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Revision History

The following is a brief summary of the four most recent revisions to this document. Details of all revisions prior to these are held on file by the Document Custodian.

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User Notes:

This document complies with the OPAL Road Safety Standard V2.

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Contents

1 Definitions and abbreviations

Item	Definition
Approved Service Provider	Any organization approved by OPAL to provide service(s) within the scope of this document.
Articulated vehicle	A combination of vehicles comprising a motor vehicle and trailer coupled to the motor vehicle which travels on the road as a unit.
Automobile[1]	A motor vehicle used normally for transporting people or materials or both.
Blacktop road	All asphalted, paved, or concrete surfaced roads, i.e. having a waterproof surface.
Blind spot	As one is driving a vehicle, **blind spots** are the areas of the road that cannot be seen while looking forward or through either the rear-view or side mirrors even that the side mirrors are properly adjusted.
Buddy system	A co-driver or co-passanger who supports the driver remaining alert while driving to avert road safety hazards and violations.
BS	British Standards
Bus[2]	A motor vehicle prepared for transporting passengers and their luggage equipped with 8 seats or more excluding the driver's seat.
Cargo	Any quantity of: goods, burden, mail, foodstuffs, plants, animals, earth, rock, minerals, materials, machinery, equipment, tools, vehicles, liquids, gases, waste, and includes any parts or products of the aforementioned which have been or are to be subjected to a process or treatment, or any other thing of any description.
CHA	Chemical Hazard Awareness / Hazchem training program.
Commuting	Travel from /to work location.
Company	Company refers to the whole gamut of Contractors, Subcontractors, Local Community Contractors, Service Providers registered with OPAL and/or JSRS.
Convoy	Two or more vehicles on a joint journey which may be provided an escort either by Royal Oman Police or by the arranged services from within the company. It requires the journey to be managed in accordance with the convoy driving procedures stipulated in this document.
Customer Support Service	The vendors' system of managing support for Company using the vendors such as IVMS within a contract.
DD	Defensive Driving
DDAT	Defensive Driving Assessment Team
DDC	Defensive Driving Course
DDP	Defensive Driving Permit
DDTP	Defensive Driving Training Provider
Defensive Driving Assessment Team	The body approved by OPAL for conducting driving assessments and, when appropriate, issuing a DDP.
Defensive Driving Permit	A time-restricted permit issued by OPAL approved DDAT confirming that the driver has reached the standard to be permitted to drive a restricted range of vehicles or on specific surfaces.

[1] Sultanate of Oman Traffic Law Article 1 Point 5
[2] Sultanate of Oman Traffic Law Article 1 Point 13

Item	Definition
Defensive Driving Training Provider	An organisation approved by OPAL to deliver one or more of the Defensive Driving Courses.
Department Head	Head of a Company Department.
DMS	Driver Merit System
Driver[3]	Anybody who assumes the driving of a vehicle, i.e. the person having responsibility for the speed, direction, and/or the current position of the vehicle.
Drivers' Identification Key	A personnel identification device in the form of a: Drivers' plug, Smart card, or Pin code, without which the vehicle will not start.
Driving licence[4]	An official permit issued by specialized national or security authority which entitles the owner to drive a vehicle of specific type or types.
Drivers' Manager	A person charged with the responsibility of managing drivers' with regard to IVMS, including: providing performance review, feedback, reward, recognition, and consequences, or issuing keys.
Emergency vehicle	A motor vehicle prepared or adapted for attending emergency incidents or situations for the purpose of saving life or property, typically used by police, ambulance, and fire & rescue services.
Fluid load	Any single or composite mixture of: any liquid, wet cement / wet concrete, mud, pitch, resin, slurry, gel, paste, dust, powder, grains, granules, pellets, or waste, which may be loaded or unloaded to/from the tank by either: pumping, pouring, blowing, vacuuming, or flowing due to gravity.
Graded road	A road which has been prepared by compacting loose aggregate material without a waterproof coating, consisting of a solid surface which may have a layer of loose material, with definite road edge marked by means of fencing, windrow, or other markings and which may have a safety lane constructed alongside.
GPRS	General Packet Radio System
GPS	Global Positioning System

[3] Sultanate of Oman Traffic Law Article 1 Point 26
[4] Sultanate of Oman Traffic Law Article 1 Point 28

Item	Definition
Hazardous Materials[5] (Hazmat/ Hazchem)	Materials classified as dangerous to humans and/or the environment (generally explosive, radioactive, flammable, toxic, or corrosive). Hazardous materials can be divided into the following categories as per the European Agreement Concerning the International Carriage of dangerous goods by Road (often referred to ADR): Class 1: Explosive substances and articles Class 2: Gases Class 3: Flammable liquids Class 4.1: Flammable solids, self-reacting substances and solid desensitized explosives Class 4.2: Substances liable to spontaneous combustion Class 4.3: Substances which, in contact with water emit flammable gases Class 5.1: Oxidizing substances Class 5.2: Organic peroxides Class 6.1: Toxic substances Class 6.2: Infectious substances Class 7: Radioactive material Class 8: Corrosive substances Class 9: Miscellaneous dangerous substances and articles.
Heavy bus	Any bus having more than 25 passenger seats and a gross weight above 6000 kg.
Heavy goods vehicle (HGV)	Any motor vehicle with a gross weight of more than 6000 kg, which is designed specifically to pull a trailer or to carry cargo.
Heavy Truck rigid	Truck with rigid cargo body fixed to the drivers cab (chassis-cab built as a single unit).
Highly Flammable Substance	Any flammable liquid with a flash point below 32 degrees Celsius. Any flammable gas.
HTML	Hyper Text Mark-up Language
HTTPS	Hyper Text Transfer Protocol Secure
IHTP	In House Training Provider
In House Training Provider	An organisation approved by Operator to deliver one or more of the Defensive Driving Courses but restricting delivery to within its home company.
In Vehicle Monitoring System	A system incorporating an on-board computer in each vehicle which records GPS, driver inputs, and other vehicle data, which is used to generate a range of reports including RAG reports.
IVMS	In Vehicle Monitoring System
IVMS Helpdesk	IVMS service support facility.
Journey Management	A system of management to prevent undesired or unnecessary journeys, and monitoring by documentary control and IVMS of all journeys taken by all vehicles, but allowing for some local area exceptions.
JSRS	Joint Supplier Registration System
Kerb weight (Dead weight[6])	The unladen weight of the vehicle, but fully fuelled and equipped with its repair and maintenance equipment and tools.

