

ภาคผนวกที่ 3
เอกสารสัญญาจ้างผู้รับเหมาขับรถบรรทุกน้ำมันดิบ

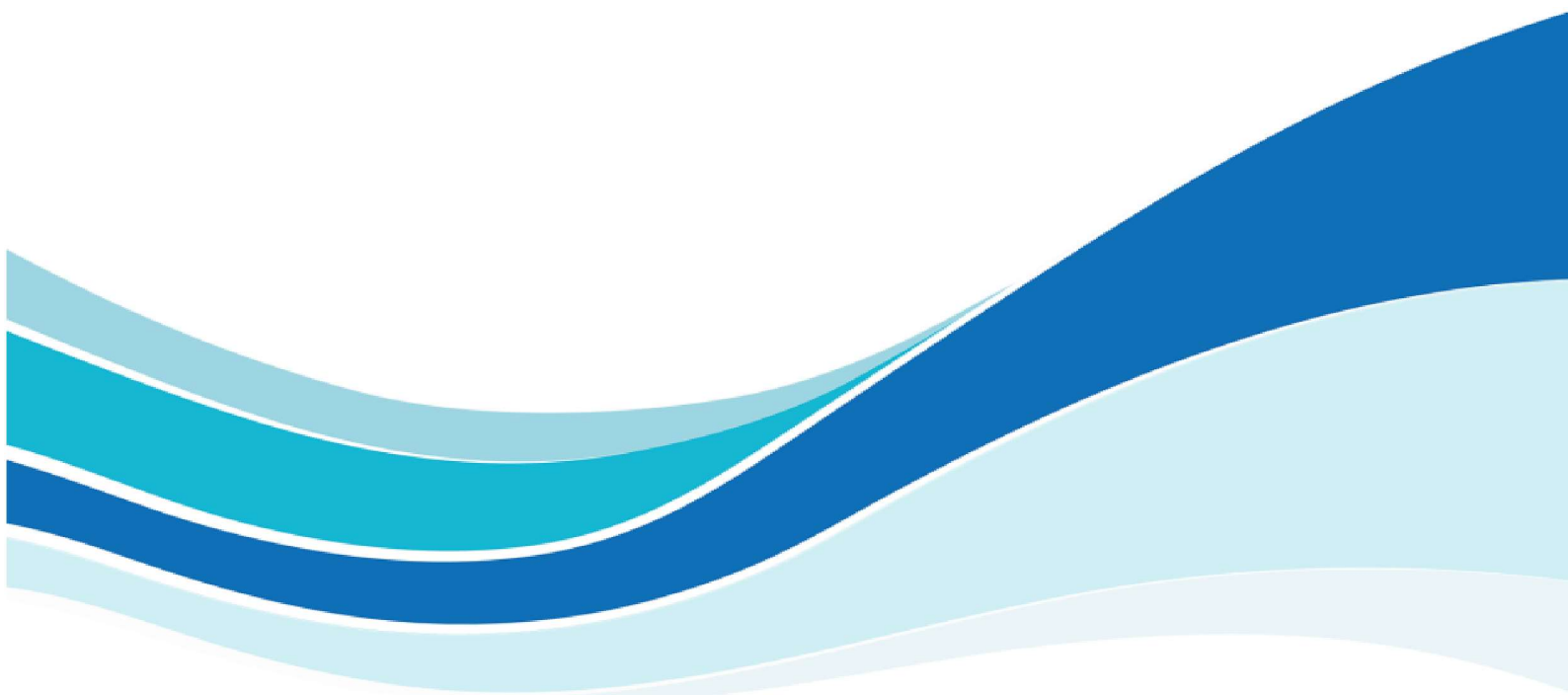


Exhibit A

Scope of the SERVICES

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1. Introduction

The Company holds the petroleum concession in respect of onshore petroleum concession situated in central plain and northeast of Thailand.

The Sirikit oil field (S1) and L22/43 concession are located approximately 400 kilometers north-west of Bangkok, mainly within the area Lan Krabue District of Kamphaeng Phet Province and there are small oil and gas well locations situated around the Sirikit field in Sukhothai, Phitsanulok and Uthaladit province.

The PTTEP1 oil field located approximately 230 kilometers north of Bangkok, mainly of production area are suited within the area Suphanburi province and L53/43 and L54/43 concessions.

2. General

The CONTRACTOR shall perform the SERVICES at all times to the highest standard applicable in the industry. The CONTRACTOR shall conform at all times in the performance of the SERVICES with the Thai national legislations and regulations, the Thai Labor and all relevant COMPANY rules and regulations, specifically, the COMPANY's Safety, Security, Health and Environment rules and regulations.

3. Scope of SERVICES

The Contractor shall provide the service for transportation of crude oil and/or produced water by road tankers specified in Vehicle Specification for Provisional of Crude Oil Fleet and loading and unloading of crude oil and produced water at the respective places. Driver will also provide necessary assistance at loading and unloading points as required by the plant authorities.

3.1 Vehicles

The CONTRACTOR shall provide and operate Road Tankers (3-axel-semi-trailer) in combination with aluminum tank capacity at least 36,000 liters at least 45 units for S1 & L22/43 Asset and 7 units for PTTEP1, L53/43 and L54/43 Asset respectively.

- a) The Road Tankers for servicing in Northern region concessions and assets (S1 and L22/43) to be provided and shall be used exclusively for the transportation of COMPANY's crude oil and produced water from production station, LKU or others COMPANY's remote locations within

concession to COMPANY's crude oil terminal, Bung Para, Phitsanulok and/or other destination specified by the COMPANY.

- b) The Road Tankers for PTTEP1, L53/43 and L54/43 asset to be provided and shall be used exclusively for the transportation of crude oil and produced water from production station in Suphanburi area or others COMPANY's remote location to destination specified by the COMPANY. The stabilized crude oil shall transport to Bangchak Refinery in Bangkok and/or destination specified by the COMPANY.

Road Tankers shall be the assets of CONTRACTOR, and shall be used exclusively for transportation of COMPANY's crude oil and produced water. The Road Tankers shall be provided to classification for the carriage of petroleum products and meet the COMPANY minimum Vehicle Standard and Specifications. All Road Tankers to be supplied by the CONTRACTOR shall be inspected and certified in accordance with the COMPANY's requirements, and the Road Tankers shall not be older than 10 years at the end of the CONTRACT period.

3.2 Drivers

CONTRACTOR shall provide experienced, well trained and medical fit drivers to operate the vehicles. CONTRACTOR shall make its own arrangements for the engagement/recruitment of drivers, including management of driver incentive scheme and team rewards as per attachment "Road Tanker Driver Manual". The costs incurred regarding the scheme shall be reimbursed to the COMPANY and it is subject to the handling charge as specified in Schedule of Rates of this CONTRACT.

3.3 Road Safety Management

- a) The CONTRACTOR shall provide the In Vehicle Management System (IVMS) for tracking and monitoring of crude oil fleet. The feature of vehicle shall provide information and function as following:

- fully complied with Land Transportation Department,
- web base monitoring,
- over speed audio alarm,
- records of speed over time,
- records of distance travelled,
- records of excessive braking and acceleration,
- records showing when the vehicle was being driven and when stationary or idle duration,
- records of the engine revs over time,
- records of turning light turn on and duration time,
- the number of occasions when the maximum revs were exceeded,
- the number of occasions in a given period that the maximum speed was exceeded,

- the number of occasions when rest breaks were taken,
 - the time when each rest break commenced, and
 - the duration of each rest break.
- b) The CONTRACTOR shall provide Citizen Band (CB) radio with voice activated speaker phone on all vehicle. The CB radio shall be fixed on vehicle dash board at the driver position.

- c) The CONTRACTOR shall provide transport coordinator for management the readiness of vehicles and drivers prior to start working, tool box talk, breathing alcohol test, retrieve driving data from in vehicle management system (IVMS) and driving hours of driver.

- d) Applicable for the S1 concession area, the CONTRACTOR shall provide transport inspector for enroute road safety management, roadside assistance and observe driving behavior.

4. COMMENCEMENT DATE of the SERVICES

The CONTRACTOR shall commence the SERVICES on 1st January 2016.

Vehicle Specification for Provisional of Crude Oil Fleet

Heavy Goods vehicle

Tractor unit rated for a GCW of 50,000 kg.
Used for the hauling of crude oil.

General		Item	Comments and/or motivation
	Overall Design	1.1	<p>The vehicle to which this specification refers is a</p> <ul style="list-style-type: none">• 3-axle tractor for use with a three-axle semi-trailer.• Although the current maximum GCW limit in Thailand is 40,500 kg the tractor unit must meet a GCW of 50,000 kg to be able to cope with possible future increased GCW limits in Thailand.• Engine brake capacity should be sufficient to comply with ADR regulations at a GCW of 44,000 kg.
	Legislation	1.2	<p>The complete vehicle is to comply with:</p> <ul style="list-style-type: none">• The laws and standards of Thailand.
	Weight and dimensions	1.3	<ul style="list-style-type: none">• A GCW of 50,000 kg.• Fifth wheel position must allow a GVW of 21,000 kg when trailer fully loaded, without exceeding current legal axle loads.
	Operating conditions	1.4	<ul style="list-style-type: none">• Tropical climate with ambient temperatures up to 45 degrees C.• Black top roads.• Vehicle will be operated in flat terrain with maximum speeds of 60km/h loaded and unloaded.
Driveline			
	Engine	2.1	<ul style="list-style-type: none">• Diesel engine, water-cooled• Emissions standard EURO-3.• 380 BHP with a minimum torque output of 1700 Nm.• Fuel tank capacity 300 Litres.
	Transmission	2.2	<ul style="list-style-type: none">• Drive configuration 6*2.• Cross-axle differential lock.• Rear axle rated for a GCW of 50,000 kg.• Twin mounted wheels on both rear axles.• Traction control.
	Chassis	2.3	<ul style="list-style-type: none">• Axle distance 3100 mm.• GVW is 21,000 kg.• GCW is 50,000 kg (will be operated at 40,500 kg)
	Suspension front	2.5	<ul style="list-style-type: none">• Parabolic Springs.
	Suspension Rear	2.6	<ul style="list-style-type: none">• Air suspension.• Each wheel must have its separate levelling valve.
	Brakes	2.7	<ul style="list-style-type: none">• Compressed air power brakes with air dryer.• Exhaust brake, compressed air operated.• ABS-system, electronically regulated, separate sensors.• Drum brakes.

		<ul style="list-style-type: none">• Automatic slack adjusters.• Dual circuit, with a minimum of 2 wheels per circuit.• Blocking safety valve, which makes it impossible to drive the tractor without sufficient air pressure.• Parking brake is to be released by air pressure and activated by a mechanical coil-spring. Furthermore this system is to operate independently of the driving brakes. Must be able to function as an emergency brake.• Manual control valve for separate trailer braking.
2.8	Steering	<ul style="list-style-type: none">• Right hand drive.• Power assisted.• Adjustable steering wheel and column.• Steering column must be of safety type and fully collapsible in the event of an accident.
2.9	Wheels / tyres	<ul style="list-style-type: none">• Steel wheels designed for use with tubeless tyres.• Wheel size: 8.25-22.5• Tubeless radial tyres of the same type and profile with all weather tread pattern.• Tyre size: 295/80R22.5
2.10	Exhaust	<ul style="list-style-type: none">• The exhaust outlet direction low right hand side.• The outlet to comply with ADR regulations for class III products.
Electric system		
3.1	General	<ul style="list-style-type: none">• Negative ground lead through chassis 24 Volts.
3.2	Lighting	<ul style="list-style-type: none">• Daytime running light.• In addition to the standard lights the following is required:<ul style="list-style-type: none">• Fog lights.• Hazard warning lights.
3.3	Instrument panel	<p>As a minimum the following equipment to be installed:</p> <p>Meters and gauges</p> <ul style="list-style-type: none">• Speedometer in Km/h.• RPM of engine.• Odometer in KM with trip odometer.• Oil pressure gauge.• Air pressure gauge for tractor unit.• Air pressure gauge for trailer unit.• Engine coolant temperature gauge.• Voltage.• Fuel level. <p>Control indicators for:</p> <ul style="list-style-type: none">• Headlight on with a high beam indicator.• Turn signal (also audible) and hazard warning lights.• Parking brake.• Engine pre-heating system.• Fuel filter.• ABS brake system of tractor.

		<ul style="list-style-type: none"> • ABS brake system of trailer. • Differential lock. • Low air pressure (also audible). • Battery charging. • Mirror heating.
3.4	Windscreen wipers	<ul style="list-style-type: none"> • 2 speed with interval switch.
3.5	Reversing alarm	<ul style="list-style-type: none"> • The vehicle must be fitted with an audible reversing alarm. The reversing alarm shall sound immediately when the reverse gear is selected and shall be designed to meet SAE J994 standard (type D –87db (A)) or equal.
	Cigarette lighter socket	<ul style="list-style-type: none"> • Provision of any cigarette lighter socket to be deleted.
Bodyworks		
4.1	Vehicle body design	<ul style="list-style-type: none"> • Forward control. • Day Cab.
4.2	Windscreen	<ul style="list-style-type: none"> • Laminated glass windscreen.
4.3	Side windows	<ul style="list-style-type: none"> • Tempered glass. • Electrical operation of the passenger's side and drivers side windows to be provided from a control operable by the driver.
4.4	Mirrors	<ul style="list-style-type: none"> • External adjustable wing-mirrors to be fitted on the offside and near side. • Both sides to be equipped with a separate wide-angle section below the main mirror. • Close vicinity mirrors to be fitted at the top of the passenger door. • A front view mirror fitted below the outer sun visor.
4.5	Protection	<ul style="list-style-type: none"> • Front under run protection. • Closely tailored chassis side-skirts with flush panels. • Side skirts to be reinforced to be able to act as side impact protection. • Both front under run as well as side skirts must be at 400 mm (maximum) from the ground.
4.6	Driver Seat	<ul style="list-style-type: none"> • Driver seat with air suspension. • Three point inertia seat belts must be directly fitted to the driver seat.
4.7	Storage compartment	<ul style="list-style-type: none"> • Outside storage compartment for gloves, helmet and shoes on the driver side of the vehicle. • Compartment must be separated from the cab interior to allow contaminated gloves to be stored.
Electronics		
5.1	Entertainment system	<ul style="list-style-type: none"> • Radio/CD player of self-scanning type with touch button controls.
5.2	IVMS-system	<ul style="list-style-type: none"> • Fully comply with LTD regulations.

	(In-Vehicle-Monitoring-System)	<ul style="list-style-type: none"> • Vehicle to be equipped with an electronic data recorder. Must register the following data: • Driver identification. • Speed. • Engine RPM. • Acceleration and deceleration. • Turning indicators. • Windscreen wipers. • Must register events at a time frame of at least one registration per second. • Exact parameters to be provided in due course.
	Vision camera	<ul style="list-style-type: none"> • 2 Video camera as a minimum for recording the diving • Web based, real time streaming
5.3	Citizen band radio	<ul style="list-style-type: none"> • Vehicle to be equipped with citizen band radio (CB) and voice activated speaker phone.
Safety		
6.1	Fire extinguisher	<ul style="list-style-type: none"> • One 2 kg Dry Chemical Powder extinguisher to be placed inside the cabin within easy reach of the driver seat. • One 9 kg Dry Chemical Powder to be fitted immediately to the rear of the cab on the offside of the vehicle. The extinguisher must be accessible from ground level.
6.2	First aid kit	<ul style="list-style-type: none"> • One first aid kit to be placed inside the cabin within easy reach of the driver. • It must be clearly indicated in Thai and English on visible locations where the first aid is located inside the cabin.
6.3	Safety equipment	<ul style="list-style-type: none"> • Two warning triangles / or orange cones. • One high visibility safety vest. • One explosion proof flashlight.
6.4	Tools	<ul style="list-style-type: none"> • Standard tools as provided from the manufacturer. • Jack and appropriate tools to safely change a wheel.
6.5	Hammer	<ul style="list-style-type: none"> • One safety hammer reachable by the driver.
Additional equipment		
7.1	Fifth Wheel	<ul style="list-style-type: none"> • 2" with no lateral movement.
7.2	Mud guards	<ul style="list-style-type: none"> • Mudguards rear to be fitted. • Mudguard suited for specified fifth wheel height. • Wheel flaps to be of spray suppressant material (i.e. bristles)
7.3	Trailer connections	<ul style="list-style-type: none"> • Two air line system. • Air connections as defined in ISO-1728 (palm type connector). • Electrical connection as defined in ISO-1185 (7-pin connector). • Supplementary connection as defined in ISO 3731 (7-pin connector). • ABS coupling as defined in ISO 7638 (7-pin connector).

7.4	Air-condition	<ul style="list-style-type: none">The vehicle must be supplied with sufficient air-conditioning capacity for the use of the vehicle type and size in a tropical climate with ambient temperatures up to 45 Degree. C.Environmental friendly cooling medium is to be used.
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Semi-trailer - Top loading

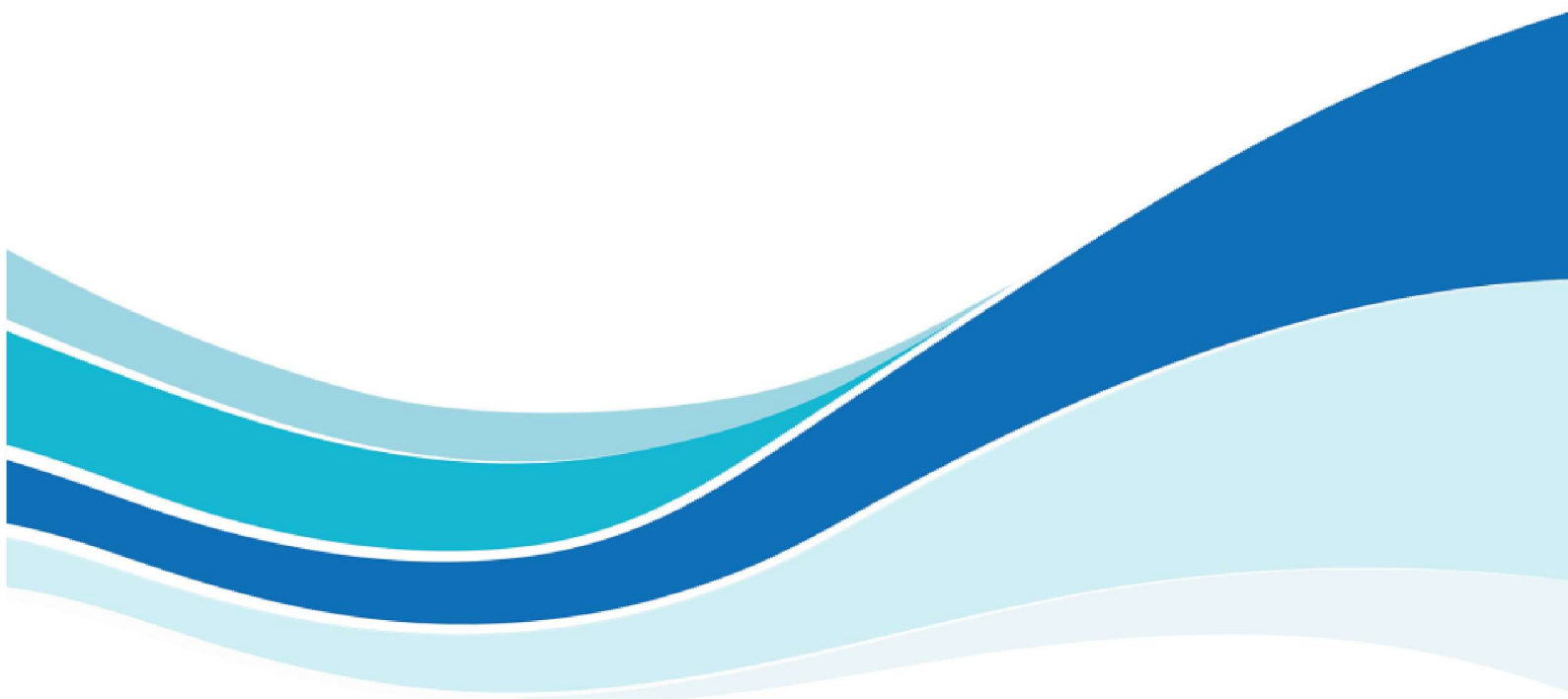
Item		Comments and/or motivation
General		
1.1	Overall Design	<ul style="list-style-type: none">Aluminium elliptical tank for hauling crude oil (UN code 1267).Suitable for operation with a 3-axle tractor unit.Will be used with a tractor unit equipped with air suspension.Will be used with a tractor unit equipped with ABS.Will be loaded via top loading.
1.2	Legislation	<p>The complete vehicle is to comply with:</p> <ul style="list-style-type: none">The laws and standards of Thailand.NFPA 385, edition 2000.DOT 406.ADR, Annex A and B, version July 2001.
1.3	Operating conditions	<ul style="list-style-type: none">Tropical climate with ambient temperatures up to 45 degrees C.Black top roads.Tank to operate at atmospheric pressure.Tank maximum operating temperature at 60 degree C.
1.4	Specific gravity	<ul style="list-style-type: none">The specific gravity of the crude oil is 0.805
Tank design and construction		
3.1	Tank shape	<ul style="list-style-type: none">Elliptical
3.2	Capacity	<ul style="list-style-type: none">36,000 litres of liquid to be loaded plus 3% Ullage.At each of the three manholes with filling covers an ullage marker must be visible.
3.3	Weights	<ul style="list-style-type: none">Tanker must be suitable for operation with a 3-axle tractor unit at a GCW of 44,000 kg.Kerb weight of the tractor unit approx.: 8000 kg (this is excluding driver and fuel).Kingpin maximum: 15,000 kg (exact figure to be confirmed).Trailer axle 1, 2 and 3: 8,000 kg each (max.).
3.4	Number of tank compartments	<ul style="list-style-type: none">1(one).
3.5	Height of 5th wheel	<ul style="list-style-type: none">The height of the fifth wheel on the tractor will be at 1265mm.
3.6	Trailer height	<ul style="list-style-type: none">3.10 meters maximum.
Tank equipment		
4.0	Manholes / covers	<ul style="list-style-type: none">20" manhole covers.4 (four) manholes with 10" fill cover for top loading.

