านสิ่งแวดล้อม

ตารางที่ 4.6.4-1 (ต่อ)

กระบวนการ	วิธีการ/ขั้นตอน
การบันทึกข้อร้องเรียน	การบันทึกข้อร้องเรียนควรจะต้องมีข้อมูลดังต่อไปนี้ • วันที่ร้องเรียน • รายละเอียดและลักษณะของเรื่องร้องเรียน • ผลกระทบที่เกิดขึ้นต่อชุมชน/พื้นที่/บุคคล • ข้อมูลการดำเนินการแก้ไข • วันที่แจ้งผลกับผู้ร้องเรียน • วันที่ดำเนินการแก้ไข และปิดประเด็นเรื่องร้องเรียน
แบบฟอร์มบันทึกเรื่องร้องเรียน	แบบฟอร์มบันทึกเรื่องร้องเรียนจะเสร็จสมบูรณ์ โดยเจ้าหน้าที่ประสานงานชุมชน เจ้าหน้าที่สิ่งแวดล้อม หรือผู้ควบคุมดูแลฝ่ายประสานงานที่ดิน ทั้งนี้ขึ้นอยู่กับลักษณะของเรื่องร้องเรียนนั้นๆ **แบบฟอร์มบันทึกเรื่องร้องเรียน** แบบฟอร์มบันทึกเรื่องร้องเรียนจะประกอบไปด้วย • ชื่อของผู้ร้องเรียน • หมายเลขเรื่องร้องเรียน • รายละเอียดเรื่องร้องเรียน • การดำเนินการที่ต้องการให้ดำเนินการทันทีกับการดำเนินการระยะยาว • ลงชื่อยืนยันเรื่องร้องเรียน
การประชาสัมพันธ์กิจกรรมโครงการฯโดย แพน โอเรียนท์ ในชุมชนให้กับชุมชนในหมู่บ้าน	การประชาสัมพันธ์กิจกรรมโครงการฯ ของ แพน โอเรียนท์ จะถูกจัดขึ้นในแต่ละปีกับชุมชนที่อยู่ใกล้พื้นที่โครงการฯ (ภายในรัศมี 2 กิโลเมตร รอบฐานหลุมผลิต) โดยมีเป้าหมายคือเพื่อให้ประชาชนมีส่วนร่วมกับโครงการฯโดยตรง และเพื่อสื่อสารและแลกเปลี่ยนความคิดเห็นกันทั้งสองฝ่าย สำหรับการประชาสัมพันธ์กิจกรรมโครงการฯ นั้นทำให้บริษัทฯ ได้รับฟังความคิดเห็นและทราบการตอบรับของประชาชนต่อโครงการฯอย่างต่อเนื่องและเป็นปัจจุบัน และบริษัทฯ ยังสามารถเผยแพร่ข้อมูลข่าวสารให้ประชาชนได้โดยตรงอีกด้วย
การติดตามตรวจสอบคุณภาพชีวิตโดยใช้การสำรวจทัศนคติ	ทำการติดตามตรวจสอบคุณภาพชีวิตโดยใช้การสำรวจทัศนคติปีละ 1 ครั้ง ตลอดช่วงระยะเวลาดำเนินการผลิต โดยมีพื้นที่ดำเนินการภายในชุมชนและเส้นทางขนส่งในรัศมี 2 กิโลเมตร จากฐานหลุมผลิต

ภาคผนวก ง-2
ตัวอย่างแบบฟอร์มการรับเรื่องร้องเรียน



Pan Orient Energy (Siam) Ltd.

ใบร้องเรียน (Complaints Log)

วันที่ร้องเรียน **Date**	ลำดับที่ **Complaints No.**
ชื่อ-นามสกุล ผู้ร้องเรียน **Name of Complainant**	
ที่อยู่ที่ติดต่อได้สะดวก **Address of Complainant**	
ลักษณะเรื่องร้องเรียน: **Details of Complaint**	
บริเวณที่ได้รับผลกระทบ **Affected Area**	
ข้อเสนอให้ดำเนินการแก้ไข: **Propose Corrective Action**	
วันที่ได้ดำเนินการแก้ไขเรื่องร้องเรียน **Date Response was Issued to Complainant**	
วันที่เรื่องร้องเรียนยุติ **Close out Date**	
ผู้รายงาน: **Reported by**	

Pan Orient Energy (Siam) Ltd.

ใบร้องเรียน (Complaints Log)

วันที่ร้องเรียน **Date**	ลำดับที่ **Complaints No.**
ชื่อ-นามสกุล ผู้ร้องเรียน **Name of Complainant**	
ที่อยู่ที่ติดต่อได้สะดวก **Address of Complainant**	
ลักษณะเรื่องร้องเรียน: **Details of Complaint**	
บริเวณที่ได้รับผลกระทบ **Affected Area**	
ข้อเสนอให้ดำเนินการแก้ไข: **Propose Corrective Action**	
วันที่ได้ดำเนินการแก้ไขเรื่องร้องเรียน **Date Response was Issued to Complainant**	
วันที่เรื่องร้องเรียนยุติ **Close out Date**	
ผู้รายงาน: **Reported by**	

ภาคผนวก ง-3
กิจกรรมทางสังคม



งบสนับสนุนสำหรับหมู่บ้าน โรงเรียน และโรงพยาบาลส่งเสริมสุขภาพตำบล ภายในรัศมี 5 กิโลเมตร จากฐานหลุมผลิต และงบสนับสนุนด้านต่าง ๆ ตามความต้องการของชุมชน

- งบสนับสนุนจนถึงเดือนกันยายน ปี พ.ศ. 2566 เท่ากับ 1,176,332 บาท
  - โรงเรียน (493,052 บาท)
  - สาธารณสุข/รพ.สต. (215,080 บาท)
  - ชุมชนและวัด (330,000 บาท)
  - อื่น ๆ (138,200 บาท)

Pan Orient ENERGY



สนับสนุนงบประมาณ 138,200 บาท ให้แก่ สำนักงานพลังงานจังหวัดนครปฐม เพื่อดำเนินงานในโครงการ “การสร้างความรู้ความเข้าใจด้านพลังงานในชุมชนเพื่อเจตคติที่ดี” ประจำปี 2566 ระหว่างวันที่ 7-11 พ.ย. 2566










สนับสนุนงบประมาณ 100,000 บาท มอบของขวัญวันเด็ก ประจำปี 2566





สนับสนุนงบประมาณ 128,552 บาท ให้แก่ โรงเรียนบ้านห้วยด้วน เมื่อวันที่ 5 ส.ค. 2566 เพื่อดำเนินการสร้างรั้วโรงเรียน



สนับสนุนงบประมาณ 150,000 บาท ให้แก่หมู่บ้าน ม.8 บ้านห้วยด้วน ต. รางพิกุล เมื่อวันที่ 4 ส.ค. 2566 เพื่อปรับปรุงพื้นศาลาประชาคม