[5] The Hazardous materials are defined and classified as per the ADR classification, the document can be found at: http://www.unece.org/trans/danger/publi/adr/adr_e.html
[6] Sultanate of Oman Traffic Law Article 1 Point 31

Item	Definition
Life Saving Rule (LSR)	Prohibitory and Mandatory Life Saving Rules related to driving and road safety such as 1. Not use mobile phone whilst driving; 2. Not exceed speed limits; 3. Not drive under the effect of alcohol or drugs; 4. Not smoking in a vehicle; 5. Wearing seat belt; and 6. Following Journey Management Plan.
Light bus	Any bus having from 8 up to 25 passenger seats and a gross weight of 6000 kg or less.
Light vehicle (LV)	Any motor vehicle having a gross weight less than or equal to 6000 kg and having 8 seats or fewer.
Local commute bus	Any bus which has a maximum commute distance not exceeding 50 km.
Long commute bus	Any bus which has a maximum commute distance exceeding 50 km.
Mentor	An experienced bus driver who mentors new bus driver employed.
Mobile crane	A motor vehicle either wheeled or track laying, which is designed primarily as mobile lifting equipment, i.e. mobile equipment.
Mobile equipment	Any of a range of self-propelled machines that are primarily designed to serve as lifting, earth-moving, or materials-handling equipment, and which may travel on wheels or by track laying. This shall not include any machine that moves only as a trailer.
MOG	Ministry of Oil & Gas
MoH	Ministry of Health
Motor vehicle[7]	A vehicle powered by a motor and prepared for the use on the roads.
Motor Vehicle Incident (MVI)	MVI (incident, crash, collision) is an event that happened or started on a road in which at least one moving vehicle participated and has resulted in either: fatality, injury, or asset damage.
Motorcycle[8]	A vehicle with two tires or more equipped with a motor and is not designed in the form of an automobile. It is prepared for transporting the people or materials and can be attached to a separate wagon.
Muscat Capital Area	The area bounded by the Bid Bid filling station, the Barka roundabout and Al Hajer on the Quriyat Road.
OBC	On Board Computer
OEM	Original Equipment Manufacturer
Night time driving	Any driving during the period extending from 15 minutes before sunset, to 15 minutes after sunrise.
Off-road	All other areas which are not blacktop or graded roads.
Omani Law	Laws of the Sultanate of Oman.
OPAL	Oman Society for Petroleum Services
Operator	Organization Licensed and registered under MOG for Exploration and Production as Upstream Operator and Downstream Operator including Refinery and HC distribution company.
OSHEMCO	Operators' Safety, Health and Environment Managers Steering Committee
Passenger[9]	Anybody present in an automobile or getting in or out of it, with the exception of the driver.
Pedestrian	The persons who walk or stand on the road, or in proximity of the road on foot for any reason.

[7] Sultanate of Oman Traffic Law Article 1 Point 4
[8] Sultanate of Oman Traffic Law Article 1 Point 6
[9] Sultanate of Oman Traffic Law Article 1 Point 25

Item	Definition
Pressurized vessel	A closed container designed to hold gases or liquids at a pressure substantially different from the ambient pressure.
Prime mover[10] (prime mover unit)	A motor vehicle to be attached, or attached, to a trailer or more so that they form one unit.
Professional driver	A vocational driver, any person employed primarily to drive vehicles.
PTO	Power Take Off is the mechanical gearbox attached to apertures provided on truck transmission that are used to transfer the power of the vehicle engine to auxiliary components most commonly a hydraulic pump.
RAG	Red Amber Green
RAG report	A report produced from IVMS data that rates drivers in a league table, colour coded against performance scores in a Red, Amber, Green matrix.
RAS	Roadworthiness Assurance Standard
Right of Way	A route alongside a surface or buried pipeline, for the sole purpose of pipeline construction and maintenance. Pipeline routes are restricted from normal use, available for use only by drivers having a permit to use that road for specific pipeline work.
Road[11]	Any path opened for the public to move along whether for pedestrians, materials, or livestock, or for transportation or towing means, and includes the roads, streets, yards, passages, and bridges over which vehicles or people may cross.
Roadworthiness Assurance Standard	OPAL's minimum requirements for managing the maintenance and inspection of vehicles for the purpose of keeping them roadworthy.
Rollover Protective Structure	A structural safety cage or roll bar hoop fitted to a vehicle or mobile equipment, to protect the occupants if the vehicle should turn over.
ROP	Royal Oman Police
ROPS	Rollover Protective Structure
RoSPA	Royal Society for Prevention of Accidents
ROW	Right Of Way
Semitrailer	A trailer which is supported at its rear by wheels and at its front by bearing on a prime mover, prime mover unit, or dolly; drawn as part of an articulated vehicle and which is attached to the prime mover unit by a kingpin locked in the centre of a 5th wheel coupling turntable located forward of the prime mover rear axle; at least 20 % of the fully loaded trailer weight must be borne on the turntable of the prime mover unit.
SHOC	Safe Handling of Chemicals
Special vehicle	Any motor vehicle or trailer which is prepared permanently for special cases such as the automobiles dedicated for transporting of dead body, television, cinema photographing, manufacturing workshops, forensic laboratory, industrial / construction equipment including lifting, earth-moving, or materials-handling equipment, and agricultural vehicles.
SMS	Short Message Service
TRA	Telecommunications Regulatory Authority, Oman