		<ul style="list-style-type: none">A pressure / vacuum breather valve to be fitted to each man lid.Breather (vent) valve to be equipped with rollover seal off's.
4.1	Emergency valves	<ul style="list-style-type: none">4" Emergency (foot) valves.non-pressured balance type.Valves to be mechanically operated.Valves to be supplied without strainers.Total number of emergency (foot) valves 2 (two).
4.2	Outlet valves	<ul style="list-style-type: none">4" Male dry break quick coupling.To mount on the kerb side (LH) of the vehicle.Operations of valve mechanical with detachable lever.Hose connection 4" cam lock (i.e. cam groove type).Coupling face angled downwards.Accident damage protection to comply with DOT, NFPA and ADR.
Running gear		
5.0	Axles	<ul style="list-style-type: none">Number of axles: 3Axles load capacities to be rated for 9000 kg per axle.Axles distances between any two of the three closely spaced axles must be at least 1.3 meters.Steering axles not required.Lift axle devices not required.Axle brand: BPW, Germany or equivalentAxle laser alignment certificate to be provided.
5.1	Suspension	<ul style="list-style-type: none">Air suspension.
5.2	Brake system	<ul style="list-style-type: none">Compressed air power brakes.Drum brakes.Automatic slack adjusters.Load sensing valve to provide optimum braking in both loaded and unloaded conditions.ABS-system, electronically regulated, separate sensors.Double diaphragm actuators.Wire pull drain valves to air reservoirs.
5.3	Wheels / tyres	<ul style="list-style-type: none">Steel wheels designed for use with tubeless tyres.Wheel size: 8.25-22.5Tubeless radial tyres of the same type and profile with all weather tread pattern.Tyre size: 295/80R22.5Tyre brand: Michelin.All axles twin mounted tyres.
5.4	Mud wings/guards	<ul style="list-style-type: none">To be of aluminium or a material which has demonstrated to pass the "Warrington Fire research test".Spray suppression system to comply with EC directive (91/226/EEC).Wheel flaps to be of spray suppressant material (i.e. bristles).

Semi-trailer equipment	
6.0	Trailer connections <ul style="list-style-type: none"> Two air line system. Air connections as defined in ISO-1728 (palm type connector). Electrical connection as defined in ISO-1185 (7-pin connector). Supplementary connection as defined in ISO 3731 (7-pin connector). ABS coupling as defined in ISO 7638 (7-pin connector).
6.1	Kingpin <ul style="list-style-type: none"> Kingpin 50 mm. Kingpin to be of a bolt-in type (underside of skid plate). Kingpin to comply with ISO-337: 1981: Road vehicles -50 semi-trailer fifth wheel coupling pin - Basic and mounting / inter-changeability dimensions.
6.2	Support legs Trestle <ul style="list-style-type: none"> Landing legs to be complied with regal requirements. Trestle to be made of steel. Manufacturer to provide a total of four (4) trestles with the number of semi-trailers ordered.
7.0	Side guards and rear bumper Rear under run protection <ul style="list-style-type: none"> To comply with ADR, DOT and NFPA requirements as a minimum. Maximum distance between lower edge of the bumper and the ground 400 mm. The rear under run bumper must be constructed so it is capable of with standing a force equivalent to half the gross weight of the trailer or a maximum of 10 Tonnes, whichever is the lesser, without deflecting more than 400 mm measured from the rear most point of the trailer – not from the original vertical position of the bumper. Bumper must extend within 100 mm of the outermost width of the rear axle (i.e. the outermost face of the tyres), but must not in any case extend beyond the outermost face of the tyres.
7.1	Side guards <ul style="list-style-type: none"> Maximum distance between lower edge of the side guards and the ground 400–450mm. Top of the side guards not less than 1100 mm from the ground. Side guards must be constructed so they are capable of with standing a force equivalent to 3.6 Tonnes side impact without deflecting more than 300 mm. (TRL input required). These guards must be fitted with a flush panel surface to avoid any risk of trapping motorcycle handlebars. Position of the side guards (additional information): <ul style="list-style-type: none"> The inboard maximum from the outer face of the tyres is 30mm. Distance to the trailer tyres should be less than 200 mm. Gap between tractor wheels and trailer side guards shall be minimised. Exact distance to the tractor to be confirmed by manufacturer. Note that a trailer trestle will be used.

Electrical system	
8.1	System <ul style="list-style-type: none"> 24 Volt electrical system. Electrical system to comply with ADR requirements.
8.2	Lighting system Rear <ul style="list-style-type: none"> All lights to be of the LED type. Two lower stop / rear lights on each vehicle side. Two lower turning indicators on each vehicle side. Rear lights not more than 400 mm from the outside edge of the vehicle. In addition One high positioned stop/rear light and turning indicator on each vehicle side. These lights to be between 2000 and 2200 mm from the ground.

ภาคผนวกที่ 4
สำเนาการจัดส่งรายงานผลการปฏิบัติตามมาตรการฯ
ครั้งที่ 2 ประจำปี พ.ศ. 2565





บริษัท ปตท.สผ. อินเตอร์เนชั่นแนล จำกัด

PTTEP International Limited

A Company of PTTEP Group

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ที่ ปตท.สผ.อ. 13250/00-0525/2023

13 มกราคม 2566

เรื่อง ขอส่งรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบและมาตรการติดตามตรวจสอบคุณภาพ
สิ่งแวดล้อมระยะผลิตปิโตรเลียม ระหว่างเดือนกรกฎาคมถึงเดือนธันวาคม ประจำปี 2565 แปลง PTTEP1
L53/43 และ L54/43 โครงการสุพรรณบุรี

เรียน อธิบดีกรมเชื้อเพลิงธรรมชาติ

สิ่งที่ส่งมาด้วย รายงานผลการปฏิบัติตามมาตรการการป้องกันและแก้ไขผลกระทบและมาตรการติดตามตรวจสอบ
คุณภาพสิ่งแวดล้อมระยะผลิตปิโตรเลียม ระหว่างเดือนกรกฎาคมถึงเดือนธันวาคม ประจำปี 2565
แปลง PTTEP1, L53/43 และ L54/43 จำนวน 2 ชุด

ตามที่ บริษัท ปตท.สผ. อินเตอร์เนชั่นแนล จำกัด ผู้รับสัมปทานและดำเนินการตามสัมปทาน
ปิโตรเลียมเลขที่ 2/2528/27 เมื่อวันที่ 5 กุมภาพันธ์ พ.ศ. 2528 และสัมปทานปิโตรเลียมเลขที่ 2/2547/68 เมื่อวันที่
22 มกราคม 2547 ครอบคลุมพื้นที่แปลง PTTEP1, L53/43 และ L54/43 ได้เสนอรายงานการวิเคราะห์ผลกระทบ
สิ่งแวดล้อม ให้สำนักงานนโยบายและแผนทรัพยากรธรรมชาติและสิ่งแวดล้อม และคณะกรรมการผู้ชำนาญการด้าน
พัฒนาปิโตรเลียมพิจารณารายงานฯ ตามลำดับขั้นตอนการพิจารณารายงานฯ โดยคณะกรรมการผู้ชำนาญการฯ มีมติ
ให้ความเห็นชอบรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อม และให้ปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบ
สิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อมอย่างเคร่งครัด

ในปี 2566 บริษัทฯ ได้มอบหมายให้ บริษัท ยูไนเต็ด แอนนาลิสต์ แอนด์ เอ็นจิเนียริง คอนซัลแตนท์
จำกัด เป็นผู้ดำเนินการและเป็นผู้จัดเตรียมรายงานผลฯ ดังกล่าว บัดนี้ บริษัท ยูไนเต็ด แอนนาลิสต์ แอนด์ เอ็นจิเนียริง
คอนซัลแตนท์ จำกัด ได้จัดเตรียมรายงานเสร็จเรียบร้อยแล้ว บริษัทฯ จึงขอส่งรายงานตามสิ่งที่ส่งมาด้วยนี้

จึงเรียนมาเพื่อโปรดทราบ

ขอแสดงความนับถือ

กองความปลอดภัยและสิ่งแวดล้อม
เชื้อเพลิงธรรมชาติ ได้รับเอกสารแล้ว
ผู้รับ.....
วันที่..... 25 ม.ค. 66
เวลา..... 13.33 น.

ผู้จัดการอาวุโส ฝ่ายปฏิบัติการผลิตโครงการสินภูฮ่อมและสุพรรณบุรี
รักษาการ ผู้ช่วยกรรมการผู้จัดการใหญ่ โครงการผลิตบนฝั่ง - ประเทศไทย

โครงการสุพรรณบุรี

ผู้ประสานงาน

โทรศัพท์ 0-2537-4000 ต่อ 810-5015

สิ่งที่ส่งมาด้วย

สรุปรายชื่อโครงการในรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมที่มีกิจการดำเนินกิจกรรม ช่วงเดือนกรกฎาคมถึงธันวาคม พ.ศ. 2565 ในแปลง PTEP1, L53/43 และ L54/43 ของบริษัท ปตท.สผ. อินเตอร์เนชั่นแนล จำกัด จำนวน 3 โครงการ

ที่	ชื่อรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม	เลขที่หนังสือเห็นชอบ
1	รายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมโครงการผลิตปิโตรเลียมแหล่งบึงกระเทียม แหล่งบ้านดอนตะไล และแหล่งไขขาวาง แปลง L53/43 และแปลง L54/43 จังหวัดสุพรรณบุรี, พ.ศ. 2557	ทส 1009.2/174 ลงวันที่ 8 มกราคม 2558
2	รายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อม โครงการผลิตปิโตรเลียมแหล่งหัวไผ่ทุ่ง แหล่งหนองผักชี และแหล่งหนองกระสัง แปลง L54/43 จังหวัดสุพรรณบุรี, พ.ศ. 2559	ทส 1009.2/12518 ลงวันที่ 17 ตุลาคม 2559
3	รายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมโครงการผลิตปิโตรเลียมแหล่งบ้านดอนตะไลส่วนขยาย แปลง L53/43 จังหวัดสุพรรณบุรี, พ.ศ. 2559	ทส 1009.1/8036 ลงวันที่ 12 กรกฎาคม 2559



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13 มกราคม 2566

เรื่อง ขอแจ้งรายชื่อโครงการในรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมที่ไม่มีการดำเนินกิจกรรม ช่วงเดือน
กรกฎาคมถึงเดือนธันวาคม 2565 ของบริษัท ปตท.สผ. อินเตอร์เนชั่นแนล จำกัด

เรียน อธิบดีกรมเชื้อเพลิงธรรมชาติ

สิ่งที่ส่งมาด้วย รายชื่อโครงการในรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมที่ไม่มีการดำเนินกิจกรรม ช่วงเดือน
กรกฎาคมถึงเดือนธันวาคม 2565 ในแปลง PTTEP1, L53/43 และ L54/43 จำนวน 1 ชุด

ตามที่ บริษัท ปตท.สผ. อินเตอร์เนชั่นแนล จำกัด ผู้รับสัมปทานและดำเนินการตามสัมปทาน
ปิโตรเลียมเลขที่ 2/2528/27 เมื่อวันที่ 5 กุมภาพันธ์ พ.ศ. 2528 และสัมปทานปิโตรเลียมเลขที่ 2/2547/68 เมื่อวันที่
22 มกราคม 2547 ครอบคลุมพื้นที่แปลง PTTEP1, L53/43 และ L54/43 ได้เสนอรายงานการวิเคราะห์ผลกระทบ
สิ่งแวดล้อม ให้สำนักงานนโยบายและแผนทรัพยากรธรรมชาติและสิ่งแวดล้อม และคณะกรรมการผู้ชำนาญการด้าน
พัฒนาปิโตรเลียมพิจารณารายงานฯ ตามลำดับขั้นตอนการพิจารณารายงาน โดยคณะกรรมการผู้ชำนาญการฯ มีมติ
ให้ความเห็นชอบรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อม และให้ปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบ
สิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อมอย่างเคร่งครัด

บริษัทฯ ไม่มีการดำเนินกิจกรรมตามที่ได้ได้รับความเห็นชอบในรายงานในระหว่างเดือนกรกฎาคมถึง
เดือนธันวาคม จำนวน 3 โครงการ ตามสิ่งที่ส่งมาด้วย ดังนั้น บริษัทฯ จึงใคร่ขอนำส่งสรุปรายชื่อโครงการในรายงาน
การวิเคราะห์ผลกระทบสิ่งแวดล้อมที่ไม่มีการดำเนินกิจกรรมและไม่มีการจัดทำรายงานผลการปฏิบัติตามมาตรการ
ป้องกันและแก้ไขผลกระทบสิ่งแวดล้อมและมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม ของพื้นที่แปลง
PTTEP1, L53/43 และ L54/43 ภายใต้บริษัท ปตท.สผ. อินเตอร์เนชั่นแนล จำกัด

จึงเรียนมาเพื่อโปรดทราบ

ขอแสดงความนับถือ

กองความปลอดภัยและสิ่งแวดล้อม
เชื้อเพลิงธรรมชาติ ได้รับเอกสารแล้ว
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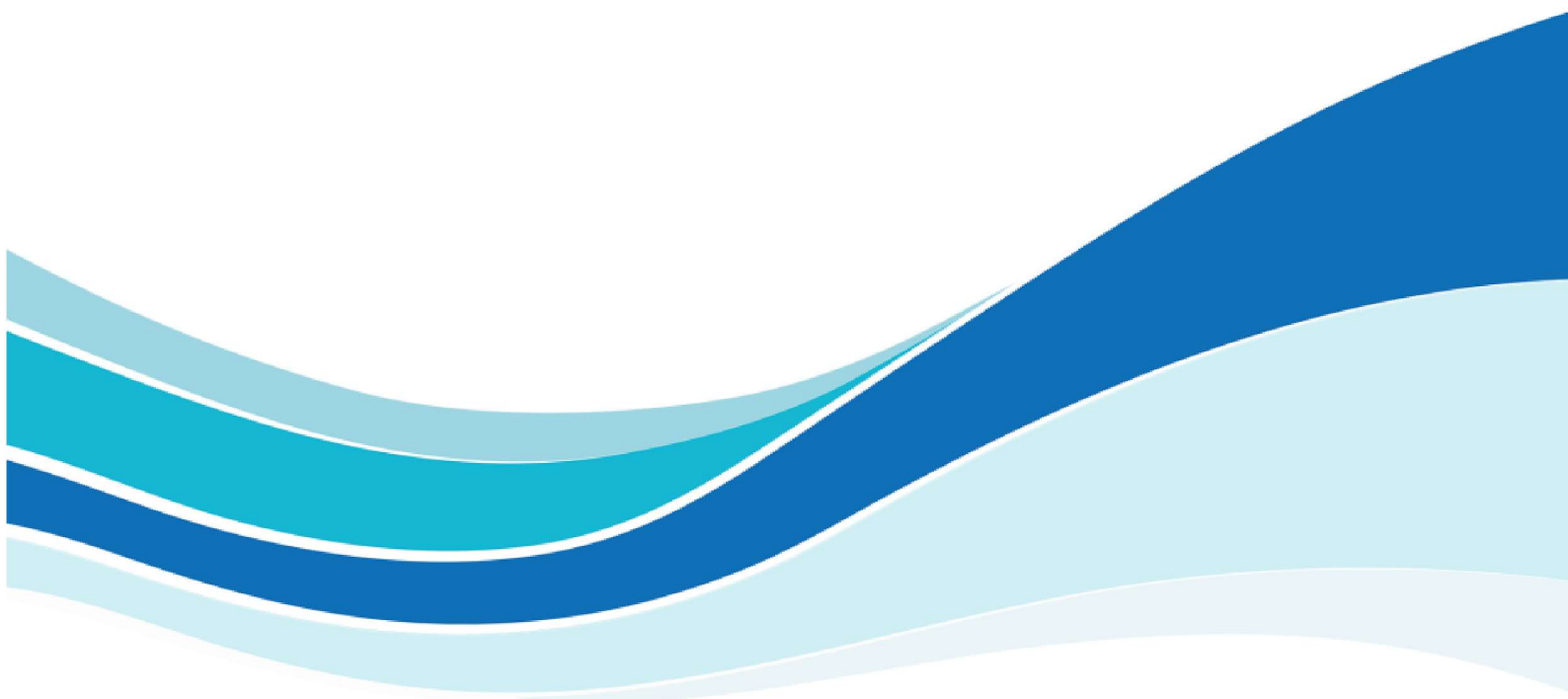
ผู้จัดการอาวุโส ฝ่ายปฏิบัติการผลิตโครงการสินภูฮ่อมและสุพรรณบุรี
รักษาการ ผู้ช่วยกรรมการผู้จัดการใหญ่ โครงการผลิตบนฝั่ง - ประเทศไทย

โครงการสุพรรณบุรี

ผู้ประสานงาน

โทรศัพท์ 0-2537-4000 ต่อ 810-5015

ภาคผนวกที่ 5
Audit and Review Standard





PTTEP

PTT Exploration and Production Public Company Limited



Audit and Review Standard

11038-STD-SSHE-701-R06

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This document shall be reviewed every 5 years from the date of approval or revised earlier if necessary.

Audit and Review Standard

Document Number: 11038-STD-SSHE-701-R06

July 2023

Revision History			
Rev.	Description of Revision	Authorized by	Effective Date
0	New	CEO	September 2000
1	<p>This "SSHE Audit and Review Standard (SSHE MS.S.15) replaces the HSE Policies and Procedures Manual Part B 6 "HSE Reviews and SSHE Audits (SP.PHS.006/00-R0)". Changes from the last version are:</p> <ul style="list-style-type: none"> Detailed the process of audit and review activities. Specified the structure of audit report. Defined rating system for evaluating the degree of conformance against 7 SSHE MS elements resulted from top management visit. 	CEO	June 2009
2	<ul style="list-style-type: none"> Position titles changed according to the company organizational as of February 2011. Roles and responsibilities of Asset SSHE Advisor and corporate SSHE Engineer included. Audit process and the detailed requirements to cover all essential elements according to ISO19011 for example manage the audit program, evaluate the auditor performance, etc. Description of SSHE Council Meeting and Top management committee meeting is inclusive as one of top management review activities. 	CEO	March 2011
3	<ul style="list-style-type: none"> Expand the Standard in line with the requirements as written in the SSHE MS. Restructured Text and headings. Removed report writing template. Modified the Findings assessment and evaluation criteria. 	CEO	December 2011

Revision History			
Rev.	Description of Revision	Authorized by	Effective Date
4	<ul style="list-style-type: none"> Updated referenced documents - added SSHE MS documents and deleted non-applicable international references. Modified Appendix A: Audit Types, Frequency, Leader, and SSHE MS reviews every 5 years instead of 3 yearly. Audits conducted entirely by other departments removed e.g. aviation audits. Modified evaluation criteria for SSHE MS audits based on 7 elements of SSHE MS and control acceptability. Modified the Audit Terms of Reference template example to be SSHE MS audit (other templates are available from TPA). Updated names as per organization change and SSHE Operating Model. Minor text upgrades. 	CEO	September 2016
5	<ul style="list-style-type: none"> Added more specific terminology and definitions related to the audit process in accordance with ISO19011:2018. Amended the position title, role and responsibilities Revised the requirement structure and processes of audit and review to align with ISO19011:2018 and described on how to manage and implement a SSHE audit program. Revised the qualification of audit team leader and audit team. Added timeframe of actions taken. Added the Appendix C: Decision Matrix Guide for Combined Audit Program. Revised the audit finding classification for evaluating the audit finding severity. Discarded the evaluation of control acceptability criteria. Discarded the Appendix D: Verbs to Use for Recommendations. 	CEO	October 2018

Revision History

Rev.	Description of Revision	Authorized by	Effective Date
	<ul style="list-style-type: none">Modified the Audit Terms of Reference template and Appendix B: Minimum Frequency Requirement for SSHE Audit and Review.Added the Management review requirements.Added the appendix F for example of audit finding report.		
6	<ul style="list-style-type: none">Superseded the Nonconformity, Corrective and Preventive Action Procedure (10018-PDR-SSHE-701/03-R02).Revised the finding severity classification criteria, the selection audit team members process and auditor qualifications, list of SSHE audits and frequency, roles & responsibilities.Added the new SSHE Compliance Assurance Model, SSHE MS Verification, and Nonconformity identification and reporting channel.Discarded the Appendix A: SSHE Audit Program template, Appendix C: Decision matrix guide for determining the combined audit programAdded Appendix E: Example of SSHE MSV toolkit & scoring book	CEO	July 2023

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INTRODUCTION

1.0 PURPOSE

This standard describes the requirements for audit and review plans, the planning, execution and closeout of audits and continuous improvement of the Safety, Security, Health and Environment (SSHE) auditing process.

It applies to all independent SSHE audits and internal SSHE audits, which form part of a Corporate, Division and standard SSHE plan. The audits and reviews carried out within the PTTEP SSHE Corporate, Division and Standard plans are provided by approved assurance providers. All audits listed in PTTEP SSHE Corporate, Division and Standard plans shall be conducted following this standard.

It is recommended that this standard may also be used as a guideline for those audits and inspections undertaken outside the SSHE plans.

Audit and Review is the 7th element of the SSHE Management System (SSHE MS) and the standard sets out to have a uniform way of managing SSHE auditing in PTTEP to determine:

1. Whether or not SSHE MS elements and activities conform to planned arrangements and are implemented effectively
2. The effective functioning of the SSHE MS in fulfilling the Asset's SSHE Policy, objectives and performance criteria
3. Compliance with relevant legislative requirements
4. Identification of improvement areas leading to progressively better SSHE management

The SSHE MS and its performance shall be reviewed at planned intervals to ensure its suitability and effectiveness.

2.0 SCOPE

This document applies to all PTTEP operating assets, projects, and subsidiaries where it has control as the operator.

3.0 DEFINITIONS AND ACRONYMS

3.1 TERMS AND DEFINITIONS

All terms and definitions in this document can be reached at [SSHE Intranet > SSHE MS > SSHE Terms and Definitions](#).

3.2 ACRONYMS

All acronyms in this document are available at [SSHE Intranet > SSHE MS > SSHE Acronym](#).

REQUIREMENTS

4.0 MANAGING AN AUDIT PROGRAM

The hierarchy of the SSHE documents complies with Document Management Standard (12086-STD-001).

4.1 SSHE COMPLIANCE ASSURANCE MODEL

The compliance assurance model is a part of PTTEP SSHE Management System implementation. PTTEP adopted the three lines of control model for applying to the SSHE assurance concept. This model provides a helpful way to understand how SSHE management and assurance functions operate and interact. The model shows the boundaries between roles and responsibilities in managing and assuring SSHE risks.

The first line of control:

The 1st line contains operational functions that directly own and manage services and their associated risks. The organization's first line of control comprises teams in operational or service delivery and support functions. Typically these are operational staff who manage services and risks as part of their day-to-day work.