[10] Sultanate of Oman Traffic Law Article 1 Point 9
[11] Sultanate of Oman Traffic Law Article 1 Point 21

Item	Definition
Tanker	Any motor vehicle or trailer, fitted permanently or temporarily with any vessel, tank, reservoir, or body, for the purposes of transporting a fluid load equal to or greater than 1,000 litres, regardless of whether it is full, empty, or carrying any partial quantity, including when transporting an ISO shipping container tank.
Trailer[12]	A vehicle constructed without a propelling engine; designed and manufactured to be drawn or pulled by a motor vehicle; which shall include but not be limited to the following types of trailer: bulk, close-coupled, drawbar, flatbed, full, low-bed, oilfield, semitrailer, skeletal, tipper, and tanker.
TREM	Transport Emergency Card
Truck[13]	An automobile prepared for transporting cargo, materials, commodities, and livestock.
Urban area[14]	An area in which significant number of people live and which provide support services for this population, these include cities, towns, villages and temporary settlements when the people are living in them.
Vehicle[15]	One of the transportation or pulling means prepared for moving on tyres or chain and it moves with motor or body power. i.e. A mobile contrivance for the land transport of people, goods, or equipment, including a trailer, moving on either wheels or is tracklaying. *(A list of generic vehicle types and their graphic representation is given in **Annex B-0** of this document.)*
Vehicle Gross Weight (Total weight[16]**)**	The dead weight of the vehicle in addition to the load and the driver and passengers.
Vehicle user	The company which has in its possession any vehicle by: ownership, hire, loan, or lease; the contractor is also responsible for all vehicles in the fleet of their subcontractor.
Vendor	A company that will provide services and or equipment as set out in a contract document.
Work related incident	An Incident that involves any person or vehicle travelling on work business, or associated with contracted work for Operator/ Company Business.
XML	Extensible Mark-up Language

[12] Sultanate of Oman Traffic Law Article 1 Point 8
[13] Sultanate of Oman Traffic Law Article 1 Point 15
[14] Sultanate of Oman Highway Design Manual
[15] Sultanate of Oman Traffic Law Article 1 Point 3
[16] Sultanate of Oman Traffic Law Article 1 Point 32

2 Introduction

2.1 Purpose

The purpose of this document is to describe the minimum standards required in regards to the safety of land transport in Oil & Gas operations.

2.2 Scope

The scope of this standard is divided into Part-A, Part-B and Part-C specifying the following:

Part-A: Driver

- Eligibility
- Qualification
- Training
- Rules of the road
- Requirements for the drivers

Part-B: Vehicle

- Requirements for the vehicles
- Roadworthiness Assurance Standard (RAS)

Part-C: Monitoring and Management System

- In-Vehicle Monitoring System
- Journey Management System
- Commuting
- Road Safety Consequence Matrix

2.3 Application

The OPAL Standard applies within Oil and Gas sector regardless of location within Sultanate of Oman, to all staff, systems, vehicle including trailer and mobile equipment, belonging to the following:

- Operator
- Contractor
- Subcontractor
- Service provider including vendor and supplier (while in the execution of O&G contracts under any Licensed Operator by MOG).

The requirements of this document are mandatory; and come to effect from 1st March 2017. All Oil and Gas companies shall progressively comply within six months from the effective date.

2.4 Legal and other requirements

2.4.1 All drivers, vehicles and equipment must first and foremost comply with the road traffic laws of The Sultanate of Oman and Royal Oman Police traffic rules and regulations.

2.4.2 The Laws of the Sultanate of Oman will supersede this Standard, should there be any conflict of requirement.

2.4.3 Other requirements:

a) RoSPA
b) BS (RAS)
c) Fédération Internationale de l'Automobile, (FIA), Article 253. to this document is derived in part from FIA) http://www.fia.com/sites/default/files/regulation/file/253%20%2814-15%29_11.04.2014.pdf.
d) E/ECE/324 E/ECE/Trans/505 rev.2/addendum 110, Regulation No: 111, Uniform provisions concerning the approval of tank vehicles of categories "N" and "O" with regard to rollover stability.
e) UN/ECE Standards: R14, R17, R36, R66-01, R80, R94, R95.
f) Road Traffic Safety Management (ISO 39001)

2.5 Review and improvement

This document shall be reviewed as necessary by OPAL, at least every three years, unless significant changes occur to Laws of Oman related to road safety from governing authorities of the Country or industry best practices.

2.6 Roles, Responsibilities and Due diligence

2.6.1 General obligations

2.6.1.1 Any person participating in traffic, either in or on a vehicle as a driver or as a passenger, or as a pedestrian is obligated to:

a) Behave in a way that will not disturb, endanger or harm other people or assets in traffic.
b) To take all necessary precautions to avoid or stop dangerous situations initiated by other participants in traffic; if by doing this he will not endanger himself / herself or other people, or where the course of action is intended to reduce the level of danger, or seriousness of the probable harm.
c) To help people that are in need of help; if by doing this he will not endanger himself / herself or other people.

2.6.2 OPAL

2.6.2.1 OPAL owns the custody of this document and responsible for reviewing and updating with an appointed working committee, represented by Operators.

2.6.2.2 Review of this document should take place at least once in three years or as and when required, if change in legal requirements warrant updating.

2.6.2.3 Review and maintaining of related standards, e.g. DD Training

2.6.2.4 Liaise and maintain channels of communication with Royal Oman Police / Authorities / Ministries on road safety standards and compliance.

2.6.2.5 Promoting the road safety initiatives throughout the Oil and Gas community and outside.

2.6.2.6 Maintaining annual road safety report on KPI statistics, trends and challenges related to road safety.

2.6.2.7 Carry out compliance audit on approved service providers.

2.6.3 Operator/Company

Operator/Company is responsible for:

2.6.3.1 Implementation and Monitoring the overall compliance to this Standard in Oil and Gas.

2.6.3.2 Reviewing the document internally for any applicable changes that affect the

industry and notify OPAL for updating the Standard as and when required.

2.6.3.3 Promoting the road safety initiatives within Operator, Contractor and Local community contractor.

2.6.3.4 Liaise with Royal Oman Police in promotion of road safety and monitoring of compliance.

2.6.3.5 Promotion of road safety initiatives and achievements in public.

2.6.3.6 Producing a road safety report yearly on achievements, statistics and challenges related to road safety and sharing the same with OPAL for KPI statistical information of the Industry.

2.6.3.7 Developing road safety program in accordance with this Standard. This program shall include, but are not limited to the following:

a) IVMS and Journey Management
b) Commuting policy and requirements
c) Driver requirements including training
d) Vehicle requirements
e) Motor Vehicle Incident investigation
f) Emergency response specific to road safety
g) Consequence Management
h) Auditing requirements.

2.6.4 **Approved Service Provider**

2.6.4.1 Each service provider working or participating in road safety controls /developments, shall comply with this Standard in relation to the provision of thier services such as training, certification, product supply, maintenance, etc.

2.6.4.2 Service providers MUST ensure that their service is authorised and / or authenticated from resource providers such as OEM, equipment dealer/ supplier.

2.6.4.3 Their services shall follow recognized Industry standards and practices pertinent to the service provision.

2.6.4.4 Where applicable, OPAL approval and validity of such approval for thier services in the Oil and Gas Inustry shall be mainatained at all times.

2.6.4.5 They shall conduct self checks and internal audits to ensure good practice prevails and compliance achieved.

2.6.4.6 Whenever needed, they shall be amenable to Company/ Cient/ OPAL compliance audits.

Part A: Driver

3 Requirements for drivers

3.1 General requirements

3.1.1 In order for the person to be permitted to drive a vehicle on company business must comply with the following:

3.1.1.1 Have a valid ROP licence for the type of vehicle he is intending to drive.

3.1.1.2 Have a valid Defensive Driving Permit for the type of vehicle he is intending to drive.

3.1.1.3 Drivers minimum age and work experience is summarised in the table below:

Driver Category	Minimum age	Minimum years driving exp.
Light Vehicles	21	3 of LV
Light bus	26	8 of LV or HGV
Heavy bus	30	8 of which minimum 4 HGV
HGV	26	5 of LV or HGV
Tanker / Fuel tanker & Hazmat transport	30	5 of LV or HGV + Hazmat training (if reqd.)
Ambulance / Fire tender / emergency vehicle	26	5 of LV or HGV

3.1.1.4 Be physically and mentally fit to drive the vehicle.

3.2 Requirements for professional drivers

3.2.1 In order for the person to be permitted to drive a vehicle on company business as a professional driver in addition to the general requirements stipulated above he or she must be certified medically fit, by a qualified doctor within the previous two years. Fitness to Work for Heavy Duty Drivers is given in **Annex A-1**.

3.3 Requirements for bus drivers

3.3.1 In order for the person to be permitted to drive a bus on company business in addition to the general requirements and requirements for professional drivers stipulated above, he or she must also comply with the following:

3.3.1.1 After gaining a Heavy bus Permit, the new bus driver shall be mentored by an experienced bus driver. Such mentoring must continue throughout each working day for not less than 2 weeks / 1 shift before the new driver is first permitted to drive without a mentor.

3.3.1.2 Each of the 14 mentoring days may include numerous journeys. Each journey within the mentoring process must be documented, including all journeys whether passengers are carried or not, and the log sent by the 5th day of each month for the previous month in excel format to the Operator/Company focal point, on demand. Such documentation per journey shall include:

date	driver name	mentor name	start time hh:mm	end time hh:mm	driving time hh:mm	start odometer	end odometer	km driven	start location	end location	number of passengers

3.3.1.3 Where the new bus driver is not deemed safe by the mentor within or at the end of the shift, then this shall be reported to management and the driver either independently be assessed or removed from bus driving duties.

3.3.1.4 Management must daily remind all bus drivers in their toolbox talks that they are responsible to check that all seatbelts are working and that passengers wear them before the bus is moved.

3.3.1.5 Any unsafe driving behaviour must be identified and rectified by additional coaching if required or otherwise re-attend the relevant DD training.

3.4 Defensive Driving Permit

3.4.1 Permits are obtained after successfully passing the Defensive Driving assessment. Codes of the permit type, applicable vehicle and road type are given in the following table:

Permit type and code	Vehicle and Road Type that the Course is applicable to	Remarks
DD 01	Light Vehicle used on blacktop road only	
DD 02	Heavy Vehicle used on blacktop road only	2 sub-modules: A. RIGID Heavy Vehicles B. ARTICULATED Heavy Vehicles
DD 03	Light and Heavy Vehicles on graded road	Driver needs to have successfully passed either DD01 or DD02 course to attend this course
DD 04	Tanker vehicle for both blacktop and graded roads	Driver needs to have successfully passed DD 02 and DD03 course to attend this course
DD 05	Bus for both blacktop and graded roads	Driver needs to have successfully passed DD 01, 02 or 03 course to attend this course, depending on license type
DD 06	All	Driver reassessment must occur prior to expiry of current permit
DD 07	Light Vehicle used on blacktop road only	Course for family members
DD 08	Ambulance	
DD 09	Fire tender vehicle	
CHA	Vehicle carrying hazardous materials	Driver /Helper needs to have successfully passed CHA course

3.4.2 The defensive driving permit is only valid with the corresponding ROP license.

3.4.3 The Defensive driving permit is valid for up to four years.

3.4.4 Defensive driving training requirements are presented in detail in **Annex A-2.**

3.5 Driver roles and responsibilities

3.5.1 Each Company shall define the roles and responsibilities in regards to driving. These should include, but not be limited to:

a) Before starting the engine
b) After starting the engine but before driving
c) General driving
d) At stops and rest areas (mid-journey)
e) End of the Journey
f) Parking, reversing and manoeuvring
g) Driving on Graded Roads
h) Driving during Adverse Weather Conditions include, but not limited to, Dust, Rain, Fog, etc.
i) In case of Motor Vehicle Incident (MVI)
j) Vehicle breakdown and recovery
k) Towing (including but not limited to Coupling and Uncoupling)

l) Passengers.