Compliance with relevant SSHE requirements and regulations should be inherent in operational processes and procedures. This line is called "Doing & Controlling".

The second line of control:

The 2nd line comes from the oversight of management activity, separate from those responsible for delivery but not independent of the organization's management chain. The second line of assurance comes from an individual who is not doing the work they are checking. This line is called "Checking".

The third line of control:

The 3rd line contains functions that provide independent and objective assurance regarding the integrity and effectiveness of risk management and related controls in the organization. It typically comes from independent auditors who can be internal or external. We have called this line "Verifying".

The main roles of the 3rd line are to ensure that the first two lines are operating effectively, advise how they could be improved, and report to the management.

SSHE Internal audit is the key function in the third line of control. Internal audit provides risk-based evaluation of the effectiveness of SSHE risk management, governance, and internal control in the organization.

The third line of control also interfaces with other external providers of independent and objective assurance, including external audit, and regulators.

The table below describes the three lines of control model in more detail.

Table 1: Summary of Three Lines of Control

Line of Control	Involves	Example
1 st Line (Doing & Controlling)	Operational functions that directly own and manage services and their associated risks. (e.g., Site personnel – Team Leader, Supervisor, Superintendent, Field Manager, Site SSHE, etc.)	Implementation of processes to meet the SSHE MS requirements, such as a business compliance self-assessment process, site inspection, PTW audit, MOC audit, hygiene inspection, evaluation of compliance, etc.
2 nd Line (Checking)	Oversight of management activity, separate from those responsible for delivery but not independent of the organization's management chain. (e.g., Division/Department SSHE, International Asset SSHE, etc.)	Oversight activities, such as ISO internal audit, Contractor audit, Internal EIA compliance, Legal compliance audit, Contract holder verification, etc.
3 rd Line (Verifying)	Functions that provide independent and objective assurance regarding the integrity and effectiveness of risk management and related controls in the organization. (Corporate SSHE or assigned person)	SSHE MS verification, Internal OEMS assessment, Operational Technical Review, etc.

The picture below shows the linkage between each line of control that could work in the organization.

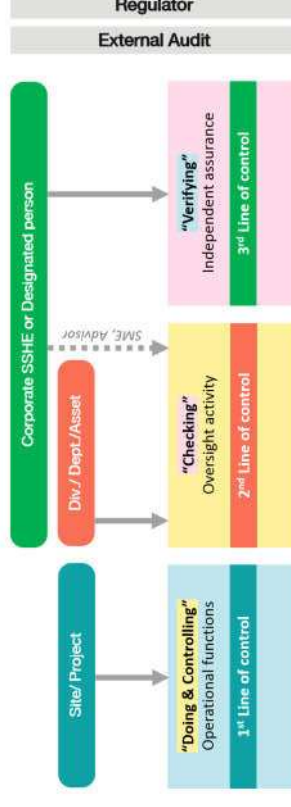


Figure 1: PTTEP SSHE Compliance Assurance Model

4.2 ESTABLISHING AUDIT PROGRAM

PTTEP Corporate SSHE, Divisions/Departments, and Assets shall establish the Annual SSHE Audit Programs for audits and SSHE MS reviews. The Annual SSHE Audit Programs can be embedded in the Divisions/Departments and Assets annual SSHE plan.

The 12-month look-ahead schedule of the audits and reviews shall be communicated to all concerned parties as appropriate. The criteria for selecting an asset/project or location to conduct the audit should be taken into account, but not limited to:

- SSHE performance records or concerns with SSHE culture
- Crucial or high-risk activities are taking place
- Company focused strategy or other specific requirements
- New asset or project
- The time since their previous SSHE audit

The Planning and Assurance Section shall maintain a 5-Year rolling audit program of the 3rd Line for the SSHE audits that can be planned in advance. The 5-Year rolling plan shall be communicated to the relevant parties, but the audit programs are subject to change at reasonable discretion.

Minimum frequency requirements for audits, reviews and SSHE MS reviews are shown in Appendix A, for the audit/review types and frequencies. The frequency may change when there have been significant changes in the organization, in relevant criteria, in configuration, nature and level of activity and/or performance.

4.3 IMPLEMENTING AUDIT PROGRAM

To achieve the established audit program, the operational planning and the coordination of all activities within the program shall be implemented as planned.

The assigned audit team leader of each audit shall manage and implement his/her responsible audit program as follows:

- Communicate the relevant parts of the audit program to auditee and concerned parties
- Define objectives, scope and criteria for each individual audit
- Select audit methods
- Coordinate and schedule audits
- Ensure the audit teams have the necessary competence
- Provide necessary resources to the audit team
- Ensure the conduct of audit in accordance with the audit program, managing all operational risks, opportunities and unexpected events, as they arise during the deployment of the program

- Ensure relevant documented information regarding the audit activities is properly managed and maintained, e.g. audit TOR, audit report, etc.

4.3.1 Selecting and Determining Audit Methods

The audit can be performed on-site, remotely or as a combination. Conducting multiple audits in a single visit can minimize time and travel costs. The assigned audit team leader shall select and determine the methods for effectively and efficiently conducting an SSHE audit and review.

4.3.1.1 Joint Audit

Where two or more auditing organizations conduct a joint audit of the same auditee, the assigned audit team leaders managing the different audit programs shall agree on the audit methods and consider implications for resourcing and planning the audit.

4.3.1.2 Combined Audit

Conducting a "combined audit" when an auditee is audited against the requirements of two or more management systems Standards, using a combined audit method depends on the audit objectives, scope and criteria.

Example: SSHE MS internal audit can be combined with the ISO14001 & ISO45001 internal audit and Legal compliance audit to audit the same auditee in a single visit because the audit objectives and scope are the same perspectives.

4.3.2 Selecting Audit Team Members

The success of an audit is fully dependent on the composition of the audit team. Audit team members have to be master in their line of competency in order to identify gaps and provide good recommendations to close the gaps.

The auditors should be independent of the audited entity or operations being audited. To achieve the SSHE audit objectives, the necessary competence of the auditor for the 2nd Line and the 3rd Line shall be considered:

Audit Team Leader

- a) Pass the training on PTTEP SSHE Internal Auditor to ensure understanding of the Audit and Review Standard requirements or equivalent.
- b) Have at least five (5) years' work experience in oil and gas production and operations or other related fields.
- c) Possess technical knowledge of oil and gas production, operations, or other related fields relevant to the audit scheme.
- d) Qualified by SSHE Audit Productivity Improvement Team.
- e) Demonstrate personal attributes, e.g. ethical, open-minded, diplomatic, observant, etc.

- f) Have auditing skills or pass training related to the audit scheme and requirements, e.g. ISO 14001, ISO 45001, etc.
 - g) Obtain technical or operational SSHE management experience.
 - h) Participate in at least four (4) SSHE audits and lead one (1) audit under the supervision of a qualified audit team leader, or have proven audit records from previous work.
- Audit Team Member**
- a) Pass the training on PTTEP SSHE Internal Auditor to ensure understanding of the Audit and Review Standard requirements or equivalent.
 - b) Have at least three (3) years' work experience relevant to the audit scheme.
 - c) Possess technical knowledge of oil and gas production, operations, or other related fields relevant to the audit scheme.
 - d) Be appointed by audit team leader, Technical Authority (TA2), or line management.
 - e) Demonstrate personal attributes, e.g. ethical, open-minded, diplomatic, observant, etc.
 - f) Have auditing skills or pass training related to the audit scheme and requirements, e.g. ISO 14001, ISO 45001, etc.
 - g) Participate in at least two (2) audits as an OJT, or have proven audit records from the previous work.

Note:

- In case that the auditor qualification requirements above are not met, the endorsement from the SSHE Audit Productivity Improvement Team, is required.
- Some SSHE audits that need to be audited or reviewed by the person who has specific knowledge or expertise on that audit, e.g. OTR, PTR, etc., the specific qualifications of auditors can be considered depending on the relevant requirements but it shall not less than the minimum requirements in this Standard.
- Planning and Assurance Section is responsible for maintaining the inventory list of approved auditors for each Corporate's SSHE audit program.

The SSHE Audit Productivity Improvement Team is the taskforce appointed by CSH. This team is responsible for promoting the organization's SSHE audit productivity improvement activities. Audit Team Leaders for the 2nd Line and 3rd Line audits will be qualified and evaluated for their competence by the SSHE Audit Productivity Improvement Team before assigning them to initiate an audit. The examples for auditor evaluation criteria are shown in Appendix B.

4.4 MONITORING AUDIT PROGRAM

Assets, organizations, and projects shall monitor and measure their SSHE audit program on a quarterly basis to evaluate whether audit schedules are being met and audit program objectives are being achieved.

4.5 REVIEWING AND IMPROVING AUDIT PROGRAM

The risks associated with an audit program during the implementation can affect the achievement of its objectives, e.g. insufficient resources, failure to complete audit as scheduled, insufficient competent personnel to conduct audits effectively, etc. Overall implementation of the SSHE audit program shall be reviewed regularly to assess whether its audit objectives have been achieved.

Lessons learned from the audit program review can be used to determine the necessary actions or opportunities for improving the audit program. The process flow for managing an audit program is illustrated in Figure 2.

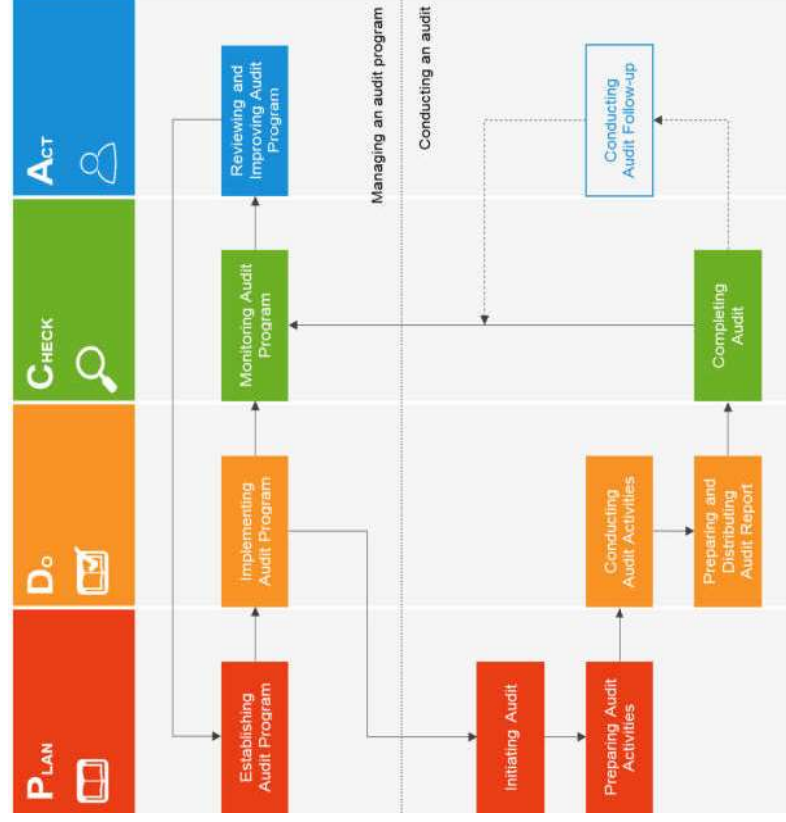


Figure 2: Process Flow for the Management of SSHE Audit Program

5.0 CONDUCTING AN AUDIT

5.1 INITIATING AUDIT

To initiate any audits related to SSHE, the steps in Figure 1 should be considered but the sequence can differ depending on the auditee, processes and specific circumstances of the audit. The assigned audit team leader is responsible for conducting the audit until it is completed.

The assigned audit team leader shall establish the contact with auditee to communicate necessary information related to the audit, e.g. Audit TOR, confirmation on the audit schedule, etc. in advance based on the audit plan to ensure auditee takes into account the local travel and security needs and all parties to be interviewed are aware of the schedule.

The audit approach and expectations, logistics, responsibilities for arranging travel, accommodation, medical requirements, special training or equipment, e.g. Helicopter Underwater Escape Training (HUET), etc., shall be communicated to the team.

5.2 PREPARING AUDIT ACTIVITIES

5.2.1 Performing Review of Documented Information

The audit team shall review the auditee's relevant documented information before mobilization to the audit location. The early availability of the documentation will assist the audit team in achieving the audit objectives within the given time frame.

5.2.2 Audit Planning

5.2.2.1 Risk-Based Approach to Planning

The risk-based approach means an audit approach that considers risks and opportunities. The relevant risks and opportunities associated with auditee's organization and operations should be taken into account when planning, conducting, and reporting of audits in order to ensure that audits are focused on matters that are significant for the auditee and for achieving the audit objectives.

The assigned audit team leader should adopt a risk-based approach to planning the audit based on information in the audit program and the documented information provided by the auditee.

5.2.2.2 Audit Planning Details

The TOR is the audit plan to be drafted by the assigned audit team leader based on the template provided in Appendix C, which includes the audit objective, scope, audit criteria, audit team members, audit methodology, start date, duration and reporting requirements, including report distribution. The TOR must be agreed between auditee and audit team leader prior to the start of the audit, otherwise, the audit must be deferred until such time that agreement is reached.

The TOR should be agreed and submitted to the auditee at least two (2) weeks before the audit start since material changes may affect the required audit team composition.

5.2.2.3 Assigning Work to Audit Team

The audit team leader, in consultation with the audit team, shall assign to each team member responsible for auditing specific processes, activities, functions or locations by considering of the audit objectives and competence of the auditors.

5.2.2.4 Preparing Audit Work Document

The audit team members shall collect and review the information relevant to their audit assignments and prepare necessary documented information for the audit, e.g. audit checklist, audit sampling details, etc.

For the combined audit, works documents shall be developed to avoid duplication of audit activities by clustering of similar requirements or coordinating the content of related checklist and questionnaires.

An audit checklist may be required an input at this stage from the auditor. The example format of the checklist is provided in Appendix D: Example of Audit Checklist Form.

5.3 CONDUCTING AUDIT ACTIVITIES

The audit shall start with an introductory meeting which serves as an introduction between the parties and shares expectations regarding the audit programme and approach. The audit team leader presents the TOR, and the schedule which was agreed to by the auditee. This is then generally followed by a technical orientation by the auditee organization.

The audit progresses with reviewing, testing, and appraising the control framework areas indicated in the TOR. Interviews, document reviews, and site visits are usually required to develop a complete understanding. By agreement with local site management, emergency response exercises may be held during the site visits.

The audit leader should also periodically communicate any concerns regarding the findings to the auditee as appropriate.

Audit team meeting should be held, as appropriate, by audit team leader in order to allocate work assignments and decide possible changes.

5.3.1 Determining Audit Conclusions

The audit team shall review the audit findings and any other appropriate information collected during the audit, against the audit objectives.

Audit findings shall be based on facts and supported by objective evidence and references.

In developing audit findings, the audit team typically identifies an omission or shortfall in the controls. They will then try to identify root causes rather than simply the superficial manifestation or outcome.

Recommendations should help to clarify the findings rather than limit the scope of possible solutions. Recommendations shall be stand-alone and specific, measurable, achievable, and realistic. However, it is ultimately the auditee's responsibility to determine what actions are required to correct the findings (which may include the recommendations provided) and the implementation timing required.

5.3.2 Type of Audit Finding

Audit finding is a result of the evaluation of the collected audit evidence against audit criteria. Types of audit results can be classified as follows:

Table 2: Type of Audit Finding

Finding Type	Description
Conformity (C)	A judgment made by the auditor that the activities undertaken and the results achieved fulfill the specified requirements of the audit criteria.
Nonconformity (NC)	<p>A judgment made by the auditor that the activities undertaken and the results achieved do not fulfill the specified requirements of the audit criteria. This may be caused by:</p> <ol style="list-style-type: none"> The absence or inadequate implementation of a system or part of a system; or Failures by Supervisors and/or workers to follow documented systems or Procedures, or Lack of evidence to demonstrate that requirements are being met. <p>Note: If the audit criteria are legal requirements for an audit related to the SSHE laws, the words "Compliance" (C) or "Non-compliance" (NC) are used in an audit finding instead.</p>
Observation (OBS)	<p>A judgment made by the auditor that the activities undertaken and the minimum requirements may be met but some issues are required attention in order to improve the effectiveness of implementation. If left unaddressed, it is likely to lead to nonconformity during future audits.</p> <p>OR The results achieved partially fulfill the specified requirements of the audit criteria. While further improvements may still be possible.</p> <p>Note: OBS raised during internal audits could be classed as preventive actions as audit team can suggest improvements within the system to prevent nonconformities from occurring in the future.</p>
Best-practice (BP)	<p>Best-practice is a method or technique that has consistently shown results superior to those achieved with other means. Best-practices can come from internal practices and innovations which ensure economic value delivery, enhance reliability and reduce risks.</p> <p>A best-practice can be created and found across the organization during an audit. A good finding classified as the best-practice should be reported and shared the best-practices across PTTEP assets/projects for continuous improvement.</p>

In case any auditors would like to propose their opinion for improvement but it is not qualified as an NC or an OBS, the auditor can raise Opportunity for Improvement (OFI) instead. However, all reported OFI shall be clearly understood and agreed by auditee prior to addressing it in the audit report.

Table 3: OFI Definition

Opportunity for Improvement (OFI)	When conducting an audit, audit team may encounter a situation or condition that does not qualify as a nonconformity or an OBS, in the opinion of the auditor, if addressed, may improve the management system. The reported OFI shall be understood and agreed by the auditee.
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Note:

- Only agreed NC, OBS and OFI can be uploaded to the ISSHE – Audit & Action modules or recorded on other applicable methods to request an action for improvement.
- A registered OFI on ISSHE or on the official report agreed by the auditee should be taken action to improve the system as recommended by the audit team. Otherwise, documented evidence shall be presented to the auditor for OFI cancellation.

5.3.3 Audit Finding Classification

Audit findings categorized as a nonconformity or an OBS shall be classified the severity level by applying the criteria shows in Table 4.

The existence of a repeat finding (i.e. a finding identified in a previous audit/review) would not in itself result in a higher rating than that given in the previous audit, unless the risk to achievement of organization objectives has increased.

Once a nonconformity finding or an OBS finding has been identified, the consequence and possible impact of those findings shall be considered. The severity level of audit finding shall be identified as Low (L), Medium (M), or High (H) and documented in the audit report for each nonconformity or OBS finding.

Priorities for corrective actions or preventive actions of audit findings are set based on the audit team's judgement of the severity of the audit findings. Such actions shall be decided and undertaken by the auditee within the agreed and reasonable timeframe depend on the severity of the audit finding.

- A corrective action for 'High' severity finding should be taken within a prompt timeframe but not more than one (1) year. Senior management (Asset/site/Project SVP or above) needs to be notified of the finding.
- A corrective action for 'Medium' severity finding can be taken in a longer timeframe but not more than two (2) years. Site management (Site Manager/ Superintendent/ Supervisor) need to be aware of the finding.

- A corrective action for 'Low' severity finding can be taken in the longest timeframe when comparing with High or Medium finding but not more than two (2) years and site management need to be aware of the finding.

Table 4: Criteria for Audit Finding Severity Classification

Audit Finding Severity	Definition
High (H)	The audit finding has potentially severe consequences (impact rating is in level 4-5 in RAM) in any impact category. There must be a demonstrable causation link between the finding and the potential consequences.
Medium (M)	The audit finding has potential consequences that impact rating is in level 3 in RAM. There should be a demonstrable causation link between the finding and the potential consequences.
Low (L)	The audit finding has potential consequences that impact rating is in level 1 or 2 in RAM in any impact category. The strength of the link between the finding and the consequences may be less strong.

Note: Audit finding severity classification refers to consequence impact rating in the PTTEP 'Risk Assessment Matrix' (RAM) in SSHE Risk Management Standard (SSHE-106-STD-400).

Table 5: Example of Audit Finding Classification

Example Audit Findings (Nonconformity or Observation)	Potential Consequence	Potential Impact	Impact Rating	Finding Severity
Observed 2 Contractors entered to the vessel (confined space). Gas checking (Lower Explosive Limit (LEL), Oxygen, Toxic gas) was not performed prior to entering to the vessel.	Contractors death in confined space due to asphyxiates	Two fatalities	(5) Critical	H
There were missing of Heli-fuel sampling records in July and August 2018. Based on the interview, the Heli-fuel samplings for detecting fuel quality were not taken as planned.	Helicopter crash due to engine failure.	Multiple fatalities	(5) Critical	H

Example Audit Findings (Nonconformity or Observation)	Potential Consequence	Potential Impact	Impact Rating	Finding Severity
No barricade area to prevent unauthorized personnel enter to working area or walk under load during lifting the turbine engine unit at the upper deck.	Unauthorized personnel enter to working area or walk under load during lifting	One fatality	(4) Serious	H
New SSHE committee members have been appointed but they were not achieved the required training course and there was no evidence of the submission letter to Department of Labor Protection and Welfare (DLPW) for updating their information.	Legal non-compliance	Be penalized with imprisonment of not more than one year or a fine not exceeding 400,000 Baht, or both.	(4) Serious	H
Found scaffold no.230231 height 2 m. shows the last inspection on 1 May 2023. The scaffold has been installed for over 6 months (since 6 Jan 2022), but it was not dismantled as indicated in the Scaffolding, working at height procedure.	Personnel who work involved with the scaffold may get an injury	Single LWDC	(3) Significant	M
Found site's Routine Job Card Procedure, Rev.0, issued Dec.2012 on document database was not reviewed every 5 years to comply with Corporate SSHE Documentation Management Standard (11038-STD-SSHE-304) However, there is no change on requirements in the Procedure.	Not conform with Corporate Standard	No legal penalty A nonconformity is raised by audit party.	(1) Minor	L

5.4 PREPARING AND DISTRIBUTING AUDIT REPORT

Upon completion of the audit, a closing or debrief meeting shall be conducted by the audit team leader with the similar group of the personnel attending the opening meeting including all auditee. Its purpose is to highlight the positive achievements and to verbally discuss the audit findings to ensure the clear understanding of at least each high and medium severity audit finding identified and the appropriate corrective and preventive actions to be taken. The meeting is closed with a summary of the audit achievement against the audit objective. Debriefing meeting must be done on site and may be requested for asset/project management at Bangkok office.

The audit team shall give the draft list of findings to the auditee. The official audit report shall be submitted to the auditee within one (1) month after the audit completion date. It is the final delivery and the official document for reference and follow-up.