3.5.2 Guide to driver's and other road users' roles and responsibilities are given in **Annex A-3**.

3.6 Speed Management

3.6.1 All drivers must comply with the posted speed limits at all times. These limits represent the maximum speed. However, the driver must adjust the speed in accordance to the actual road and traffic conditions.

3.6.2 Speed Limiter Device and IVMS, managed under a robust IVMS/ DMS Management system, are mandatory controls to manage speed limits.

3.6.3 Operator is free to mandate the type of speed limiters. Refer to OPAL's minimum specifications described in **Annex A-4**.

3.6.4 Operator is allowed to set the maximum speed limit settings for different type of roads and/ or vehicles, but the maximum allowed limits are as below:

- Graded Road – 80 km/h for all type of vehicles.
- Black top Road within the Concession Areas – 80 km/h for heavy commercial vehicles and buses; and 100 km/h for light vehicles.
- Black top Government Roads – 100 km/h for heavy commercial vehicles and buses; and 120 km/h for light vehicles.
- Any set speed, however, shall not be greater than any speed limit set out in the Oman Traffic/ ROP Law and posted for that class of vehicle.

3.6.5 Refer **Annex A-4** for more information about types of speed limiter and other devices and their minimum specifications.

3.7 Night driving

3.7.1 Night time driving is not permitted unless approved by the Operator.

3.7.2 Work must be planned to avoid the need for night driving, including circumstances where operations, support functions / service provision, take place during the night. When deemed necessary additional preventive measures shall be introduced by the Operator/Company in order to mitigate the hazard.

3.7.3 These measures must include, but are not limited to:

a) Night driving policy and procedures with clearly defined roles and responsbilities.
b) Risks associated with night driving are managed and controlled.
c) Operator/Company have relevant controls in place for its contractors and subcontractors.

3.7.4 Operator/Company shall ensure that the below minimum control measures form part of their night driving policy and procedures:

a) 24/7 Journey Management System with the IVMS access for the real time monitoring (dedicated night shift JM).
b) Dedicated night shift drivers, trained and well rested.
c) Tool box talks and review of the IVMS records.
d) Route hazards survey and regular hazards log update to the JM/ drivers.

3.7.5 Night time driving exceptions:

- Between work site / Company / Contractor / camp site(s) if they are up to 30 km away from one another for work locations with 24 hour operations (rigs, hoists, well test units, etc.).
- Convoys organised and managed as per the convoy move requirements.
- Any other exceptions can be defined by the Operator.

3.7.6 Night time driving for emergency operational reasons shall be managened within the formal authorisation process with clearly defined activitites and approval authority.

3.7.7 As a guide, refer to **Annex A-5** night driving procedure.

3.8 Working hours and fatigue management

3.8.1 The driver's working hours must comply with the requirements of Sultanate of Oman Labour Law.

3.8.2 **Light vehicle**: Effective maximum driving is 10 hours per day, with resting frequency of 15 minutes after every 2 hours of continuous driving. Drivers shall not work beyond 12 hours per day that is inclusive non-driving time. Minimum hours of uninterrupted rest is 8 hours between shifts.

3.8.3 **Light bus, Heavy bus and Heavy vehicle**: Effective maximum driving is 10 hours per day, with resting frequency of 1 hour after every 4 hours of continuous driving. However, there is an option for the journey manager to schedule resting for 30 minutes after 2 hours of continous driving. Drivers shall not work beyond 12 hours per day that is inclusive non-driving time. Minimum hours of uninterrupted rest is 8 hours between shifts.

3.8.4 Each Operator/Company shall introduce a suitable fatigue management framework. Fatigue management may incorporate, but not be limited to, the following activities:

a) A positive working environment (culture) where the drivers /employees are encouraged to report tiredness.
b) Monitoring of driving /working /rest hours.
c) Provision of suitable drivers' rest area.
d) "Buddy System".

3.8.5 Special consideration shall be given in the fatigue management framework for religious and special conditions.

3.8.6 Refer to **Annex A-6: Fatigue Management and Ramadan Driving** for guidance.

Part B: Vehicle

4 Requirements for vehicles

4.1 Exclusions

This Standard shall not apply to:

a) Any motor vehicle which was not designed (when first manufactured) to attain a constant speed of 50 km/h, e.g. some types of dump-trucks.

b) Any self-propelled Mobile Equipment i.e. lifting equipment etc. which was not designed to attain a constant speed of 50 km/h.

Note: Any type of mobile equipment having a maximum design speed less than 50 km/h, or which cannot achieve a minimum speed of 50 km/h must not be driven for more than 20 km on any type of road.

4.2 General requirements

4.2.1 A list of generic vehicle types and their graphic representation is given in **Annex B-0** of this document.

4.2.2 All Vehicles must pass the OPAL Roadworthiness Assurance Standards (RAS) inspection before being used on Company related work and must have a valid RAS inspection sticker.

4.2.3 It is the responsibility of every company which has in its possession any vehicle by ownership, hire, loan, or lease, to maintain the roadworthiness of vehicles and/or mobile equipment.

4.2.4 They are responsible for ensuring that all periodic safety maintenance, inspection, and certification is conducted, to keep their vehicles in compliance with the standards at all times.

4.2.5 Records of all repairs, maintenance, and inspections must be kept and maintained by the vehicle owner for a minimum of 3 years.

4.2.6 Roadworthiness Assurance Standard (RAS):

4.2.6.1 The vehicles must be inspected initially by OPAL approved RAS workshop whether or not the vehicles are new, then annually.

4.2.6.2 Approval of each RAS workshop, the workshops' obligations to vehicle RAS inspection, and other requirements regarding RAS in detail is presented in **Annex B-1** of this document.

4.2.6.3 A relevant HSE department / road safety focal point will maintain a list of all currently approved RAS workshops and RAS inspectors.

4.2.6.4 All RAS approved workshops must maintain the list of the vehicles that have been inspected and passed the RAS inspection, and provide monthly report to OPAL and to road safety focal point of the Operator/Company on request, comprising the following:

a) Registration No
b) Manufacturer & Model
c) Vehicle Type
d) Company
e) Contract Number
f) RAS Sticker Number
g) RAS Inspector Name/ ID No
h) RAS Workshop Name / Location
i) Odometer Reading
j) Date of Pass.

4.2.7 Vehicle requirements

4.2.7.1 All vehicles must undergo regular inspections and maintenance at intervals defined by the vehicle manufacturer.

4.2.7.2 All vehicles shall be fitted with an IVMS system and dual speed limiter.

4.2.7.3 All vehicles must have working air conditioning system to maintain comfortable in-cab temperature (recommended 24^{o}C as minimum).

4.2.7.4 No vehicle shall have a sunroof.

4.2.7.5 No vehicle shall be fitted with any type of bull-bars.

4.2.7.6 No vehicle shall be fitted with a seat which is sideways facing, (except an ambulance).

4.2.7.7 All seat covers, if used, must be fire-retardant.

4.2.7.8 All vehicles must be permanently fitted with a working radio a nd music system.

4.2.7.9 Any type of towing apparatus must comply with international standards and fitted by the manufacturer.

4.2.7.10 Any vehicle which transports any quantity of hazardous material must comply with the requirements of **Annex B2**: Transport of Hazardous Materials.

4.2.7.11 No vehicle shall be modified in any way, other than as originally designed by the manufacturer or approved by this Standard.

4.2.7.12 Whenever brake pads are replaced, all pads on that axle must be replaced at the same time to maintain symmetrical brake performance.

4.2.7.13 All vehicles must be maintained such that the interior of the cabin, and exterior of the vehicle, are clean and in good condition.

4.2.7.14 All new vehicles shall have the Electronic Stability System or equivalent, provided they are available in the Oman.

4.2.7.15 Additional requirements maybe set for vehicles entering process / hydrocarbon areas due to the inherent risk involved. Those will be site specific and managed through Safe Work System of each process area. These additional requirements may include but are not limited to:

- An air inlet flame arrester (flame trap).
- An air inlet shutdown valve, to prevent over speeding of the unit on gas ingestion; its operation must be independent of the engine. This device is to be checked for operation at the pre-delivery checks and the cut-off speed noted in the engine log book.
- An engine emergency stop, which must be easily accessible from outside the vehicle and suitably protected to prevent inadvertent operation.
- A certified spark and flame arrester fitted to the exhaust system.
- Vehicles need to be assessed for surface temperatures and cooled, if necessary. Typically this applies to turbo chargers and exhaust manifolds.

4.2.7.16 Vehicles entering flammable area also need to be assessed for surface temperatures and cooled, if necessary. Typically this applies to turbo chargers and exhaust manifolds.

4.2.8 Requirements for tyres

4.2.8.1 Vehicles which are to be used on blacktop and graded roads must be fitted with ‘All Terrain’ tyres, unless the vehicle supplier has formally confirmed in writing that All Terrain tyres are not required for vehicles using blacktop and graded roads.

4.2.8.2 Vehicles which are solely to be used on blacktop roads can be fitted with blacktop tyres.

4.2.8.3 It is not permitted to fit a tube into tubeless tyres,

a) except in cases of emergency, and only whilst this emergency lasts,

b) except for vehicles used extensively off-road for exploration purposes, where it is necessary to significantly reduce tyre pressures on soft surfaces; but such vehicles must carry an air compressor and pressure gauge to re-inflate the tyre pressures to normal before driving on a graded surface or blacktop.

4.2.8.4 Light vehicles – all tyres, including spares, must be of the same manufacturer, type, profile, and tread pattern, except in cases of emergency, and only whilst this emergency lasts, for a single trip.

4.2.8.5 Heavy vehicles – all tyres on the same axle, must be of the same manufacturer, type, profile, and tread pattern, except in cases of emergency and only whilst this emergency lasts for a single trip.

4.2.8.6 The amount of wear on tyres on the same axle must be similar.

4.2.8.7 When replacing two tyres, it is recommended that the new or least worn tyres are fitted to the rear axle for improved vehicle control and safety. This advice applies to front and rear wheel drive light vehicles fitted with the same tyre sizes front and rear.

4.2.8.8 Tyres shall be fitted in such a manner that the tyre manufacturing date and other tyre related data are exposed to the outer side and visible to the driver or inspector.

4.2.8.9 Some modern tyres are directional, i.e. they must only be fitted and driven in the direction of the arrow marked on the tyre sidewall.

4.2.8.10 Tyres, including spares, must not be used beyond 4 years from date of manufacture. Tyres which are more than two years old should be inspected closely for signs of rubber fatigue as part of the regular safety inspections and annual RAS. Where tyres show signs of fatigue they must be replaced, even if they have never been used (see spare tyres above).

4.2.8.11 Tyres may have a shelf-life of up to 2 years from date of manufacture; Safety inspections must check the dates of tyres and must replace them accordingly.

4.2.8.12 Tyres fitted on vehicles that are used solely for rig and hoist moves are exempted from the 4-year working life rule, but must be checked by a competent person (i.e. qualified mechanic) before each rig move.

Note: *The tyre production date can be found on the sidewall of the tyre in the following format:*

4.2.8.13 All vehicle tyres must be radial and have a following minimum tread depth across 75% of the tyre width:
- a) 1.6 mm for light vehicles.
- b) 2.4 mm for heavy vehicles.

4.2.8.14 A tyre must not be used if it has any blister or bulge, or any cracks, cuts, or damage to the tread or sidewalls such that the fabric of the tyre is visible.