The report written by the audit team needs to record all information necessary to illustrate nonconformity, outline positives, and identify opportunities for improvement.

Each audit finding shall be identified the auditor name who raise that finding with clear, concise, and evidence-based writing. Auditor's recommendations for each audit finding shall be clearly defined, realistic and aligned with the raised finding. The example format of audit finding report is shown in Appendix F.

5.5 COMPLETING AUDIT

The audit is completed when all planned audit activities under each audit program have been carried out, or as otherwise agreed with the auditee, e.g. there might be an unexpected situation that prevents the audit being completed according to the audit plan.

5.6 CONDUCTING AUDIT FOLLOW-UP

The auditee shall assess audit findings, assign and agree with the action party and their Line Manager proposed actions and completion dates. The actions parties may propose alternative actions to satisfy the intent of the finding in consultation with the auditor or topic TA2.

The agreed actions from audits conducted by the audit team shall be loaded and tracked until completion in the ISSHE – Audit & Action modules or other applicable methods.

An organization may also conduct follow-up audits to verify corrective or preventive actions were taken as a result of performance issues that may be reported as opportunities for improvement.

A follow up on a status of action can be performed within the scope of a site's management review, a SSHE monthly meeting, or Section/Department meetings, etc.

Corporate SSHE is responsible for reporting the summary of SSHE audit findings status under their responsibility to SSHE Council on a quarterly basis.

Example Audit Findings (Nonconformity or Observation)	Potential Consequence	Potential Impact	Impact Rating	Finding Severity
Mercury Waste Procedure, rev.03, states in Section 6.5 that a mercury waste container shall be sealed and checked the mercury concentration prior to transferring to the waste storage area. The auditor observed two employees in the process area were moving mercury waste containers after sealed it without checking Mercury concentration.	Personnel who work involved with transferring mercury waste container may expose to contaminated mercury if a container was not properly sealed.	MTC case due to acute health effects if exposed to high levels of elemental mercury vapor may be occurred, i.e. Respiratory symptoms may predominate (a cough, sore throat, shortness of breath).	(2) Moderate	L
PTW audit set up as a personal KPI for all staff and also overall % PTW audit set at > 20 %.	Ensure all activities will be performed safely.	N/A	N/A	N/A
According to PSV campaign, maintenance team always issue the corrective maintenance work order after any one PSV had a failure on the test result. This is a very good practice for recording and tracking of SCE failure on demand in the future. Furthermore, all of PSV are totally inspected and tested on a 2-yearly basis.	Recording and tracking of SCE failure on demand	N/A	N/A	N/A

Note: If there are two or more identified impacts, the impact rating with the highest level shall be chosen as the finding severity result.

6.0 REVIEW

6.1 SSHE MS VERIFICATION

The SSHE MS Verification (SSHE MSV) is a part of SSHE MS review process organized by Corporate SSHE. It is intended to systematically verify and validate the efficacy of SSHE MS implementation.

The key objectives of the SSHE MS Verification, but are not limited to:

- Evaluate the suitability, adequacy, and effectiveness of SSHE MS implementation.
- Determine the failure or weakening of barriers in the SSHE MS that cause incidents or SSHE performance failures.
- Ensure that the risks associated with the life cycle of the asset/project have been eliminated or controlled to an acceptable level.
- Identify weaknesses in SSHE MS processes and outline corrective/prevention actions that should be taken to rectify them.
- Benchmark the maturity level of SSHE MS implementation against peers.

The SSHE MSV will be conducted against the requirements stated in the reference SSHE-related standards, procedures, and guidelines. The assessment will be conducted by utilizing the particular SSHE MSV toolkits (See Appendix E for an Example of SSHE MSV Toolkits). The SSHE MSV methodology will include but is not limited to the following activities.

Inspection – The mitigation is proven to be in place by visual verification, inspection of the actual system, and physically determining that the SSHE MS requirements or controls is implementing effectively.

Analysis – Formal assessment or evaluation methods, review statistical data, which are applied in order to make judgment as to prove that the SSHE MS requirements or controls is implementing effectively.

Demonstration – Any simulation, dry runs, drills, or standard/procedure checks, or any techniques that are applied to assure that the SSHE MS requirements or controls is implementing effectively.

Implicit Verification – There are inherent methods to verify that SSHE MS has been implemented effectively. Consider any means of acquiring information or data that proves or supports the implementation, such as document review, interview, or observation. Implicit verification includes all proper documentation, specification, plans, or requirements that have been incorporated to assure that the SSHE MS barriers or controls are in place.

SSHE MSV shall be carried out by the Corporate SSHE audit team and undertaken of the SSHE MS of all PTTEP operated assets as a minimum once every 5 years. The SSHE MSV frequencies are based on risk including the asset's SSHE performance, company focus or business requirements, and past audit results.

6.2 MANAGEMENT REVIEW

The management review shall be implemented within the assets, sites, or projects that implemented SSHE MS in accordance with the ISO 14001, ISO 45001 Standards requirements or required by other obligations.

An organization's top management should be scheduled at least once a year, conduct a review of SSHE MS to evaluate the system's continuing suitability, adequacy and effectiveness. This review should cover the SSHE risks of activities, products and services that are within the scope of the SSHE MS. The management review can be conducted by the asset's top management or delegated management at upper levels.

A management review can coincide with other management activities (e.g. Technical Committee Meeting (TCM), SSHE monthly meetings, operational meetings, workshop, etc.) or can be conducted as a separate activity.

Management review can be coordinated with the organization's planning and budgeting cycle, and SSHE performance can be evaluated during top management's review of its overall business performance, so that decisions on priorities and resources for the SSHE MS are balanced with other business priorities and resource needs.

Inputs to the management review should include all topics specified in applicable Standard requirements. The results from SSHE Management Review shall be retained and communicated to relevant parties.

7.0 NONCONFORMITY, CORRECTIVE AND PREVENTIVE ACTION

7.1 NONCONFORMITY IDENTIFICATION

Non-conformance can be identified in various cases, including but not limited to:

- Fail to comply with the company document requirements e.g., Standard, Procedure, Guideline
- Fail to comply with the specified limits or safe work practices
- Fail to comply with the operational control procedures
- Unsafe practices/ unsafe conditions
- Nonconformity from internal/external audit
- Noncompliance with applicable legal requirements
- Deficiencies from Asset/Site Emergency Exercise
- Occupational Health, Safety and Environment monitoring results that exceed limits without review and follow-up action
- Deviation from the company's codes, standards or PTTEP Engineering General Specification (PEGS)

When a nonconformity occurs, the organization shall react in a timely manner to the nonconformity, deal with the consequences, and take action to control and correct it.

A nonconformity shall be evaluated by the action party to determine the need for corrective/prevention action to eliminate the root cause(s) of the nonconformity, in order that it does not recur or occur elsewhere, by:

- Reviewing the nonconformity
- Determining the cause(s) of the nonconformity
- Determining if similar nonconformities exist or if they could potentially occur
- Determine and implement any action needed, including corrective/preventive action, in accordance with the hierarchy of controls

Nonconformity sources and reporting channels are identified and described in Table 6.

Table 6: Nonconformity Sources and Reporting Channels

Nonconformity Source	Reporting Channel
Fail to comply with the company document requirements e.g., Standard, Procedure, Guideline	<ul style="list-style-type: none"> • Audit report • ISSHE – Action module or other applicable tools
Fail to comply with the specified limits or safe work practices	<ul style="list-style-type: none"> • Audit report • ISSHE – Action module or other applicable tools
Fail to comply with the operational control procedures	<ul style="list-style-type: none"> • Audit report • ISSHE – Action module or other tools
Unsafe practices/ unsafe conditions	<ul style="list-style-type: none"> • HRC/SOC report • Audit Report
Nonconformity from internal/external audit	<ul style="list-style-type: none"> • Audit report • ISSHE – Audit & Action modules or other tools
Noncompliance with applicable legal requirements	<ul style="list-style-type: none"> • Audit report • ISSHE – Audit & Action modules or other tools
Deficiencies from Asset/Site Emergency Exercise	ISSHE – Action module or other tools
Occupational Health, Safety and Environment monitoring results that exceed limits without review and follow-up action	ISSHE – Action module or other tools
Deviation from the company's codes, standards or PEGS	<ul style="list-style-type: none"> • Audit report • E-MOC

Action needed, including corrective/preventive action, in accordance with the hierarchy of controls shall be determined. Review the risk assessment related to new or changed hazards before taking action. Any action taken should be reviewed for its effectiveness. The timeframe for completing corrective/preventive action will refer to section 5.3.3 Audit Finding Classification.

ROLES AND RESPONSIBILITIES

Roles	Responsibilities
SSHE Council Members	<ul style="list-style-type: none"> Endorse Policy, Standards and improvement plans related to the Asset SSHE matters. Review audit findings status and provide direction to close out audit findings effectively. Review the effectiveness of SSHE MS implementation. Review Asset SSHE performance for continuous improvement.
All Executive Vice Presidents (EVPs) and Senior Vice Presidents (SVPs)	<ul style="list-style-type: none"> Demonstrate their leadership and commitment, as delegated by Chief Executive Officer (CEO), either by leading or participating in top management visit and review activities. Ensure that under their respective Division/Department: <ul style="list-style-type: none"> Regularly audit and review all activities/tasks performed as per its requirements to ensure its compliance with the Asset Policy, Standards, Procedures and applicable National and International Standards, laws and regulations; and Effectively identify and close out the findings and recommendations during top management visit and other audit and review activities.
Senior Vice Presidents (SVP), Corporate SSHE Division	<ul style="list-style-type: none"> Assure the business that the SSHE controls are being managed following local and PTTEP Policies by implementing the Corporate SSHE audit programs. Ensure the annual Corporate SSHE audit program is prepared and communicated to all relevant parties. Planning and Assurance Section is responsible for maintaining the list of approved auditors for each Corporate's SSHE audit program. Review SSHE MS effectiveness and provide advice to CEO for continuous improvement.

Roles	Responsibilities
Vice President (VP), Assets/Projects	<ul style="list-style-type: none"> Ensure that the internal audits/inspections within his/her respective area are conducted to identify gaps/weak points for further improvement. Ensure that, at the Asset level, the reviews are conducted after major changes to the operational activities and organization. Fully co-operates with Corporate SSHE when conducting audit and review activities. Ensure that the corrective actions raised from any audit and review activities conducted within his/her Asset are taken and closed out appropriately.
Division/Department SSHE Manager/Team Leader	<ul style="list-style-type: none"> Develop the Division/Department annual SSHE audit plan. Align the audit plan with the Corporate SSHE audit plan. Assist his/her responsible Asset, as appropriate, to arrange and/or conduct its own audit, review and inspection as scheduled. Communicate the findings to his/her Asset EVP and SVP to seek support for further improvement. Verify and follow up on the corrective actions status to ensure they are all taken and closed out within the limited time frame. Communicate with his/her responsible Asset to ensure the audit and review activities are conducted as scheduled.
Division/Department SSHE Engineers	<p>As delegated by his/her Line Management, SSHE engineers have the responsibilities to:</p> <ul style="list-style-type: none"> Arrange and conduct SSHE audit and review activities, either SSHE MS compliance or specific SSHE issues to assess whether each Asset performs their activities legally and properly. Report the findings to the responsible persons of the audited area. Verify and follow up the corrective actions status to ensure they are all taken and closed out properly and within the limited time frame. Support each Asset to ensure the continuous improvement process is effectively implemented.

Roles	Responsibilities
Audit Team Leader	<ul style="list-style-type: none"> Establish timely contact with auditees to schedule the audit/review. Provide the Terms of Reference (TOR) and relevant information on the audit objectives, scope, criteria, methods, and team composition. Make arrangements for the audit, including the schedule. Arrange an acceptable audit team and allocate work assignments, including roles and responsibilities to each audit team member. Periodically communicate the progress, significant findings, and concerns to the auditee, as appropriate. Establish the audit report following the audit program and distribute it to the auditee. Provide constructive feedback to auditee including the recommendation for improvement. Review the effectiveness of taken corrective/prevention actions on ISSHE – Audit & Action modules or other means.
Audit Team Member	<ul style="list-style-type: none"> Prepare documented information for the audit, e.g. audit checklist, audit sampling details, documents related to the management system being audited, etc. Complete their audit work assignments as planned. Assist the audit team leader in establishing the audit report.
On the Job Trainee (OJT)	<ul style="list-style-type: none"> OJT may accompany the audit team with approvals from the audit team leader and auditee. They shall influence or interface with the conduct of the audit as required by the audit team.
Auditee	<ul style="list-style-type: none"> Agree and plan for the audit timing with an appointed audit team leader. Provide a budget in place to cover the audit costs. When needed, nominate an audit coordinator or guide to assist the audit team. Make the time available to support the audit and ensure all subordinates participate.

Roles	Responsibilities
	<ul style="list-style-type: none"> Welcome the Audit team and sees the audit as part of the management improvement process. Review and accepts audit findings. Follow up and complete audit findings within the agreed time frame.
SSHE Audit Productivity Improvement Team	<ul style="list-style-type: none"> Promote and spearhead the SSHE audit productivity improvement activities across the SSHE organization. Qualify and evaluate SSHE Lead Auditors based on the assessment criteria together with the qualified Lead Auditors, which include, but are not limited to, personal behavior, knowledge/background, audit competence, audit skills, and experiences. Annually review the performance of SSHE Lead Auditors/Auditors and make recommendations for continuous improvement. Provide advice and consultation regarding the SSHE audit productivity improvement and SSHE audit and review related matters. Provide resources to support the annual calibration of SSHE auditors to sustain standardized practices.

REFERENCES

Document Number	Document Title
PTTEP Controlling Documents	
11038-STD-SSHE-000	SSHE Management System
11038-STD-SSHE-401	SSHE Risk Management Standard
Other Reference Documents	
-	Institute of Risk Management (IRM), Tools for Providing Assurance on Regulatory Compliance; 2019
ISO 14001	Environmental Management Systems - Requirements with Guidance for Use; International Organization for Standardization; 2015
ISO 19011	Guidelines for auditing management systems; 2018
ISO 45001	Occupational health and safety management systems - Requirements with guidance for use; International Organization for Standardization; 2018
PTT Group OEMS L2	PTT Group Operational Excellence Management System (OEMS) L2 Manual, SSHE Element, Version 2.9; 2022
THE IIA'S THREE LINES MODEL	Institute of Internal Auditors (IIA), The Three Lines of Defense in Effective Risk Management and Control; 2013

APPENDICES

APPENDIX A: MINIMUM REQUIREMENTS FOR ESSENTIAL SSHE AUDITS

3rd Line of Control: Corporate SSHE Division

Audit/Review Program	Frequency	Note
SSHE MS Verification	Every 5 years and upon risk-based	Selective assets/sites
Top Management Visit	4 times/year	Selective assets/sites
Internal Review - SSHE Data Assurance	Annually	Selective assets/sites
Operational Technical Review (OTR)	Every 3-5 years (upon risk-based)	Selective assets/sites
Operational Preparedness Review (OPR)	On-request	Determine by Project
Project Technical Review (PTR)	On-request	Project driven
Pre Start-Up Audit	On-request	Determine by Project
JV SSHE Audits	On-request	Determine by Project
Due Diligence Audits	On-request	Determine by Project
Corporate SSHE Contractor Audit	On-request	Selective contractor(s)

2nd Line of Control: Division/Department SSHE, International Asset SSHE

Audit/Review Program	Frequency	Note
ISO 14001 / ISO 45001 Internal Audit	Annually	Annually, for each asset that is certified with ISO 14001 / ISO 45001.
Internal EIA Compliance Audit	Annually	Assets/sites implement EIA mitigation
Contract Holder Verification	Annually	Selective contract(s)
SSHE Contractor Audit	Every 2 years per contractor (or risk-based)	Selective contractor(s)
Safety Case Barrier Audit	1 year after the safety case review	Selective assets/sites

1st Line of Control: Site/Project/Asset

Audit/Review Program	Frequency	Note
MOC Internal Audit	Annually	All operating assets (except Non-E&P)
Internal Security Audit	Annually	All operating assets
Clinic & Hygiene Inspection	Monthly	All operating assets have a clinic on-site
Permit to Work Audit	At least 5% of the issued permits each month	All operating assets

Note:

- The list of SSHE audits/reviews for 1st, 2nd, and 3rd lines above are example, including but not limited to.
- In additional SSHE audits/reviews can be established and determined the frequency by each line of control as appropriate.

External Audit: Certified body, Regulator, External auditors/assessors

Audit/Review Program	Frequency	Note
ISO 14001 / ISO 45001 External Audit	Annually	Selective assets/sites that are certified the ISO 14001 / ISO 45001
DMF Annual HSE and Waste Audit	Annually	Selective assets/sites
3 rd Party - SSHE Data Assurance	Annually	Selective assets/sites
PTT Operational Excellence Management System (OEMS) Maturity Assessment	Every 3 years	Selective asset/site

APPENDIX B: EXAMPLES FOR AUDITOR EVALUATION CRITERIA**Evaluation Form for New SSHE Audit Team Leader**

NEW Lead Auditor Name:		Dept.:	
Lead Advisor Name:		Dept.:	
Audit Title:			
Audit Date:		Location:	

Description	Performance result (✓)		Advisor Note
	Good	Need more practice	
Audit Preparation Understanding of audit criteria or relevant requirements in the audit scope i.e., ISO requirements, SSHE MS requirements, etc. Audit process management - Preparing audit TOR - Audit documents preparation - Work assignment to the audit team member - Communicating with auditee			
Initiate an Audit Participation and presenting on: - Opening meeting - Interview session - Daily auditor meeting - Audit conclusion Job Responsibility: - Lead overall interview, ask the key point question, and summarize major issues - Records findings and key points throughout audit period - Record an evidence to support responsible audit scope Knowledge, Behavior and Skills: - Adequate knowledge - Professional manner - Maturity, open-minded, reliability, and determined			
Closing Audit Preparing audit conclusion and clearly communicating the audit findings to auditee Perform closing meeting with valuable recommendations for improvement Preparing audit report to auditee			
Evaluation Result <input type="checkbox"/> Qualify to be an Audit Team Leader <input type="checkbox"/> Need more Practice			
Comment for improvement:			
Lead Advisor's Signature:		Date:	

Evaluation Form for New SSHE Auditor

NEW Auditor Name:		Dept.:	
Assessor (Lead Auditor) Name:		Dept.:	
Audit Title:			
Audit Date:		Location:	

Description	Performance result (✓)		Advisor Note
	Good	Need more practice	
Audit Preparation Understanding of audit criteria or relevant requirements in the audit scope i.e., ISO requirements, SSHE MS requirements, etc. Audit process management - Participating in the preparation of audit TOR - Audit documents preparation - Follow work assignment - Communicating with auditee			
Initiate an Audit Participation on: - Opening meeting - Interview session - Daily auditor meeting - Audit conclusion Job Responsibility: - Participate interview session, ask the key point question, and summarize major issues - Record finding and audit evidence to support responsible audit scope - Assist the audit team to establish an audit report Knowledge, Behavior and Skills: - Adequate knowledge - Professional manner - Maturity, open-minded, reliability, and determined			
Closing Audit Clearly communicating the audit findings to auditee Be able to explain the audit finding with valuable recommendations for improvement Clearly writing the finding statement			
Evaluation Result <input type="checkbox"/> Quality to be an Auditor <input type="checkbox"/> Need more Practice			
Comment for improvement:			
Assessor (Lead Auditor)'s Signature:		Date:	

APPENDIX C: EXAMPLE SSHE MS TERMS OF REFERENCE (EDITED AS APPROPRIATE)

Terms of Reference (TOR) for _____

Audit date: _____

1) Introduction:

To describe the principle or details of a SSHE audit.

2) Audit Scope:

The scope includes the extent, boundaries, and locations.

Example: The audit scope includes all activities of employees and contractors within the asset and its facilities.

3) Audit Objective:

Example of audit objectives:

- Determination of the extent of conformity of the management system to be audited, or parts of it, with audit criteria.
- Evaluation of the capability of the management system to assist the organization in meeting relevant statutory and regulatory requirements and other requirements to which the organization is committed.
- Evaluation of the effectiveness of the management system in meeting its intended results.
- Identification of opportunities for potential improvement of the management system.

4) Audit Methodology:

To determine the audit methodology and required activities.

Example:

Qualified auditors will conduct the SSHE audit following the Audit and Review Standard guidelines. The audit will be accomplished through the following activities:

- An open meeting will be held with the management team to discuss the scope, objectives, activities and schedule for the work
- Interview site management and team
- On-site survey
- An on-site review will be conducted which consists of:

- Random interviewing personnel throughout the organization, including the employee and contractors
- Random reviewing of documented information in place to identify and evaluate the components of the existing SSHE MS
- Compliance evaluation of SSHE obligations, legal and other requirements

5) Audit Criteria:

To determine the set of requirements used as a reference against which objective evidence is compared.

Example audit criteria:

- ISO14001:2015 and ISO45001:2018 standard requirements;
- Statutory or SSHE legal and other requirements related to the activities in which the organization is;
- PTTEP and Asset Processes, Policies, and other SSHE Management System requirements i.e. standards, procedures, guidelines, etc.; and
- Occupational health management requirements

6) Audit Team Composition:

Name-Surname	Department/Section	Roles
--------------	--------------------	-------

7) Audit Finding Classification:

Detail of audit finding the classification for the audit.

8) Audit Schedule:

Date	Time	Activity / Process to be audited

9) Other Information:

The audit team can communicate other specific information to the audit as appropriate.