4.2.8.15 Re-treaded tyres are not permitted on any light vehicle.

4.2.8.16 Re-grooved tyres are not permitted on any vehicle.

4.2.8.17 Re-treaded tyres are not permitted on any steering axle, but may be fitted only to drive axles and load-carrying axles of heavy vehicles including trailers.

4.2.8.18 Spare tyres must be mounted and protected in a way that no part of the tread or sidewall can suffer either heat damage from contact with hot metal, or structural damage due to contact with any load, liquids, or other materials.

4.2.8.19 All tyres must be inflated to the correct tyre pressure. The correct tyre pressure relating to tyre size and loading must be displayed on a notice in the vehicle, typically within the drivers' door frame.

4.2.8.20 The recommended tyre pressure in PSI units must be painted above the wheel on the wheel arch or on the vehicle chassis.

4.2.8.21 It is the responsibility of Companies to maintain and check tyres periodically as per operational requirement. This may include, but not limited to,

a) Age of tyre
b) Wear and tear
c) Pressure
d) Tread depth.

4.2.8.22 Further details relating to tyres, including a date calculator table are in **Annex B3**.

4.2.9 Requirements for seatbelts

4.2.9.1 All seats must be fitted with a 3-point inertia reel type seatbelt. Until available as a standard feature 2-point inertia reel seatbelt may be allowed for light buses and canters.

4.2.9.2 2-point lap seatbelt is not allowed.

4.2.9.3 Seatbelts on all vehicles must be visually inspected during every safety inspection to ensure they have not been cut, worn or rotten. The operational effectiveness of the seatbelt must also be tested during the safety inspection.

4.2.9.4 Seatbelts which are ineffective must be replaced.

4.2.10 Requirements for visibility

4.2.10.1 All vehicles must have external mirrors to minimise blind spots.

4.2.10.2 All heavy vehicles must be equipped with a combination of 6 mirrors as a minimum (2 on each side, 2 wide angle rear view mirrors, 1 close proximity mirror on the passenger side and 1 close proximity mirror in front of the driver). A small accessory mirror affixed to a flat glass mirror will not meet this Standard.

4.2.10.3 High intensity rear lights must be clearly visible through dust and shall be fitted with a 21watt bulb or an LED equivalent as a minimum.

4.2.10.4 All side lights fitted in vehicles shall meet and comply with ROP standards.

4.2.10.5 No vehicle shall display any green or blue lights on the front, rear, or sides.

4.2.10.6 Vehicle glass must not be tinted, coated, obscured, covered or changed from the manufacturer specifications.

4.2.10.7 All signs, stickers, labels, or other fittings (curtain, blinds) inside the vehicle must be fitted in such a manner that they do not obstruct the driver's vision through any part of the windscreen.

4.2.10.8 Pendants suspended below the internal mirror, or other ornamental fittings, are not permitted.

4.2.10.9 Fittings on the outside of the vehicle must be fitted in such a manner that they do not obstruct the driver's vision.

4.2.10.10 All glass, mirrors, and lights must be maintained in a clean condition.

4.2.10.11 Front and rear lights fitted with the grill or mesh must be easily accessible for regular cleaning of the lamp glass cover.

4.2.10.12 All lights shall show the same colour as when first manufactured without any tint, shading, or darkening.

4.2.10.13 All vehicles must have the following lighting:

a) All lights at the front must be white, (except for amber direction indicators and for the trailer),
b) All lights at the rear must be red, (except for amber direction indicators and white reverse and registration plate lights),
c) Heavy vehicles and trailers must have amber (yellow) lights along each side, at intervals of not less than 1.5 metres.

4.2.11 Emergency equipment

4.2.11.1 All vehicles must be fitted with the following emergency equipment:

a) Fire extinguisher, securely mounted
   - Light vehicles: dry powder, capacity 0.9 kg inside cabin.
   - Rigid Heavy vehicle: dry powder, capacity 1.5 kg inside cabin and 1.5 kg, or 1.5 litres foam outside the cabin.

- Articulated heavy vehicle: dry powder, capacity 1.5 kg, or 1.5 litres foam inside the cabin and 4 kg dry powder outside
- For tankers, refer to section 4.7.4.1.

4.2.11.2 Securely stowed first aid kit that meets or exceeds Class A first aid kit minimum requirements of ANSI/ISEA Z308.1, 2015. The First aid kit may be located anywhere in the vehicle providing it is easily located, and if not directly visible a sticker should be affixed to show its location.

4.2.11.3 Minimum of one hazard warning triangle.

4.2.11.4 Vehicles that are more than 2 metres wide must carry a minimum of two hazard warning triangles. Each hazard warning triangle must be no less than 440mm wide and 440mm tall, and must not weigh less than 1 kg.

4.2.11.5 Minimum of 2 high visibility vests per vehicle, compliant to the international standard EN471.

4.2.11.6 Journeys on graded roads and off-road, or in areas where there is no GSM coverage shall be effectively managed to enable contact with the Journey Manger at any time.

4.2.11.7 Sufficient drinking water for all occupants in the vehicle, minimum of 3 litres per person, for vehicles operating in the interior.

4.2.11.8 Wheel change equipment.

4.2.11.9 Minimum of two wheel chocks, size to match the tyre diameter and gross vehicle weight, mandatory for all heavy vehicles and all buses, advisory for light vehicles.