APPENDIX D: EXAMPLE INTERNAL AUDIT CHECKLIST AND FINDING RECORD (EDITED AS APPROPRIATE)

Audit Title:			
Section/Dept.:	Date:		
Auditee:	Asset:		
Auditor:	Location:		
Topic/Requirement	Evidence	Finding/Comment	

APPENDIX E: EXAMPLE OF SSHE MSV TOOLKIT & SCORING BOOK

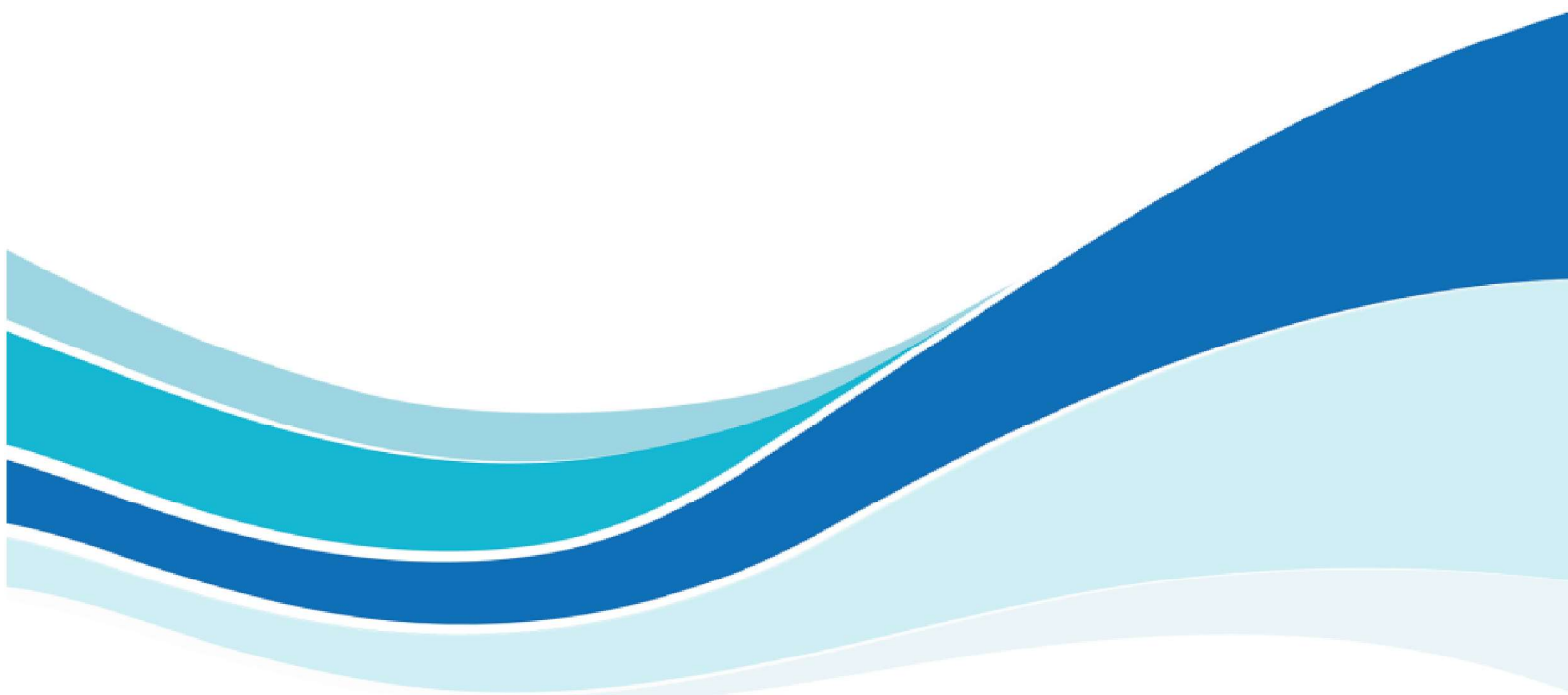
Example of SSHE MSV toolkit

SSHE Management System Verification (SSHE MSV) Toolkit									
Toolkit No. 01									
Planning and Assurance (CPA/P)									
Section	Checklist detail	Impact level	Content	Deployment	Conformance	Implementation Level	Content	Deployment	Conformance
Leadership and Commitment									
1	Management requires and communicates SSHE policy supporting the SSHE MS programs.	M	-	X	Yes	Effective	0	2	2
2	Management defines specific goals for SSHE programs, along with plans for achieving the goals.	L	X	Yes	-	Effective	1	0	0
3	Management allocates appropriate resources to accomplish goals and manage the programs.	L	-	-	X	Yes	0	0	1
4	Management assigns responsibility and accountability for implementing and maintaining the programs.	L	X	Yes	X	Yes	1	1	0
5	SSHE MS performance has been reported to top management periodically.	L	-	-	X	Yes	0	0	1
6	Respective responsibilities and rewardings of all SSHE innovations, initiatives, ideas, inventions, and achievements are recognized and rewarded.	L	-	-	X	Yes	0	0	1
7	Management is involved in resolving the corrective/preventive actions of the incident investigation.	L	-	-	X	Yes	0	0	1
8	Management is involved in following up on corrective actions from the SSHE audits.	L	-	-	X	Yes	0	0	1
		Score (%)		100.0%		100.0%		100.0%	
		Total Section Score		4		4		4	

Example of SSHE MSV Scoring Book

SSHE Management System Verification Scoring Book									
Summary of SSHE MS Implementation Effectiveness Score									
Asset/Project Name		SSHE MSV Score							
Asset/Project Name		Practices Score		Result Score		3.3			
		3.6		3.3		3.3			
		Content	3.6	Deployment	3.7	Conformance	3.0	Performance	3.0
Scoring Input Table									
Sections	Content	Deployment	Conformance						
101. Leadership and commitment	4	4	4						
102. SSHE Policy, Strategic Objectives and Planning	3	4	3						
103. Resources, Organization, Roles, Responsibilities and Authorities	4	4	4						
104. Legal Management	3	3	3						
105. Communication	4	4	4						
106. Document Management	4	2	4						
107. Monitoring, Measurement, Analysis and Performance Evaluation	4	4	3						
108. Audit and Review, Nonconformity & Action Management	4	4	3						
201. Waste Management	3	3	4						
202. Spill Management	4	4	4						
203. Biohazard and Ecosystem Services Management	4	4	4						

ภาคผนวกที่ 6
แบบฟอร์มร้องเรียน และแผนผังรับเรื่องร้องเรียน



ส่วนที่ 1 : รายละเอียดของเรื่องร้องเรียน

รายละเอียดของผู้ร้องเรียน	
ชื่อ :	
ตำแหน่ง/หน่วยงาน :	
เบอร์ติดต่อ :	E-Mail :
ที่อยู่ :	

รายละเอียดของเรื่องร้องเรียน	
เรื่องร้องเรียน :	
สถานที่ :	วัน/เวลาที่เกิดเหตุ :
เกิดเหตุ/ความเสียหายอะไรขึ้น :	
มีผลกระทบ/ความเสียหายที่เกิดขึ้นอะไรบ้าง :	



แบบฟอร์มร้องเรียน

GRIEVANCE RECORD FORM

13250-PDR-SSHE-FRM-320-001-R01

ผลการตรวจสอบ:

แผนที่/ภาพประกอบ:

สำหรับเจ้าหน้าที่			
ผู้ตรวจสอบที่ 1		วันที่รับเรื่องร้องเรียน	
ผู้ตรวจสอบที่ 2		วันที่ตรวจสอบ	
ผู้ตรวจสอบที่ 3		ชื่อโครงการ	
<p>ประเภทเรื่องร้องเรียน: <input type="checkbox"/> สิ่งแวดล้อม <input type="checkbox"/> การประกอบอาชีพ <input type="checkbox"/> ความปลอดภัย</p> <p><input type="checkbox"/> อื่นๆ (โปรดระบุ): _____</p>			

แบบฟอร์มร้องเรียน
GRIEVANCE RECORD FORM

ส่วนที่ 2 : การดำเนินงานต่อเรื่องร้องเรียน

รายละเอียดของการดำเนินงานต่อเรื่องร้องเรียน		
วันที่	การดำเนินงาน	หน่วยงาน

แผนที่/ภาพประกอบ:

แบบฟอร์มร้องเรียน

GRIEVANCE RECORD FORM

ส่วนที่ 3 : การยุติเรื่องร้องเรียน

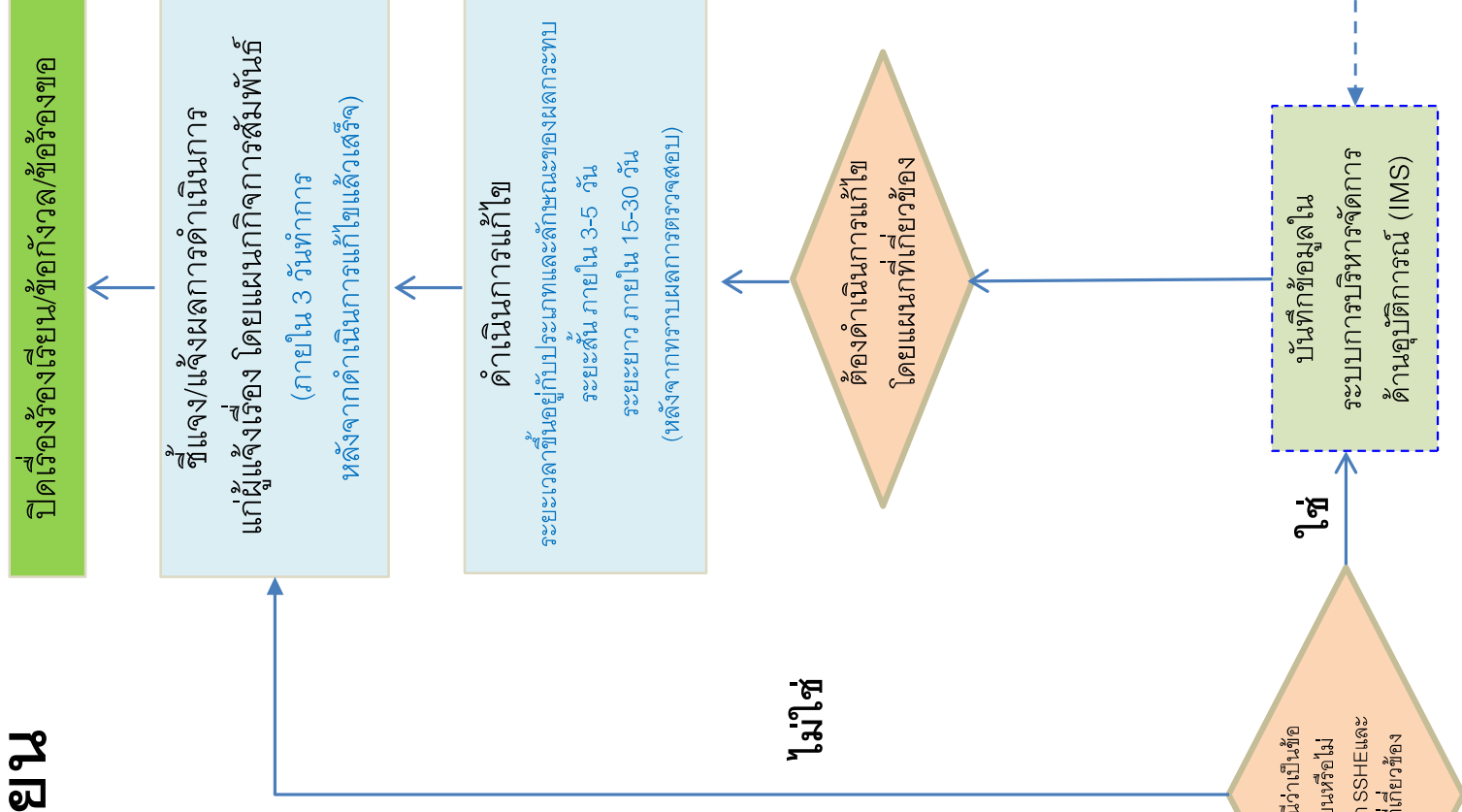
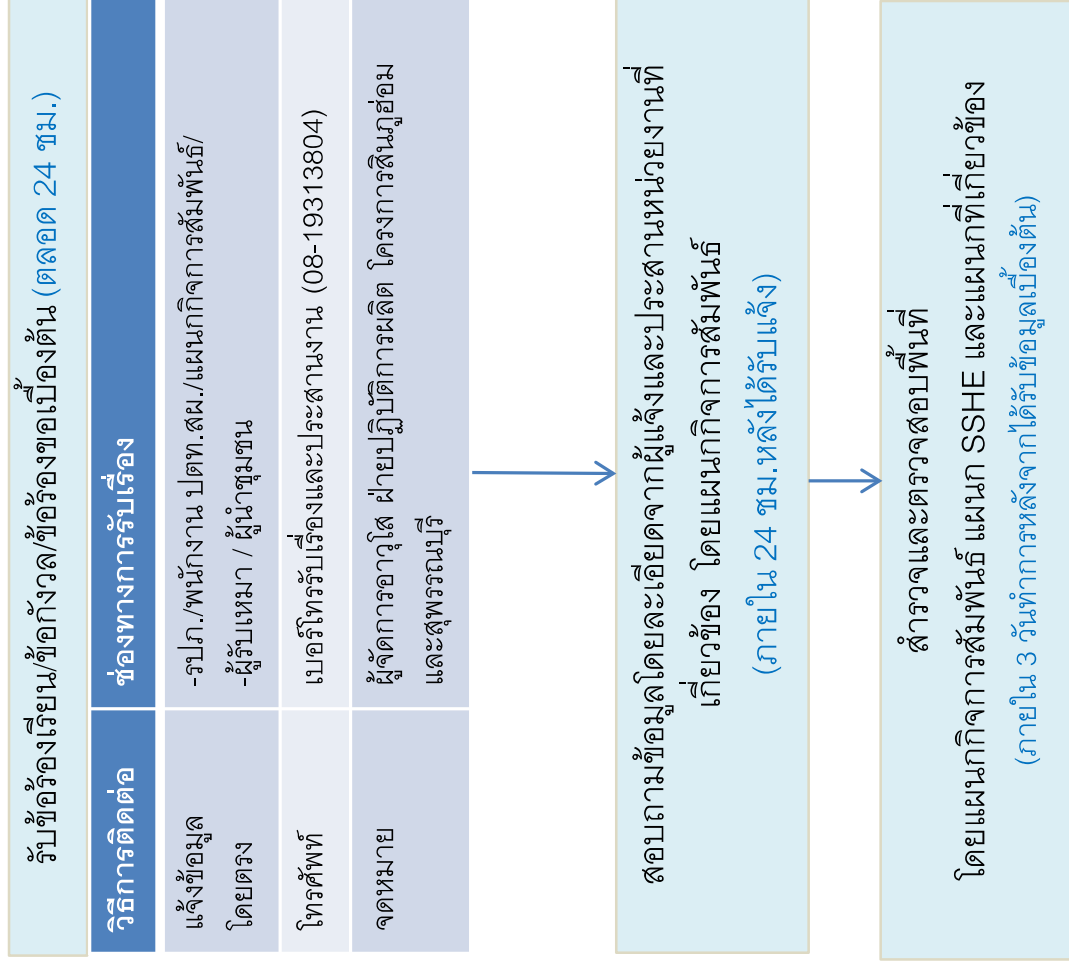
จากการร้องเรียนต่อการดำเนินงานของบริษัท ปตท.สำรวจและผลิตปิโตรเลียม จำกัด (มหาชน) หรือ ปตท.สผ. ดังรายละเอียดในส่วนที่ 1 ซึ่งทาง ปตท.สผ. ได้รับเรื่องร้องเรียน และได้ดำเนินการแก้ไขในเรื่องร้องเรียนดังกล่าว จนเป็นที่เรียบร้อยแล้วและพึงพอใจต่อผู้ร้องเรียน ดังรายละเอียดในส่วนที่ 2 นั้น บัดนี้ทางผู้ร้องเรียนขอยุติเรื่องร้องเรียนดังกล่าว

ลงนามรับรองการยุติเรื่องร้องเรียน			
ชื่อ	ตำแหน่ง	ลายเซ็น	วันที่
	ผู้ร้องเรียน		
	ตัวแทนชุมชนสัมพันธ์ ปตท.สผ.		
	ตัวแทนแผนก SSHE ปตท.สผ.		
	ตัวแทนจากแผนกที่ เกี่ยวข้อง		
	พยาน		
	พยาน		



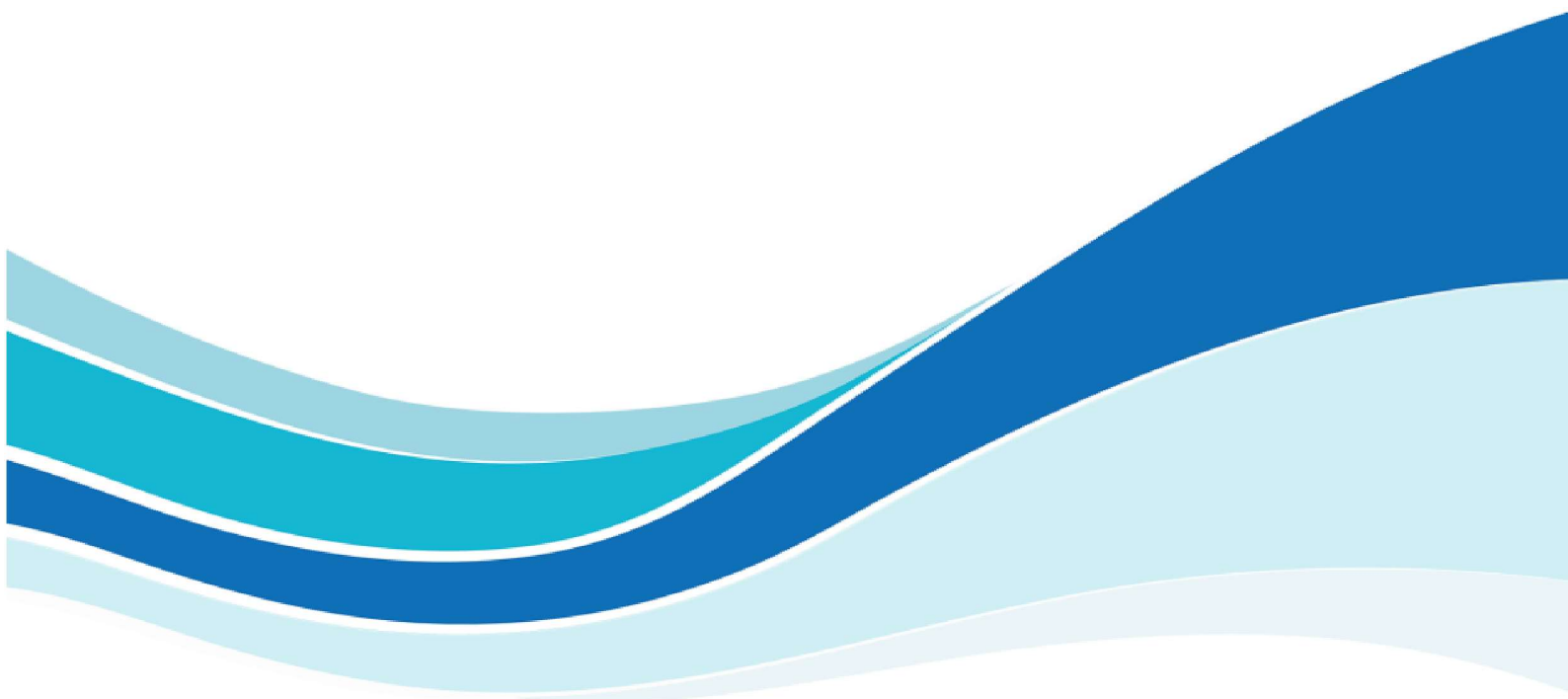
PTTEP

แผนผังการรับข้อร้องเรียน



ภาคผนวกที่ 7

Land Transport Management Procedure





PTT Exploration and Production Public Company Limited

Land Transport Management Procedure

Document Code: 11017-PDR-LOG-4301-R00

Revision: 00

24th June 2019

Approval Register	
Document Title:	Land Transport Management Procedure
Document Code:	11017-PDR-LOG-4301-R00

Function	Title	Name	Signature	Date
Prepared By:	PSM/S			21/6/2019
	PSM/S			21/6/2019
Technical Review:	CSA			21/6/19
	ECM			21 JUN 2019
	ETN			21/6/2019
	FFM			21/6/19
	PGP			21 JUN 19
	PSB			21/6/2019
Document Custodian:	PS1			24 June 2019
	PLG			Jun 24 th 19
Document Owner:	PSM			24 Jun 19
Approved By:				

Document Revision History		
Rev.	Description of Revision	Date
00	Original Version	21/06/2019
This document will be reviewed 5 years from date of approval or revised earlier if necessary.		

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1.0 PURPOSE

The purpose of this document is to define the minimum requirements to be implemented by each Asset and/or Department, in order to manage land transport activities that safely, efficiently and effectively transport hydrocarbon, non-hydrocarbon and people in PTTEP's domestic operations. Asset and/or Department should develop procedures and control measures in alignment with this document.

The appropriate industrial practices in the International Association of Oil and Gas Producers (IOGP) Guidelines are adopted in the document with the recognition of related legislation, regulations and laws. All land transport activities shall comply with all applicable laws and regulations.

This document is not intended to replace any legislation or regulatory requirement. In the event of a conflict between the requirements of this document and a relevant law or regulation, the law or regulation must be followed. If the document creates a higher obligation, it should be followed as long as full compliance with the law or regulation is also achieved.

2.0 SCOPE

The document is developed to cover all land transport activities in Thailand Assets and Departments, which includes;

- All Company's and Contractor's vehicles and drivers operating on the company roads and premises;
- All Company's and Contractor's vehicles and drivers operating on public roads and in public areas on the company business; and
- All land transport activities including personnel and freight movements, and mobile plant activities under control of the Company.

Contractor includes all subcontracted activities.

The document does not cover:

- Rail transport which is managed and controlled by State Railway of Thailand; and
- Loading, offloading, and lifting operations from/to the vehicles

3.0 REFERENCE

3.1 PTTEP Internal References

Internal documents applicable to this document are indicated in the table below.

Document Number	Document Title
10009-STD-OLG-0001-R00	Value Chain Management Standard
11017-STD-LOG-4301-R00	Land Transport Management Standard
11038-STD-SSHE-000-R05	SSHE Management System
11038-STD-SSHE-305-R05	SSHE Training and Competency Standard
11038-STD-SSHE-401-R06	SSHE Risk Management Standard
11003-STD-SSHE-590-005-R02	Chemical Management Standard
11038-STD-SSHE-600-011-R06	Incident Management Standard
11038-STD-SSHE-570-012-R05	Management of Change Standard
11038-STD-SSHE-595-013-R01	Life Saving Rules Standard
SSHE-106-PDR-521	Waste Management Procedure
11003-GDL-SSHE-561-005-R01	Fitness to Work Guideline
SSHE-106-GDL-564	Drugs and Alcohol Guideline

3.2 External References

External documents applicable to this document are indicated in the table below.

Document Number	Document Title
IOGP Report 365	Land Transportation Safety Recommended Practice
IOGP Report 365-1	Road Hazard Assessment
IOGP Report 365-2	Journey Management
IOGP Report 365-4	Road/vehicle Accident Checklist
IOGP Report 365-5	Common KPIs for Motor Vehicle Crashes
IOGP Report 365-7	Variations for Off-road Operations

4.0 DEFINITIONS

4.1 General Definitions

Document Number	Document Title
IOGP Report 365-10	Journey Management Process
IOGP Report 365-14	Vehicle Specification and Upfitting
IOGP Report 365-18	Load Securement
ECE/TRANS/257	European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)
	Thailand's National Provisions for Transport of Dangerous Goods by Road, Department of Land Transport
	European Best Practices Guidelines on Cargo Securing for Road Transport, European Commission
	Guide to Maintaining Roadworthiness Commercial Goods and Passenger Carrying Vehicles (Rev. 2018), Driver and Vehicle Standards Agency (DVSA), UK

Terminology	Description
Bus	A motor vehicle having a design Gross Vehicle Weight (GVW) of more than 3,500 kg with nine or more useable seat positions including the driver.
Company	PTT Exploration and Production Public Company Limited and its subsidiary companies
Company Site Representative	Individual appointed by the Contract Holder with single point responsibility for the activity management of the Contract and verification that the control mechanisms are in place
Contract Holder	Company staff who is appointed to be the contract focal point
Escalating Factors	Factors which will increase risks of the journey, for example; <ul style="list-style-type: none">• Fog or smoke;• Poor drainage/frequent mud;• Snow and Ice;<ul style="list-style-type: none">o Shadowed areas (slow to thaw);o Known drifting locations;o Over-graded shoulders;o Frost heaving (muskeg);o Runoff, thaw/freeze cycle;

Terminology	Description
	<ul style="list-style-type: none"> • Crosswinds/blowing snow; • Weight restrictions (road/bridges); • Sun (e.g. low angle in winter); • Road surface liable to deteriorate rapidly when wet; • Low illumination; • Driver experience; • Fatigue/low alertness; • Conflicting priorities (e.g. crew change); • 3rd party conflict (traffic conditions)/animals; • Rain; <ul style="list-style-type: none"> o Visibility, pooling on roads • Winds or Strong/gusting crosswinds
Heavy Vehicle	Any motor vehicle having a design capacity Gross Vehicle Weight (GVW) of more than 3,500 kg and which is designed to pull a trailer or carry cargo.
Journey Manager	Person who is responsible for the implementation of the defined journey management plan and monitors progress and responds to deviations and/or emergencies.
Journey Management Authorized Person	Person who is appointed by Asset/Department and responsible for the approval of journey and the journey management plan.
Light Vehicle	Any motor vehicle having a design Gross Vehicle Weight (GVW) less than or equal to 3,500 kg. Vehicles, which fall into this category, include all saloons, hatchbacks, light station wagons (i.e. estate versions of saloons), pick-up trucks and vans/minibuses.
Motor Vehicle	Any vehicle that is propelled by an engine fitted within the body of the vehicle.
Non-Routine Trip	Travel outside of a pre-determined locale, as determined by a risk assessment. Hazards are considered to require assessment prior to each trip to address immediate exposures as well as factors of change and escalation. Each trip requires the formal approval based on the current and anticipated exposures, and established controls.
Professional Driver	Person who has a specific duty to perform driving activity for the Company business, e.g., Company's drivers, road tanker drivers, etc.

Terminology	Description
Regular Driver	Person who has to regularly drive a vehicle to perform the Company business, but driving is not his/her specific duty, e.g. an onshore field operator, etc.
Routine Trip	Travel within a pre-determined locale, as determined by a risk assessment. Hazards are believed to be effectively, essentially and readily addressed by established and implemented controls. This locale would be expected to be no greater than that of an urban area, plant facility, or production field. Interurban trips, inter-facility and inter-field trips would be considered to be non-routine based on increased exposure due to anticipated escalating risk factors.
Supervisor	A person within an organization who supervises a person or a group of persons for carrying out a task.
Van (Minibus)	A motor vehicle having a design Gross Vehicle Weight (GVW) less than or equal to 3,500 kg and eight to fourteen useable seat positions including the driver.

4.2 Organization and Departments

In this document, the terms relating to organization have the following meanings:

Terminology	Description
Corporate	The PTTEP Business Groups hierarchically above Asset level, and located in the PTTEP headquarters, Bangkok.
Functional Group	The Corporate-Level Business Groups which may have associated Divisions, Departments, or operational Assets within their hierarchy.
Division	A Business Group which may have one or more distinct groups within its hierarchy.
Asset	An operational Asset, site, or location within a respective Function Group.
Department	A subgroup within a Function Group, Division or Asset.

4.3 Language

In this document, the words may, should, and shall have the following meanings:

May	Indicates a possible course of action
Should	Indicates a preferred course of action
Shall	Indicates a course of action with a mandatory status

4.4 Common Acronyms

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

Acronyms	Definition
DDC	Defensive Driving Course
DIW	Department of Industrial Works, Ministry of Industry
DLT	Department of Land Transport, Ministry of Transport
DOEB	Department of Energy Business, Ministry of Energy
FDS	Fatigue Detection System
GCW	Gross Combination Weight
GPS	Global Positioning System
GVW	Gross Vehicle Weight
IOGP	International Association of Oil and Gas Producers
IVMS	In-Vehicle Monitoring System
JMP	Journey Management Plan
MDVR	Mobile Digital Video Recorders
MS	Management System
SSHE	Safety, Security, Health and Environment

5.0 ROLES & RESPONSIBILITIES

5.1 Ownership of the Document

The owner of the Land Transport Management Procedure is SVP, Supply Chain Management Division with responsibilities for:

- Issuing the Land Transport Management Procedure and its revisions.
- Ensuring effective implementation of the Procedure.

5.2 Custodian of the Document

The custodian of the Land Transport Management Procedure is VP, Logistics Department with responsibilities for:

- Identifying deficiencies or potential improvements.
- Initiating periodic revision.
- Maintaining revision history and document status register.

5.3 Key Personnel Roles and Responsibilities

All EVPs and SVPs
<ul style="list-style-type: none"> • Ensure and encourage the Assets and support functions under his/her responsibility comply with requirements defined in this Procedure. • Communicate with his/her authority at each field performing their activities in compliance with the requirements in this Procedure. • Demonstrate commitment by ensuring that resources are made available for implementing this Procedure in Thailand Assets.

VPs and Managers

<ul style="list-style-type: none"> • Implement land transport in accordance to this Procedure to ensure safe, efficient and effective land transport activities that all hazards and risks from land transport are properly managed. • Manage land transport resources and activities optimally, using minimum fit-for-purpose resources and managing land transport risks. • Plan the projects, contracts and operations to minimize exposure to land transport hazards. • Ensure site specific documents/instructions are developed as required and in alignment with this Procedure.

- Ensure that staff and Contractors in his/her area understand and comply with this Procedure.
- Ensure that PTTEP personnel and Contractors in his/her area receive the required training related to land transport, and are competent and fit for the tasks.
- Monitor, analyze and continuously improve performance.
- Assist in investigation of all land transport incidents.

Corporate Logistics

- Provide necessary support and advice to Assets for the effective implementation of this Procedure.
- Monitor effectiveness of this Procedure, and provide necessary advice to improve land transport performance.
- Conduct the land transport compliance audits to ensure the effective implementation of this Procedure and continuous improvement.

SSHE Representative

- Support line/Assets Management in developing, amending and implementing documentation in accordance with requirements in this Procedure to ensure that all Land Transport related hazards and risks are managed to minimize risks/incidents.
- Provide necessary support/advice for the training related to land transport which is required for PTTEP personnel and Contractors.
- Provide necessary support/advice for effectiveness of this Procedure, and for improvement of land transport SSHE performance, e.g. compliance audits.
- Cooperate with Corporate Logistics and SSHE for any support/advice as necessary.

Contract Holders

- Manage land transport activities under the contract to comply with the requirements in this Procedure.
- Identify land transport training requirements for Contractor personnel and ensure that Contractor personnel receive the required training.

- Plan the contracts and duty operations to minimize exposure to land transport hazards, i.e. journey management to minimize road exposure.

Contractors

- Understand and manage land transport activities to comply with the requirements in this Procedure.
- Ensure that Contractor personnel receive the required training related to land transport, and are competent and fit for the tasks.
- Clearly define expectations, commitments, roles and responsibilities for all personnel, including subcontractors and third party companies to implement this Procedure.

Drivers (Company and Contractors)

- Comply with the PTTEP Land Transport Management Procedure.
- Comply with all legal requirements and relevant Company procedures related to driving including journey management, load securement, operation of vehicles in hazardous areas and transport of hazardous goods.

All PTTEP employees or Contractors staff

- Comply with the PTTEP Land Transport Management Procedure, i.e. wearing seatbelts, not exceeding speed limits, no using mobile phone or texting while driving, etc.
- Apply Stop Work Authority when there is an immediate threat to the Safety and Health of the employees or that of others or to the environment.

6.0 LAND TRANSPORT MANAGEMENT PROCEDURE

6.1 Land Transport Management

Land transport is the vital means of transport supporting PTTEP's business throughout the value chain. PTTEP aims to manage land transport activities that safely, efficiently and effectively transport hydrocarbon, non-hydrocarbon and people in PTTEP's operations. Land Transport Management Framework is essential for the safe, efficient and effective operations, comprising the management of the three fundamentals (Driver, Vehicle and Journey) that is underpinned by the seven elements of PTTEP SSHE Management System ('11038-STD-SSHE-000-R05). SSHE MS is the foundation for operational and risk control. The structure of PTTEP Land Transport Management Framework is shown in Figure 1.



Figure 1: Land Transport Management Framework

6.1.1 Hydrocarbon Land Transport

Hydrocarbons produced from PTTEP operations are in the form of natural gas, crude oil, and condensate. The crude oil road tankers (tanker trucks) is the main means of PTTEP hydrocarbon land transport. As the transport of dangerous goods, PTTEP hydrocarbon land transport shall comply with applicable laws and regulations. As references, the followings are the examples of regulations on transport of dangerous goods by road.

- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

- Thailand's National Provisions for Transport of Dangerous Goods by Road, issued by Department of Land Transport (DLT)

6.1.2 Non-Hydrocarbon Land Transport

PTTEP Non-hydrocarbon land transport refers to cargo, goods and equipment transported by road. The non-hydrocarbons can be generally categorized as follows:

- Tubulars, e.g. Oil Country Tubular Goods (OCTG) and line pipe
- Dangerous goods and chemical supplies/products
- Dry bulk, e.g. dry chemicals, cement and barites
- Liquid bulk, e.g. base oil
- Hazardous wastes and substances
- Drilling and well service equipment e.g. wellhead, liner hanger, packer and Christmas tree components
- Engineering and Construction materials, spare parts and equipment
- Explosive materials
- Consumables materials
- Etc.

All non-hydrocarbon which is defined as dangerous goods shall comply with applicable laws and regulations. Moreover, the dangerous goods shall be handled and transported in accordance with:

- Chemical Management Standard (11003-STD-SSHE-590-005-R02)
- Waste Management Procedure (SSHE-106-PDR-521)

6.1.3 People Land Transport

People (Personnel) land transport is defined as personnel travel for Company Business. The followings are Company's general requirements for people land transport.

- Company-arranged transport operated by Company or Contractor is recommended.
- The use of heavy vehicles, motorcycles, bicycles and unconventional vehicles e.g. All-Terrain Vehicles (ATV), Utility Terrain Vehicles (UTV), or similar are prohibited for people land transport.
- Vehicles shall not carry passengers exceeding the recommendation by the vehicle manufacturer in compliance with applicable laws and regulations.

6.1.4 Application

This procedure apply to all work-related land transport activities on the Company business. Work-relatedness is used to describe those activities of which management controls have to be in place. In general, the following land transport activities are considered to be work related.

Transport of Personnel:

Considered to be work-related

- Personnel travelling for the Company business in Company arranged transport (pooled cars, allocated/positioned cars, vans, buses and minibuses).

Not considered to be work-related

- PTTEP and Contractor personnel commuting between home and normal work place using means of transport other than Company arranged transport;
- Using of positioned or allocated cars on private purpose and not for the Company business; or
- Use of PTTEP provided transport for non-business related activities such as recreation or sporting activities

Transport of Goods and Equipment:

Considered to be work-related

- Transport of goods and equipment within PTTEP managed locations;
- Transport of goods and equipment on PTTEP owned or contracted transport;
- Transport of goods and equipment readily identifiable as related to the PTTEP operations (e.g. seismic vehicles, land drilling rigs, etc.) within PTTEP managed locations and/or under PTTEP control; or
- Transport of goods and equipment via the land transport operations are considered to be work-related when there is PTTEP cargo on board and/or a PTTEP nominated location is the destination, with the road haulier working exclusively for PTTEP on that trip.

Not considered to be work-related

- Those activities which are not primarily dedicated to the transport of goods and equipment for PTTEP and which are not readily identifiable as related to PTTEP.

In addition to the above-mentioned descriptions, work-related land transport activities should refer to the latest IOGP Safety Data Reporting User Guide – Scope and Definitions.

6.1.5 Deviation

Deviations should only be considered in the circumstances as indicated below. The journey with deviation should be considered as Non-Routine Trip, and the non-routine journey management process should be applied as per Section 6.4.

- Call-off contracts where vehicles are required on an irregular basis. The call-off contract period should be short-term and not more than 90 days.
- Contracts with a very small land transport element

The recognition of Management of Change Standard (11038-STD-SSHE-570-012-R05) should be taken.

6.2 Driver Management

Drivers indicated in this document means:

- **Professional Driver** who has specific duty to perform driving activities for Company business which can be Company staffs or Contractor/Subcontractor's personnel who provide driving services as a part of their employment e.g. Company's drivers, crude oil road tanker drivers etc.; and
- **Regular Driver** who has to regularly drive a vehicle to perform Company business, but driving is not his/her specific duty, e.g. onshore field operators and maintenance operators etc.

6.2.1 Driver Competency

Driver skills, knowledge and behaviors have a significant impact on driving safety. Drivers shall be appropriately licensed, trained, and qualified to operate the vehicle safely.

6.2.1.1 Driving License

All drivers shall have in their possession a valid driving licence, issued by Department of Land Transport (DLT), for the class of vehicle being driven/operated, and for the cargo where applicable.

6.2.1.2 Driver Training

Drivers shall be appropriately trained and have the competency to operate the vehicle in accordance with applicable laws and regulations and the requirements in SSHE Training and Competency Standard (11038-STD-SSHE-305-R05). The training schemes shall be in place including refresher training and assessment.

Defensive Driving Course (DDC):

All Professional Drivers and Regular Drivers shall complete DDC and assessment from PTTEP approved institutions/training providers, according to related regulations and PTTEP requirements. Refresher training and assessment shall be provided on a regular basis as identified in SSHE Training and Competency Standard (11038-STD-SSHE-305-R05).

While all efforts should be made to comply with the DDC requirement, the exception of DDC may be accepted for following conditions:

- Short-term contracts which the period is not more than 90 days (DDC will not be exempted for the contract extension period.)
- Call-off contractors which are required on an irregular basis, and are not continuous operation. The call-off contractor should have the purpose to service extra/additional requirements due to unavailability of existing vehicles, e.g. extra carpool vehicles. The call-off contract period should be short-term and not more than 90 days.

For this exception, safety control measures shall be in place in order to properly manage and control risks.

Other Specific Training

For other specific training, e.g. legal requirements, high-risk environments (mountain, desert, off-road, swamp, etc.), specialized vehicles and specific operations, the drivers should also receive the specific training.

6.2.2 Driver Fitness To Work

Drivers shall be fit-to-drive and be fully alert while operating a vehicle. Drivers shall be assessed to ensure they are fit to drive/work and able to operate a vehicle safely.

Driver Fitness To Work Requirements:

- All drivers shall have the medical examinations with a minimum follow-up, in compliance with applicable laws and regulations, and in accordance with Fitness to Work Guideline (11003-GDL-SSHE-561-005-R01).
- A process of "Fit-to-Drive Assessment" should be in place to check whether the drivers are fit to drive, including but not limited to, fatigue, sleep disorders, drug/alcohol abuse and illness.
- **No Alcohol or Drugs While Driving:** All drivers are prohibited to drive the vehicle for PTTEP's work related business while under the influence of alcohol or drugs. Zero Tolerance Alcohol limit is applied to all staff and Contractors. Drug and Alcohol Testing Program shall be in place and conducted for drivers.

Drivers shall:

- Only operate a vehicle if appropriately rested and alert.
 - Not exceed driving and duty hours as per the legal requirements.
 - Take prescribed rest breaks and the daily rest as per the legal requirements.
 - Exercise their right to refuse to drive if they feel that they are not fully rested and alert.
 - Advise their Supervisor if they have a disability or condition that could prevent them from driving safely.
 - Always inform Supervisor if taking medication that may have an adverse effect on driving performance. If in doubt always check with Supervisor in order to further seek medical advice.
- Examples of medications that may have a profound effect on driving ability are:
- Sleeping tablets;

- Anti-depressants;
- Anti-anxiety tablets;
- Certain cold remedies;
- Certain painkillers; or
- Certain drugs for high blood pressure;

Drivers taking the medications that may profoundly affect the driving ability are not allowed to operate vehicles.

6.2.3 Duty, Driving and Rest Hours

At the minimum, drivers shall comply with the legal requirements of duty, driving and rest hours. Supervisor shall monitor and ensure that the legal requirements are adhered to by all drivers. For drivers working with or transporting dangerous goods, the legal requirements is more stringent.

With reference to Labor Protection Act B.E. 2541 (1998) and Land Transport Act B.E.2522 (1979), the legal requirements of duty, driving and rest hours for land transport are shown in the table below.

Condition	Thai Legal Requirements
Normal Working Hours¹	<ul style="list-style-type: none">• Maximum 8 hour/day (48 hour/week)• Maximum 7 hour/day (42 hour/week) for working with or transporting dangerous goods
Overtime Working Hours¹	Maximum 2 hour/day (with a written agreement between employer and driver)
Minimum Break	<ul style="list-style-type: none">• Minimum 30-minute Break for every 4 hours continuous driving²• Minimum 1-hour Break in total per day¹
Daily Rest Period¹	Minimum 10 consecutive hours (after finish working on the day before)

Table 1: Legal Requirements of Duty, Driving and Rest Hours

References:

¹ Labor Protection Act B.E. 2541 (1998) and Ministerial Regulation No. 12 B.E. 2541(1998)

² Land Transport Act B.E.2522 (1979)

6.2.4 General Driving Requirements

All drivers operating vehicles for Company business and passengers traveling for Company business shall comply with general driving requirements as follows:

6.2.4.1 Seatbelts

- Drivers and all passengers shall always wear a seat belt while in a moving vehicle.
- Seatbelts for front seat occupants and outboard passengers should be of the 3-point configuration, preferably incorporating automatic retraction and deceleration activated emergency locking mechanisms, often referred to as "inertia reels".
- For buses, coaches, vans/minibuses, the minimum requirements are that 3-point seat belts are fitted for the driver, front seats and seats with open space in front (such as a seat adjacent to a doorway). Remaining seats should be fitted with 2-point lap type seatbelt if possible.
- Use of vehicles not properly fitted with seat belts for all passengers should be avoided when alternatives are available.

6.2.4.2 Distracted Driving and Smoking

- Drivers shall not operate a vehicle when using a mobile phone or while being distracted from the task of driving. Examples of distractions are using a mobile phone or pager, sending or reading a text message and using a hands-free mobile phone device.
- Use of two-way radios should be kept to the minimum necessary communication.
- Smoking is not permitted in Company's vehicles or in any vehicles on Company business.

6.2.4.3 Speed Limits

- All drivers shall abide by the legal speed limits on public roads as per laws and regulations, or Company established speed limits for the different road types and vehicle types.
- When driving within site complexes or compounds, all drivers shall abide by the stated speed limits of the site.
- Further the speed shall be adjusted as appropriate when:
 - Driving in high community area;
 - There is a specific speed limit on a signpost;
 - The vehicle is heavily loaded or towing a trailer;
 - A safe distance from the car in front has to be maintained;
 - Driving at a speed that will allow the driver to stop well within the safe distance; or
 - In bad weather or hazardous road conditions, e.g. poor visibility, wet road, road works or heavy traffic, and pedestrians or animals on the road.

6.2.4.4 Use of Headlights

- All Company and contracted vehicles should be driven with dipped headlights (low beam) switched on when the visibility is poor, e.g. during rain and poor lighting conditions.
- Heavy Vehicles including tankers, trucks, trailers and commuting buses should be driven with dipped headlights (low beam) at all times when travelling on the highway.

6.2.4.5 Vehicle Breakdown

- All drivers shall be given and familiarized with an emergency contact card that contains the phone numbers of emergency services and other key contact phone numbers, in order to request for support as soon as possible.
- If the vehicle breakdowns on the road, the driver should try to bring the vehicle to park on the "safe" road side if possible. If not, the driver shall give warning signals (lights) to other road users as many as possible to avoid further incident. The driver and passengers should safely get out and stay away from the vehicle in the safe area.
- The driver has to place a reflective warning triangle and/or cones at least 50 m. to the rear of the vehicle and to the front when considered necessary.
- In case of breakdown during daylight, the utmost efforts should have to be made to ensure the recovery should be done before night time to reduce the additional hazards due to darkness.

6.3 Vehicle Management

Vehicle is one of the major components for land transport safety and efficiency. Accordingly, this section determines the specifications and requirements of vehicles, load and cargo securement. It also underlies the requirements of vehicle inspections and maintenance, and In-Vehicle Monitoring System (IVMS).

6.3.1 Vehicle Specifications

Vehicles shall be fit-for-purpose based on assessment of usage, and shall be maintained in a safe working order in line with manufacturer's specifications and comply with legal requirements.

The detailed requirements of vehicle specifications are shown in Appendix 7.2.

6.3.2 Tyre Requirements

Tyres are critical to overall performances of vehicle especially road safety. A tyre burst could lead to a complete loss of vehicle control.

The following Company's requirements shall be applied to all Company's and Contractor's vehicles.

- All vehicles shall be fitted with tyre type, size and specifications as per the vehicle manufacturer's recommendations for the road surfaces and weather circumstances.
- For light vehicles, retreaded, recapped and remoulded tyres shall not be used.
- For heavy vehicles, the use of retreaded, recapped and remoulded tyres is not recommended.
- Tyre shall be replaced and shall not be used when:
 - The tread depth is equal to or less than 3.0 mm.
 - The tyre has a break in its fabric or has a cut that exceeds 20 mm of the section width measured on the outside of the tyre and deep enough to reach ply or body cords.
 - The tyre has any portion of its ply or cord structure exposed, or has any lump, bulge or tear caused by separation or partial failure of its structure.

- Tyre inflation pressures shall be regularly checked by drivers when the tyre is cold. Tyres shall be maintained and inflated in accordance with the vehicle manufacturer's recommendation for tyre inflation pressure.
- Drivers shall inspect the tyres prior to the journey or on a daily basis for signs of uneven wear, damage, minimum tread depth and correct pressure as a part of Daily Inspections by Driver indicated in Section 6.3.4.1.

6.3.3 Load and Cargo Securement

During transport, all loads/cargo items shall be prevented from sliding, tipping, rolling, wandering or substantial deformation and rotation in any direction by restraining methods.

All loads/cargo transported via land transport methods shall be:

- Suitably prepared and packaged for safe transport in/on the type of vehicle selected for transport.
 - Correctly and securely restrained to the vehicle in or on which it is being transported. The following basic restraining methods can be used separately or in combination.
 - Locking
 - Blocking
 - Direct Lashing
 - Top-over Lashing
 - Fully compliant with applicable regulations related to cargo loading, securement and transport. Gross Vehicle Weight (GVW), Gross Combination Weight (GCW) and the axle weight shall comply with the limits for each vehicle type according to the manufacturer's specifications and legal limits.
- The driver has the primary responsibility for ensuring that all loads are properly secured before and during the journey. Supervisor is responsible for ensuring the driver is trained and competent in load securement and that appropriate practices are followed for safe and proper load securement.

Drivers shall:

- Be trained and competent in load securement. Helpers and/or personnel performing load and cargo securement operations shall also be trained and competent in load securement.
- Ensure loads/cargo are properly secured. Necessary securing/lashing equipment and additional equipment are properly applied. The securing arrangements do not damage the goods transported.
- Ensure the loads and passenger numbers do not exceed the manufacturer's specifications and legal limits for the vehicle, including consideration for Gross Vehicle Weight (GVW), Gross Combination Weight (GCW) and the axle weight.
- Keep the passenger compartment of the vehicle free from loose objects that may lead to driver distraction or become hazardous projectiles if a rollover or abrupt vehicle maneuver occurs.
- Inspect all securement devices (chains, binders, straps, etc.) and attachment points prior to use.
 - Chains and binders with damaged, stretched, or bent components shall not be used and shall be taken out of service.

- Straps with tears, holes, knots, damage, deterioration, or abrasions shall not be used and shall be taken out of service.
 - Attachment points that are damaged, worn, or otherwise not suitable or adequate for securing the load, shall not be used.
 - Inspect and be satisfied that the entire load is adequately positioned and secured according to the requirements of all applicable laws and regulations prior to departure on a journey.
- The cargo, or any other object, should not:
- Obscure the truck driver's view ahead, or to the sides, or the field of view of rear mirrors.
 - Prevent the driver's free and ready access to equipment required for emergencies,
 - Prevent the free and ready exit from the vehicle.

- Inspect the load and its securement during the journey in accordance with Journey Management Plan (JMP) and/or the rest stop schedule. Inspections may be needed more frequently based on the types of freight being secured and/or the road and terrain being covered. The driver shall stop only in places that provide adequate space and security to allow for safe inspections. Road shoulders and on/off ramps shall not be used for this purpose.

- Drive smoothly, i.e. adapt the speed to the circumstances so as to avoid brisk change of direction and heavy braking. Accordingly, the forces exerted by the cargo will remain low and should not encounter problems.

Supervisors shall:

- Ensure that Gross Vehicle Weight (GVW), Gross Combination Weight (GCW) and the axle weight do not exceed the manufacturer's specifications and legal limits for the vehicle.
- Ensure proper and adequate load securement devices and associated equipment is available and serviceable.
- Verify drivers and helpers are competent in load securement.

6.3.4 Vehicle Inspection and Maintenance

This section contains requirements to ensure the continuity of vehicle roadworthiness. The systematic and regular preventive maintenance program containing vehicle inspections, scheduled maintenance and servicing shall be in place for all Company's vehicles and Contractor's vehicles operated for Company business. The preventive maintenance program ensure that problems can be corrected before they result in major repair or vehicle breakdown.

6.3.4.1 Roadworthiness Inspections

Vehicle safety inspections are very important to ensure the roadworthiness of a vehicle. The advantage of a thorough inspection is detection of problems at an early stage so that preventive maintenance, rather than breakdown maintenance, can be carried out, leading to the reduction of downtime and costly major repairs. There are three types of essential inspections – which differ in scope and depth.

The three types of inspection are:

- Daily Inspections by Driver



- Statutory Safety Inspections
- Pre-mobilization Inspections

Daily Inspections by Driver

The driver is responsible for the condition of the vehicle while in use; therefore, conducting a daily inspection is a vital part of a driver's core role. The daily inspection for Company's and Contractor's vehicles shall be properly performed. The daily inspections also includes reporting and recording defects for further rectification.

The appropriate checklist for vehicle inspection should be used and applied for the daily inspection. For specialized or specific vehicles e.g. tanker trucks and vacuum trucks, the specific vehicle inspection checklist may be developed and used as appropriate.

Drivers shall:

- Perform a daily inspection before a vehicle is used. The recommendation is to carry out the daily inspection before driving the vehicle on the road each day. Where more than one driver will use the vehicle during the day's running, the driver taking charge of a vehicle should make sure it is roadworthy and safe to drive by carrying out their own daily inspection.
- Report to Supervisor on any defects, or symptoms of defects, that could prevent the safe operation of the vehicles. In addition to daily inspections, Driver shall monitor the roadworthiness of vehicle when being driven, and be alert to any indication that the vehicle is developing a fault e.g. warning lights, vibrations or other symptoms. When a vehicle is on site work, Driver should walk around the vehicle before leaving the site to identify any faults.
- Not use the vehicle on the road until it is repaired/rectified if any safety defects that may affect the roadworthiness of the vehicle are found.
- Be adequately trained to perform the daily inspection of particular vehicle type.

Supervisors shall:

- Ensure that vehicle defects are being reported and that repairs are made before a vehicle is put back into use, and/or any appropriate action is taken according to defects found from the inspection. This includes taking the vehicle out of service if necessary.
- Ensure reporting and recording the results of daily inspections that may affect the roadworthiness of the vehicle is in place. This shall include how they were rectified before the vehicle is used. Daily inspections are vital, and the results of such checks should be recorded as a part of the maintenance system.
- Ensure the daily inspection reports are properly recorded and kept.

Statutory Safety Inspections

All Company's and Contractor's vehicles shall pass all relevant safety inspections as required by laws and regulations, for instance, the annual safety inspection of vehicle as required by DLT, and DOE's testing/inspection requirements of oil tank (road tankers).

Pre-mobilization Inspections

To ensure that Contractor's vehicles dedicated to use for Company Business are properly assessed to confirm the compliance with Company's requirements, contract terms and



conditions before commencing services, Pre-Mobilization Inspection is required before the vehicle is brought into use with Company.

Pre-Mobilization Inspection is mandatory for following vehicles.

- **Dedicated Vehicles first brought into use:** A vehicle which is first brought into use with Company
- **Dedicated Vehicles being returned to use:** A vehicle has been off the road for a period longer than the planned maintenance inspections, it should be given Pre-Mobilization Inspection, prior to being brought back into use.

For the gap and finding from inspection, corrective action and rectification shall be carried out and completed by Contractor, prior to use of the vehicle.

Contract Holder / Company Site Representative shall:

- Ensure that Pre-Mobilization Inspections are performed for dedicated vehicles.
- Conduct Pre-Mobilization inspections in accordance with Company's requirements, contract terms and conditions. The inspections may be conducted with support from SSHE Representative.
- Evaluate the gap between Company's requirements and existing conditions of vehicles, and inform Contractor for corrective action and rectification.
- Follow up the corrective action and rectification performed by Contractor.

6.3.4.2 Maintenance Requirements

The followings are Company's requirements including planned maintenance servicing and unplanned repairs carried out as a result of breakdown, poor vehicle performance and defects found from inspections to be applied to all Company's Vehicles and Contractor's vehicles operated for Company business.

- The preventive maintenance program shall be in place (time-based or mileage-based) in accordance with the vehicle manufacturer's recommendation.
- Manufacturer's standard service instructions and dimensions for repair and replacement shall be followed.
- All maintenance shall be carried out by competent agents or qualified personnel, trained and experienced in a vehicle that they inspect or maintain.
- The servicing maintenance intervals, parts, lubricants and consumables shall be in accordance with manufacturer's standard instructions and specifications.
- Parts and accessories shall be in safe and proper operating condition at all times.
- Replacement parts shall be designed for the particular application for which they are used and must meet manufacturer's standard specifications. Where practical, replacement parts certified by a recognized industry standards testing organization should always be used; and replacement parts shall be properly installed.
- Wear limits and tolerances used for maintenance shall be in accordance with manufacturer's recommendation.
- All vehicles shall be properly lubricated and free of fluid, oil and grease leaks
- Records of all services, repairs and maintenance with details shall be properly kept.

6.3.5 In-Vehicle Monitoring System (IVMS)

In-Vehicle Monitoring System (IVMS) refers to electronic devices in a vehicle that record data about driver's behaviors and vehicle use, combined with purpose-designed computer software to enable the owner or a third party to track and monitor the vehicle's location and driver's behaviors. Modern vehicle tracking systems commonly use Global Positioning System (GPS) technology for locating the vehicle. The additional devices, e.g. Mobile Digital Video Recorders (MDVR) and Fatigue Detection System (FDS) can be used to enhance the safety control.

The use of IVMS is not only useful for the incident investigation, but also for the improvement of driver behaviors which may lead to benefits such as reductions in vehicle crash rates, speeding events and kilometers driven as well as cost savings associated with reductions in crashes and fuel consumption.

6.3.5.1 IVMS Installation Requirements

At a minimum, all vehicles operated for Company business shall comply with IVMS installation requirements and features as required by DLT and DIW as applicable.

IVMS installation with the real-time monitoring system is recommended for vehicles used for Company business. The features of IVMS should include:

- Measure of acceleration, deceleration and speed;
- Setting of threshold for acceleration, deceleration, maximum speed and time over maximum speed;
- Recording of events that exceed set thresholds;
- Driver identification;
- Kilometres/miles driven; and
- Driving hours

The scope of IVMS implementation and requirements depends on the risk assessment result and/or operations which require close monitoring and control of driver's behaviors. The additional devices/features, e.g. Mobile Digital Video Recorders (MDVR) and Fatigue Detection System (FDS), may be required as appropriate.

6.3.5.2 Driver Behavior Monitoring

Assets, Departments and Contractors should assign a responsible person to regularly monitor and report professional drivers' performance and behaviors from IVMS data including MDVR and FDS (if applicable), measured from the predetermined set of parameters and thresholds. The comments and feedbacks on improvement for professional drivers' performance and behaviors should be provided to the drivers.

The assigned person should have roles and responsibilities as follows:

- Regularly monitor data/records of professional drivers' performance and behaviors from IVMS. The real-time monitoring system of IVMS is recommended.
- Download, retrieve and analyse data/records of professional drivers' performance and behaviors from IVMS on a regular basis (at least once a month).
- Prepare the report of professional drivers' performance and behaviors including the violations e.g. exceeding speed limit, driving hours and rest hours.
- Submit the report to line supervisor of the drivers and concerned parties.

- Provide comments and feedbacks on improvement for professional drivers' performance and behaviors.

6.4 Journey Management

All land transport journeys of Company and Contractors should be minimized by considering the necessity of travel and alternate options/means of transport.

Following four basic principles that apply to journey management are:

- Challenge the need to travel
- Consider alternative options
- Assess the hazards
- Make a reasoned choice

The following figure demonstrates the decision making for journey with consideration for trip necessity and non-driving alternative. Journey Management Checklist (Appendix 7.3) provides guidance on questions to be asked according to the four basic principles.

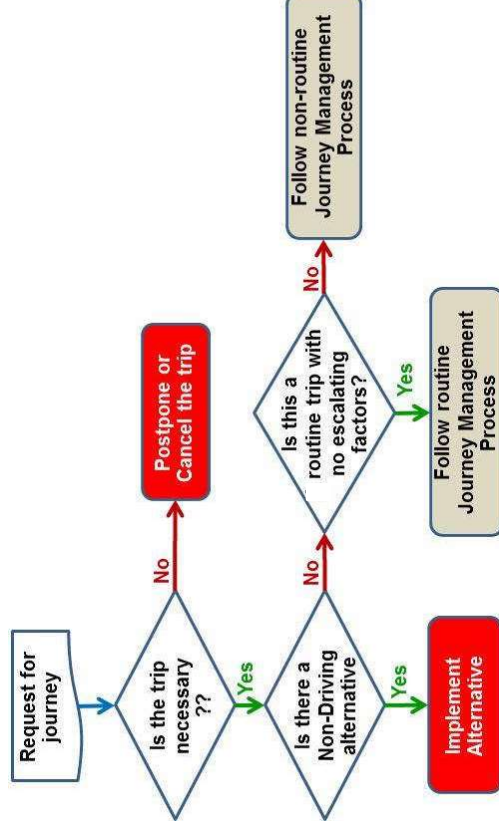


Figure 2: Journey Management Decision Making Flowchart

6.4.1 Journey Management Plan

Journey Management Plan (JMP) is part of a journey management and is the agreed plan between Driver and Supervisor. Supervisor managing the journey is called Journey Manager. The JMP covers the time between departure and arrival at the final destination. The JMP details the safest route in order to avoid or mitigate any potential hazards en route, and includes relevant information to be implemented and followed, e.g. route survey, route map, rest stop schedule, vehicle inspection, speed limit, alternate driver and communication method etc.

Journey Management Assessment and Approval Form (Appendix 7.4) can be used for the trip evaluation of risk level and the preparation of JMP.

The JMP should include the consideration for the following points:

- Formal pre-trip briefings are held. This should include a discussion between driver(s) and Journey Manager of routes, stops, hazards, loads, safe speeds, elimination/avoidance of distractions, the requirements for the driver to report completion of the journey, and contingency plans, etc.
- A timeline should be developed for the journey.
- The route to be travelled is clearly defined and mapped.
- Establish a communications protocol, including consideration for mobile communication "dead spots".
- Potential driving hazards, especially dangerous intersections, are identified in advance, taking into consideration for the terrain, time of the day, weather, known dangerous routes, speed limits, holidays (especially those which involve fasting or alcohol), etc.
- Appropriate vehicles are assigned to the journey taking into account the hazards identified, including any special considerations, for the journey (terrain, weather, high risk crossings, road conditions, etc.).
- Only qualified drivers are assigned with valid driving/operator's licence for the type of vehicles to be used.
- Drivers are physically and mentally fit, giving particular attention to past working hours, driving hours and rest hours as per the legal requirements.
- Vehicles are inspected using an appropriate checklist before the journey begins.
- Rest stops are scheduled.
- The use of convoys where two or more vehicles are proceeding to the same location at the same time. Convoy procedures should be developed and implemented for this situation.
- Assessment of risk should consider the risk of dust, smoke, fog, heavy rains, storms, extremes in temperature and security risks.
- An estimation of the expected arrival time at the destination is made. Necessary action should be taken to initiate a contingency plan in the event that the traveler does not arrive at the set time.
- The driver(s) clearly understand his/her responsibility to report completion of the trip to Journey Manager.

The JMP may be exempt for:

- Routine trips or routine activities which specific controls and safety measures are in place, implemented and followed
- Journeys during emergency situations

6.4.2 Journey Management Process

For all routine and non-routine trips, following elements are to be checked, verified and assessed before starting the journey.

- **Driver** is qualified and fit to drive e.g. adequate rest and no fatigue.
- **Vehicle** is in good conditions and suitable for the journey.
- **Road and Weather** conditions are acceptable for the journey.

6.4.2.1 Routine Journey Management Process

Risk assessment of each predetermined routine trip should be conducted, and JMP should be prepared and followed by driver. As long as the routine trip has no escalating risk factors, the predetermined JMP can be maintained and followed. In case of changes associated with risk exposure and route, the JMP should be properly reviewed.

The figure shown below demonstrates the process of Routine Journey Management.

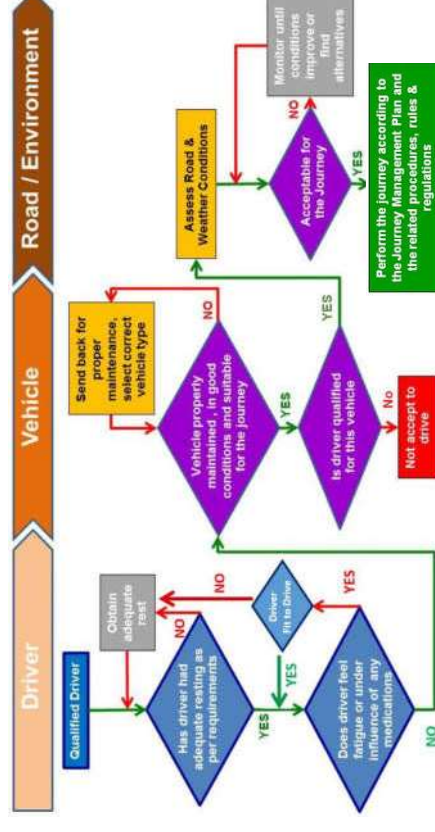


Figure 3: Routine Journey Management Process

6.4.2.2 Non-Routine Journey Management Process

Asset and/or Department which involve in land transport activities/operations shall appoint Journey Management Authorized Person(s) who is responsible for the approval of journey management with the following requirements for non-routine trip.

- The full implementation of JMP for each non-routine trip is required. Risk assessment shall be conducted and documented.
- JMP shall be prepared, documented and followed by driver.

- All non-routine journeys and its JMP shall be approved by Journey Management Authorized Person(s) before starting the journey. The approval may be multi-level as appropriate.

The figure shown below demonstrates the process of Non-Routine Journey Management.

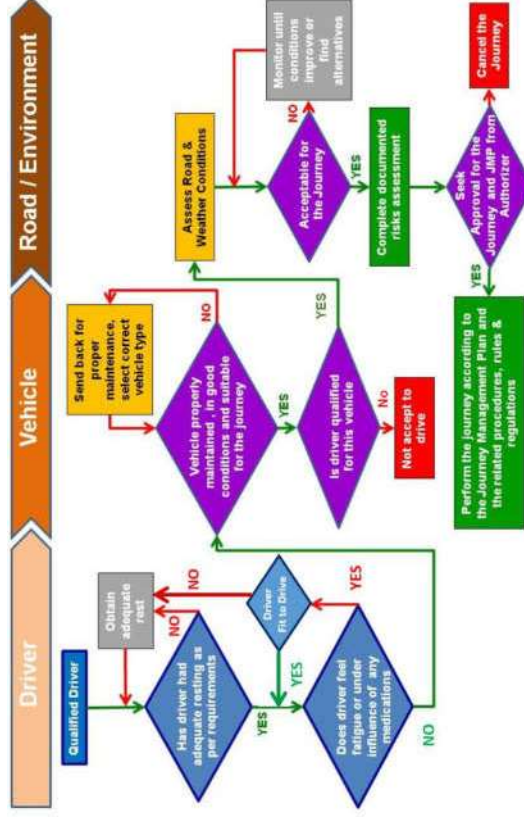


Figure 4: Non-Routine Journey Management Process

Assets and Departments should take recognition of the following references when carrying out risk assessments:

- SSHE Risk Management Standard (11038-STD-SSHE-401-R06)
- Life Saving Rules Standard (11038-STD-SSHE-595-013-R01)
- IOGP Report 365-1: Road Hazard Assessment

6.5 Incident Reporting Requirements

All road incidents involving PTTEP or Contractor vehicles shall be notified, classified, reported and investigated in accordance with Incident Management Standard (11038-STD-SSHE-600-011-R06). The incidents shall be managed and recorded in Incident Management System (IMS) throughout the process until completion and close out.

At the scene of the incident:

- Take care to avoid further injury or damage from other traffic.
- If the driver or passenger is a qualified first aider, first aid may be performed for life saving, but do not move casualties unless there is a high potential of the vehicle explosion.
- Place a reflective warning triangle and/or cones at least 50 m. to the rear of the vehicle and to the front when considered necessary.

- Where the third party is involved and the vehicle is damaged, if necessary the driver may call the police for a formal report to be made. It is recommended not to move the vehicle until the police have given authority to do so, unless there are other risks if the vehicle is not moved.
- Inform PTTEP's local office in each area according to the local Emergency Response and/or Incident Reporting Procedure in each area.
- Be polite but do not admit liability or discuss blame.
- If hazardous loads carried, assess damage and carry out action specified in Safety Data Sheets.
- Do not allow smoking near the vehicle in case of fuel leaks.
- Write down information that will be helpful for and contribute to accident investigation.

All Contractors shall have a contingency plan that deals with emergency response to a road incident. These plans must be regularly communicated and cascaded down to the drivers.

Vehicle Crash Definition

Work-related vehicle damage or personal injury due to a vehicle related event, e.g. collision or rollover.

The following should not be reported as a motor vehicle crash when the vehicle is properly parked:

- Injuries that occur when entering or exiting the vehicle
- Any event involving loading or unloading from the vehicle
- Another vehicle crashes into the parked vehicle.

In addition, the following should not be reported as a motor vehicle crash:

- Damage to or total loss of a vehicle solely due to environmental conditions or vandalism
- Damage related to the theft of a vehicle
- Superficial damage, such as a stone/rock chip damaging a windscreen/or paintwork while the vehicle is being driven.
- An event where there has been no collision or any other damage than to the vehicle itself, this includes but not limited to: engine fire, losing a wheel and brake failure while maintaining control of the vehicle.

The evidence at the scene of a road accident is often short lived and therefore prompt action is required. Road/Vehicle Incident Checklist (Appendix 7.5) should be used as an aid-memory during the site investigation.

6.6 Off-road Operation Variations

Off-road operations are defined as where:

- All driving is strictly off-road, or
- A driver operates predominantly off-road, with less than 20 km per day driven on hardtop roads and with more than four hours driving off-road on average per day.




Variations of various land transport subjects should be followed for the off-road operations, detailed in Appendix 7.6.

7.0 APPENDICES

7.1 Reference to IOGP

Section No.	Section Title	IOGP Reference
6.2.1	Driver Competency	IOGP Report 365 (3.6)
6.2.2	Driver Fitness To Work	IOGP Report 365 (3.7, 3.8)
6.2.4	General Driving Requirements	IOGP Report 365 (3.4, 3.5)
6.3.1	Vehicle Specifications	IOGP Report 365-14
6.3.3	Load and Cargo Securement	IOGP Report 365 (3.2) IOGP Report 365-18
6.3.4.1	Roadworthiness Inspections	IOGP Report 365 (3.1)
6.3.5	In-Vehicle Monitoring System (IVMS)	IOGP Report 365 (3.3)
6.4	Journey Management	IOGP Report 365 (3.9) IOGP Report 365-1 IOGP Report 365-2 IOGP Report 365-10
6.5	Incident Reporting Requirements	IOGP Report 365-4 IOGP Report 365-5
6.6	Off-road Operation Variations	IOGP Report 365-7

7.2 Vehicle Specifications

VEHICLE SPECIFICATION REQUIREMENT	TYPE OF VEHICLE		
	 Light vehicles	 Heavy vehicles	 Buses and coaches
The vehicle's colour should be in light colour or high visibility colour.			
Seatbelts (all seats)	●	●	●
Air bags (where possible, but at least driver's seat and front passenger seat)	●	▲	▲
Head restraints (all seats)	●	●	●
Laminated glass windscreen, and tempered safety glass in all other windows.	●	●	●
Driver and passenger side mirrors	●	●	●
Tinted film is allowed to fix, however, the minimum VLT (Visible Light Transmittance) of the wind screen should be ≥ 75% and the VLT of other windows should be ≥ 35%.	●	●	●
Anti-lock brakes (ABS)	●	▲	●
High-mount brake light and turn-signal lights	●	●	●
Climatic control, i.e. air conditioner and/or heater as appropriate to ambient climatic conditions	●	●	●
Fog lights and/or corresponding high-visibility tail light	●	●	●
Tires to match manufacturer loads and speed ratings.	●	●	●
Suitable spare wheel and tyre	●	●	●
First aid kit, flashlight / torch and fire extinguisher	●	●	●
Disabled vehicle marker (e.g. warning triangle and cones)	●	●	●
MMS where applicable Ref 6.3.5	▲	▲	▲
Vehicle life less than 7 years since first registration	▲	▲	▲
Vehicle recorded mileage less than 200,000 km with good maintenance record according to the manufacturer specifications	▲	▲	▲
Side impact protection	▲	▲	▲
Electronic stability control (ESC) or Vehicle stability control (VSC)	▲	▲	▲
Seatbelt / Outlier & Window Breaker Escape Tool in case of an emergency	▲	▲	●
Other equipment and survival accessories to suit with environment, i.e., - Nature of terrain (e.g. mountain, desert, swamp, offroad operations, etc.) - Surrounding environment (e.g. dark, rain, snow, fog, heat, humidity, glare, etc.)	▲	▲	▲
Heavy-duty wide-angle fully adjustable rear vision mirrors on both driver and passenger sides of the vehicle	-	●	-
Convex mirrors fitted appropriately to ensure adequate vision of blind spots, including passenger side and in front of cab-over vehicles	-	●	-
Under-run protection – both side and rear	-	●	-
Clearly visible rear and side markings, including the use of high-visibility pulper tail and brake lights	-	●	-
Spray-suppression flaps (mud flaps)	-	●	-
Wheel-nut position indicators (that identify when wheelnuts have loosened)	-	●	-
Reversing alarm system	-	●	-
Electronic trailer stability control	-	▲	-
Single-piece rims as available	-	▲	-
An endurance braking system (engine retarder or equivalent) for regions with steep terrain	-	▲	-
Wheel chocks	-	●	●
The passenger access door should be on both sides of the bus	-	-	●
Emergency exit side windows should be installed	-	-	●
Each designated emergency exit door should have a clearly visible sign	-	-	●
Adequate segregated luggage space should be available for the maximum number of occupants	-	-	●

Remark : ● Required ▲ Optional / Recommended

7.3 Journey Management Checklist

Journey Management Checklist		
Challenge the need	Questions to be asked	Checked
Consider options	• Does the task actually need a road journey?	<input type="checkbox"/>
	• Is a face-to-face meeting really necessary, or would a fax, telephone or net meeting do?	<input type="checkbox"/>
	• What are the implications of not making the journey?	<input type="checkbox"/>
	• How urgent is the task?	<input type="checkbox"/>
	• Does the task justify a special journey or it can be combined with another task/journey?	<input type="checkbox"/>
Assess hazards	• Can the vehicle be shared?	<input type="checkbox"/>
	• Can the trip be delayed?	<input type="checkbox"/>
	• Can a regular car pooling arrangement be made?	<input type="checkbox"/>
	• Can another person do the task as part of their work?	<input type="checkbox"/>
	Time • When does the task have to be completed – perhaps the trip can be combined or rescheduled for a safer time?	<input type="checkbox"/>
Vehicle Selection	• Can the trip be made/achieved without putting pressure on the driver?	<input type="checkbox"/>
	• Can the journey avoid dawn, dusk and peak times?	<input type="checkbox"/>
	Nominated Driver • Do we use the right type of vehicle?	<input type="checkbox"/>
	• Is the vehicle roadworthy and is safety equipment available and serviceable?	<input type="checkbox"/>
	• Is she/he fit and healthy?	<input type="checkbox"/>
Load	• Is she/he qualified and authorised to drive on Company business (i.e. has the driver a PTTEP driving passport)?	<input type="checkbox"/>
	• Is she/he experienced enough for the task?	<input type="checkbox"/>
	• Is she/he fully briefed on the task, route to be used and emergency Procedures?	<input type="checkbox"/>
	• Will we remain within the permitted working hours when carrying out the journey as planned?	<input type="checkbox"/>
	• Is the load too large for the vehicle?	<input type="checkbox"/>
Route	• Are we not overloaded?	<input type="checkbox"/>
	• Has a load securing check been made?	<input type="checkbox"/>
	• Is the load of a hazardous nature (if so, do we have the right documentation)?	<input type="checkbox"/>
	• Do we require convoy vehicles or a police escort?	<input type="checkbox"/>
	• Do we maximise the time on motorways and major highways?	<input type="checkbox"/>
Make a reasoned choice	• Do we really minimise time on single carriageways and urban roads?	<input type="checkbox"/>
	• Do we avoid busy roads and congested areas?	<input type="checkbox"/>
	• Do we have any height or width restrictions?	<input type="checkbox"/>
	• Have rest stops been planned correctly?	<input type="checkbox"/>
	• Have night stops been planned correctly (after maximum hours driving)?	<input type="checkbox"/>
Make a reasoned choice	• If, having challenged the need for the journey to be made, and if the options to minimise exposure have been considered and if hazards have been assessed and taken into account, make a reasoned choice based on urgency, importance, and cost and, above all, safety considerations.	<input type="checkbox"/>

7.4 Journey Management Assessment and Approval Form

Journey Management Assessment and Approval															
Requester		Company													
Journey management Detail															
Why this journey necessary?															
Can it be combined with other journey? If not, why?															
Will the driver reach his destination before dark?															
Vehicle/Vehicle Number															
Driver Name/Company															
From															
To.															
Place		Date		Time		Place		Est. date		Est. time		Est. Distance			
Trip evaluation															
High Risk		Total > 25 points													
Medium Risk		Total > 15 Total < 24 points													
Low Risk		Total < 14 points													
Trip evaluation points information															
A : security escort requirements		Pts		B : security situation		Pts		C : Weather		Pts		J : Driving contractors usage		Pts	
No escort needed		0		No problems		0		Dry		1		Permanent contract		0	
Police escort in company vehicle with 1 or 2 officers		2		Know possible problems		20		Wind		2		Vehicle passed inspection		0	
Single manned patrol (Defence Vehicles, Police Vehicles and etc)		10						Rain		4		Driver passed DDC course		0	
Dual manned patrol (Defence Vehicles, Police Vehicles and etc)		20						Fog/dust		8		Vehicle not passed inspection by company		10	
D : Number of vehicles & assistant driver		Pts		E : Distance from base		Pts		F : Road conditions		Pts		I : Communication		Pts	
2+ vehicles, + 1 Assistant driver per vehicle		1		Less than 50 km		1		Paved		1		Mobile/Satellite phone/radio		0	
1+ vehicles, + 1 Assistant driver per vehicle		2		51-100 km		2		Mixed (Less than 50% paved)		2		No comms, but in a convoy		2	
1 heavy vehicle, + 1 Assistant driver per vehicle		3		101-200 km		5		Unpaved		4		No comms, single vehicle		4	
1 light vehicle with no assistant driver		3		More than 200 km		11		Mountain		8					
1 heavy vehicle with no assistant driver		6													
G : Driver hours on duty & trip duration		Pts		H : Day/night driving		Pts		I : Communication		Pts					
Driver slept > 8 hrs in last 24 hrs		0		Day		0		Permanent contract		0					
Hours on duty (last 24 hrs) + hours planned for trip < 2 hrs		0		(Between 6am - 7pm) < 35km		5		Vehicle passed inspection		0					
Hours on duty (last 24 hrs) + hours planned for trip < 2 hrs		0		(Between 7pm - 6am) < 20km		0		Driver not passed inspection by company		10					
Hours on duty (last 24 hrs) + hours planned for trip < 4 hrs		3		(Between 7pm - 6am) < 20km		20		Driver not passed DDC course		10					
Hours on duty (last 24 hrs) + hours planned for trip < 6 hrs		6		(Between 7pm - 6am) < 20km		20									
Driver slept < 8 hrs in last 24 hrs		2													
Hours on duty (last 24 hrs) + hours planned for trip < 2 hrs		5													
Hours on duty (last 24 hrs) + hours planned for trip < 4 hrs		8													
Hours on duty (last 24 hrs) + hours planned for trip < 6 hrs		11													
Hours on duty (last 24 hrs) + hours planned for trip < 8 hrs		14													
Hours on duty (last 24 hrs) + hours planned for trip > 6 hrs		17													

7.4 Journey Management Assessment and Approval Form

Journey Management Assessment and Approval															
Requester		Company													
Journey management Detail															
Why this journey necessary?															
Can it be combined with other journey? If not, why?															
Will the driver reach his destination before dark?															
Vehicle/Vehicle Number															
Driver Name/Company															
From															
To.															
Place		Date		Time		Place		Est. date		Est. time		Est. Distance			
Trip evaluation															
High Risk		Total > 25 points													
Medium Risk		Total > 15 Total < 24 points													
Low Risk		Total < 14 points													
Trip evaluation points information															
A : security escort requirements		Pts		B : security situation		Pts		C : Weather		Pts		J : Driving contractors usage		Pts	
No escort needed		0		No problems		0		Dry		1		Permanent contract		0	
Police escort in company vehicle with 1 or 2 officers		2		Know possible problems		20		Wind		2		Vehicle passed inspection		0	
Single manned patrol (Defence Vehicles, Police Vehicles and etc)		10						Rain		4		Driver passed DDC course		0	
Dual manned patrol (Defence Vehicles, Police Vehicles and etc)		20						Fog/dust		8		Vehicle not passed inspection by company		10	
D : Number of vehicles & assistant driver		Pts		E : Distance from base		Pts		F : Road conditions		Pts		I : Communication		Pts	
2+ vehicles, + 1 Assistant driver per vehicle		1		Less than 50 km		1		Paved		1		Mobile/Satellite phone/radio		0	
1+ vehicles, + 1 Assistant driver per vehicle		2		51-100 km		2		Mixed (Less than 50% paved)		2		No comms, but in a convoy		2	
1 heavy vehicle, + 1 Assistant driver per vehicle		3		101-200 km		5		Unpaved		4		No comms, single vehicle		4	
1 light vehicle with no assistant driver		3		More than 200 km		11		Mountain		8					
1 heavy vehicle with no assistant driver		6													
G : Driver hours on duty & trip duration		Pts		H : Day/night driving		Pts		I : Communication		Pts					
Driver slept > 8 hrs in last 24 hrs		0		Day		0		Permanent contract		0					
Hours on duty (last 24 hrs) + hours planned for trip < 2 hrs		0		(Between 6am - 7pm) < 35km		5		Vehicle passed inspection		0					
Hours on duty (last 24 hrs) + hours planned for trip < 2 hrs		0		(Between 7pm - 6am) < 20km		0		Driver not passed inspection by company		10					
Hours on duty (last 24 hrs) + hours planned for trip < 4 hrs		3		(Between 7pm - 6am) < 20km		20		Driver not passed DDC course		10					
Hours on duty (last 24 hrs) + hours planned for trip < 6 hrs		6		(Between 7pm - 6am) < 20km		20									
Driver slept < 8 hrs in last 24 hrs		2													
Hours on duty (last 24 hrs) + hours planned for trip < 2 hrs		5													
Hours on duty (last 24 hrs) + hours planned for trip < 4 hrs		8													
Hours on duty (last 24 hrs) + hours planned for trip < 6 hrs		11													
Hours on duty (last 24 hrs) + hours planned for trip < 8 hrs		14													
Hours on duty (last 24 hrs) + hours planned for trip > 6 hrs		17													

7.4 Journey Management Assessment and Approval Form

Journey Management Assessment and Approval															
Requester		Company													
Journey management Detail															
Why this journey necessary?															
Can it be combined with other journey? If not, why?															
Will the driver reach his destination before dark?															
Vehicle/Vehicle Number															
Driver Name/Company															
From															
To.															
Place		Date		Time		Place		Est. date		Est. time		Est. Distance			
Trip evaluation															
High Risk		Total > 25 points													
Medium Risk		Total > 15 Total < 24 points													
Low Risk		Total < 14 points													
Trip evaluation points information															
A : security escort requirements		Pts		B : security situation		Pts		C : Weather		Pts		J : Driving contractors usage		Pts	
No escort needed		0		No problems		0		Dry		1		Permanent contract		0	
Police escort in company vehicle with 1 or 2 officers		2		Know possible problems		20		Wind		2		Vehicle passed inspection		0	
Single manned patrol (Defence Vehicles, Police Vehicles and etc)		10						Rain		4		Driver passed DDC course		0	
Dual manned patrol (Defence Vehicles, Police Vehicles and etc)		20						Fog/dust		8		Vehicle not passed inspection by company		10	
D : Number of vehicles & assistant driver		Pts		E : Distance from base		Pts		F : Road conditions		Pts		I : Communication		Pts	
2+ vehicles, + 1 Assistant driver per vehicle		1		Less than 50 km		1		Paved		1		Mobile/Satellite phone/radio		0	
1+ vehicles, + 1 Assistant driver per vehicle		2		51-100 km		2		Mixed (Less than 50% paved)		2		No comms, but in a convoy		2	
1 heavy vehicle, + 1 Assistant driver per vehicle		3		101-200 km		5		Unpaved		4		No comms, single vehicle		4	
1 light vehicle with no assistant driver		3		More than 200 km		11		Mountain		8					
1 heavy vehicle with no assistant driver		6													
G : Driver hours on duty & trip duration		Pts		H : Day/night driving		Pts		I : Communication		Pts					
Driver slept > 8 hrs in last 24 hrs		0		Day		0		Permanent contract		0					
Hours on duty (last 24 hrs) + hours planned for trip < 2 hrs		0		(Between 6am - 7pm) < 35km		5		Vehicle passed inspection		0					
Hours on duty (last 24 hrs) + hours planned for trip < 2 hrs		0		(Between 7pm - 6am) < 20km		0		Driver not passed inspection by company		10					
Hours on duty (last 24 hrs) + hours planned for trip < 4 hrs		3		(Between 7pm - 6am) < 20km		20		Driver not passed DDC course		10					
Hours on duty (last 24 hrs) + hours planned for trip < 6 hrs		6		(Between 7pm - 6am) < 20km		20									
Driver slept < 8 hrs in last 24 hrs		2													
Hours on duty (last 24 hrs) + hours planned for trip < 2 hrs		5													
Hours on duty (last 24 hrs) + hours planned for trip < 4 hrs		8													
Hours on duty (last 24 hrs) + hours planned for trip < 6 hrs		11													
Hours on duty (last 24 hrs) + hours planned for trip < 8 hrs		14													
Hours on duty (last 24 hrs) + hours planned for trip > 6 hrs		17													

7.5 Road/Vehicle Incident Checklist

Question	Yes	No	Notes
Driver			
Did the driver :			
• Hold a valid license for the class of vehicle involved in the incident?	<input type="checkbox"/>	<input type="checkbox"/>	
• Have authority to use the vehicle?	<input type="checkbox"/>	<input type="checkbox"/>	
• Have familiarity with this specific vehicle?	<input type="checkbox"/>	<input type="checkbox"/>	
• Use the vehicle for instructed business?	<input type="checkbox"/>	<input type="checkbox"/>	
Did the driver complete an approved driver training program?	<input type="checkbox"/>	<input type="checkbox"/>	Where & When; obtain record.
Is there evidence to suggest the driver drove the vehicle below expected standard?	<input type="checkbox"/>	<input type="checkbox"/>	Consider vehicle speed in the existing conditions?
Is there evidence to suggest the driver might have been impaired in any way?	<input type="checkbox"/>	<input type="checkbox"/>	Consider mental stress, health, alcohol, drugs, fatigue, other external influence
Wear seat belts fitted and correctly worn by all vehicle occupants?	<input type="checkbox"/>	<input type="checkbox"/>	
Was any communication device in the vehicle used during any part of the journey?	<input type="checkbox"/>	<input type="checkbox"/>	Obtain details
Had the driver completed this journey and or task previously?	<input type="checkbox"/>	<input type="checkbox"/>	
Vehicle			
Was the vehicle involved "Fit-For-Purpose"?	<input type="checkbox"/>	<input type="checkbox"/>	
Was the vehicle in good operating conditions?	<input type="checkbox"/>	<input type="checkbox"/>	Maintenance records
Did the vehicle have any driving monitor, e.g., IVMS, Tachograph, etc.	<input type="checkbox"/>	<input type="checkbox"/>	Obtain & examine
Is there a record of the :			
• Driver's recent work record?	<input type="checkbox"/>	<input type="checkbox"/>	
• Vehicle's recent work record?	<input type="checkbox"/>	<input type="checkbox"/>	
Was the bad including passengers secure and within legal and/or design limit of the vehicle?	<input type="checkbox"/>	<input type="checkbox"/>	
Was the vehicle :			What was our vehicle doing at the time of the incident?
• Stationary?	<input type="checkbox"/>	<input type="checkbox"/>	
• Utilizing "Right of Way"?	<input type="checkbox"/>	<input type="checkbox"/>	
• Manoeuvring?	<input type="checkbox"/>	<input type="checkbox"/>	
• Other?	<input type="checkbox"/>	<input type="checkbox"/>	
Road			
Was the vehicle being used on an authorized route?	<input type="checkbox"/>	<input type="checkbox"/>	
Had the risk assessment been completed for the route or task?	<input type="checkbox"/>	<input type="checkbox"/>	
Describe the weather conditions at the time of the incident using either Good, Average or Bad?	<input type="checkbox"/>	<input type="checkbox"/>	
Third PARTY			
Was a third party involved?	<input type="checkbox"/>	<input type="checkbox"/>	Details
Did third party driver and/or vehicle conform to all local regulations/requirements?	<input type="checkbox"/>	<input type="checkbox"/>	
Has anyone indicated liability?	<input type="checkbox"/>	<input type="checkbox"/>	Include police or other agencies, drivers & witnesses
YOU			
Are there any additional comments you wish to make in respect of this incident?	<input type="checkbox"/>	<input type="checkbox"/>	

7.6 Variations for Off-road Operations

Land Transport Subjects	Variations for Off-Road Operations
Seatbelt	<p>Where an operation requires persons to stand on a vehicle while it is in motion, e.g. on land seismic operations (cable trucks), those persons are exempt from using seat belts provided:</p> <ul style="list-style-type: none"> The operation or activity is for a specific purpose, which cannot reasonably be achieved by persons restrained by seat belts; The number of persons involved in the operation or activity is minimised; Persons must be protected from falling off the vehicle, by guardrails or other suitable fall prevention method; Where guardrails are used, they should comply with the specifications in OSHA 29 CFR 1926.502, and their effective height must not be reduced by the load carried (e.g. a bin in which a person stands filling up with cable); Persons not wearing seatbelts must be able to communicate verbally with the driver, e.g. by live intercom; Additional PPE may be appropriate, e.g. bump caps if there is overhead structure that may cause head injury; Vehicle speed must not exceed 10 kilometers per hour while persons are unrestrained; The operation or activity must be limited to benign terrain (persons must be seated and restrained, or dismount, if the vehicle has to traverse terrain likely to cause an unrestrained person to fall or be injured); and Persons not restrained by seat belts are not permitted for any journey or part of a journey that is not carrying out the specified operation or activity. <p>Explanatory can be found in "Note 1" indicated in IOGP Report 365-7: Variations for Off-road Operations.</p>

Land Transport Subjects	Variations for Off-Road Operations
Vehicle Specifications <p>Hardware specified and available for on-road vehicles may not always be suitable or available for off-road use. In light of the lower speeds and reduced collision risk off-road, the absence of any of the items specified below should not exclude a vehicle from off-road use.</p> <ul style="list-style-type: none"> • Anti-lock brakes (ABS); • Other electronic aids such as Electronic Stability Program (ESP) or Trailer Roll Stability Program (TRSP); • Air bags; • Side impact protection; • Under-run protection; • Other technology not available on specialised off-road vehicles where a risk assessment indicates an acceptable level of risk to operations in the absence of such technology <p>Brush guards may be fitted where a risk assessment indicates that their use will be beneficial.</p> <p>Where higher speeds are permitted and appropriate for off-road, the requirement for the following items should be considered:</p> <ul style="list-style-type: none"> • ABS; • Other electronic aids such as advanced ESP or advanced TRSP; • Air bags. <p><u>Note:</u></p> <p>The following features may not enhance safety in off-road operations, or may not be available on some specialised vehicles without which operations would not be practicable:</p> <ul style="list-style-type: none"> • Air bags – not available on tracked vehicles used in high latitudes or on some older 4x4 designs, e.g. Land Cruiser 70 Series; • Anti-lock brakes – increase braking distances on gravel and other loose surfaces; • Side impact protection – not available on many off-road vehicles; • Under-run protection – may “hang up” on terrain. 	

Land Transport Subjects	Variations for Off-Road Operations
Driver Competency	Off-road drivers shall also receive off-road driving instruction that is specific to the terrain and environment in which they will be operating.
No Alcohol or Drugs While Driving	No variation
Duty, Driving and Rest Hours	No variation (To comply with legal requirements.)
Mobile Phone Use	No variation
IVMS	Where speed limiters are fitted and set to an appropriate speed limit commensurate with the ambient driving conditions, IVMS may not be required when based on a risk assessment approved by line management.
Journey management	No variation