4.2.11.10 Spade, which may be a folding spade as and when required or as specified in risk assessment.

4.2.11.11 Sand-boards (jack spreader boards) for heavy vehicles as and when required or as specified in risk assessment.

4.2.12 Requirements for reversing alarm

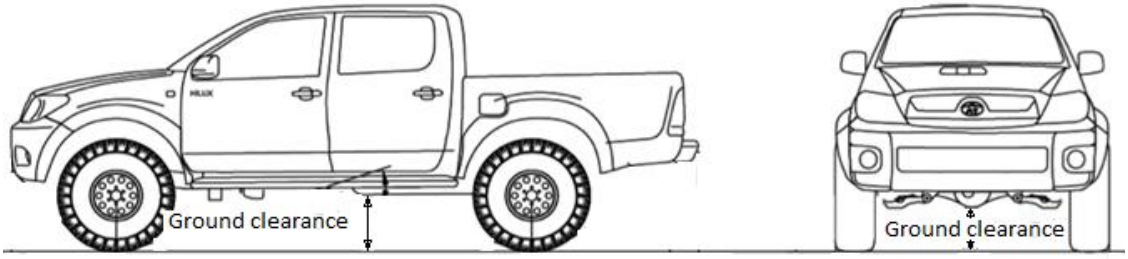
4.2.12.1 Any vehicle longer than 6 meters must have reversing alarm.

4.2.12.2 All heavy vehicles, trailers, and buses must have a reversing alarm that automatically activates.

4.2.12.3 The reversing alarm must be audible from 8 meters.

4.2.13 Requirements for vehicles used on graded road and off-road

4.2.13.1 All vehicles used on graded roads and off-road must have a minimum of ground clearance of 190 millimetres. The graphical representation of ground clearance is given below:



4.2.13.2 All vehicles used off-road or on graded road must have two red high-intensity lights located as high and as far apart as practicable, wired to the headlight switch, but also with an override switch. High intensity rear lights shall not be used on black top roads, cities, towns and any other residential areas however they can be used in cases of a sudden adverse weather condition such as fog, sand storm or heavy rain.

4.2.13.3 Heavy vehicles must have power to at least two axles, and either a limited-slip differential or a differential lock.

4.2.13.4 Buses used off-road must have a four-wheel drive transmission with either a limited-slip differential or differential lock.

4.2.13.5 All vehicles used on graded roads or off-road must have two spare wheels.

4.3 Requirements for light vehicles

In addition to the general requirements listed, light vehicles must also comply with the following:

4.3.1 When available in the country, but not later than 1st January 2020:

a. All light vehicles shall be equipped with ABS braking system.

b. All light vehicles shall be equipped with air-bags for the driver and front passenger.

4.3.2 All light vehicles (except buses) that can be used on graded roads must have a Roll Over Protective Structure (ROPS) fitted as per **Annex B4** of this document or an internationally recognised vehicle testing body has certified 5 Star crash worthiness with respect to roll overs.

4.3.3 All seats must be fitted with head restraints; including the centre rear seat if available.

4.3.4 The vehicle must have 2 side doors per row of seats, except buses.

4.3.5 The luggage space must be physically separated from the passenger area by a robust partition. If this partition divides the internal cabin, the partition must incorporate a wire-mesh grid which must allow adequate rear visibility through the grid.

4.3.6 For vehicles with no allocated luggage space a suitable secured trailer must be used. Roof racks or rear foldable racks are not permitted.

4.3.7 All light vehicles except passenger vehicles must have the maximum payload details (in kg) of a cargo or load area clearly visible to persons loading the vehicle on the outside of the cargo area.

4.3.8 All light vehicles with towing apparatus must be fitted with the standard apparatus in accordance with the vehicle manufacturer specifications, and must be complete with associated automotive 7-pin electrical connections.

4.4 Requirements for buses

In addition to the general requirements listed, buses must also comply with requirements listed below.

4.4.1 General requirements for all buses:

4.4.1.1 Wooden floors are not permitted in buses.

4.4.1.2 Every bus shall be fitted with a means for the driver to see the road surface directly behind the bus using:

a) A convex mirror mounted outside the rear window, or
b) Fresnel lens mounted on the rear window.

4.4.1.3 In addition to the above a rear view camera may be used.

4.4.1.4 No bus shall be fitted with a foldable seats.

4.4.1.5 All seats shall be adequately upholstered for passenger comfort.

4.4.1.6 All seats must be of fabric material which is fire-retardant; seat covers must not be fitted unless they are certified as fire-retardant by the manufacturer.

4.4.1.7 All seats must be fitted with a 3-point inertia reel type seatbelt.

4.4.1.8 Seatbacks and any wall panel or fixture in front of any passenger seat must be smooth and padded with no sharp edges.

4.4.1.9 Any sharp corners or edges anywhere in the bus which a passenger could contact shall be padded.

4.4.1.10 The internal luggage space must be completely enclosed; to meet this, a sliding webbing net top enclosure is acceptable.

4.4.1.11 If a luggage door or lid is hinged, it must be secured by a latch or bolt.

4.4.1.12 If an enclosed luggage compartment is not available, a notice on the passenger door must state in Arabic and English "Luggage, tools, and other loose objects must not be carried inside the vehicle" - *لا يجب وضع الأمتعة والأدوات الغير ثابته داخل السيارة.*

4.4.1.13 Have a sign in Arabic and English stating "Danger! Do not stand up or move from your seat until the bus has stopped" - *خطر! لا تقف أو تتحرك من مقعدك حتى تتوقف الحافلة.*

4.4.1.14 Have a sign indicating emergency exit at the rear (where applicable).

4.4.1.15 Have a sign in Arabic and English stating “To comment on the driving, please telephone:…… “ - *للتعليق على القيادة، يرجى الاتصال هاتفيا: .....*, and have a number inserted for the Journey Manager or management.

4.4.1.16 Fitted with a clearly visible see-through pouch for the driver to display his HSE Passport and DDC Permit, to confirm he is authorised to drive a bus.

4.4.2 Buses used for long distance commuting[17]

4.4.2.1 Vehicle chassis and construction:

Long distance commuting buses must have:

a) A robust steel cage type of body construction to increase body strength and ensure a survivable space for passengers in the event of a roll over. Such construction shall comply with international standards – UN/ECER66-01, UN/ECE R94, and UN/ECE R95.
b) Seat strength and anchorage of the seat to the floor of the bus which must pass a minimum 6G frontal pull strength test, and which must comply with international standards UN/ECE R17 and UN/ECE R80.
c) All seats shall have a 3-point inertia-reel seatbelt fitted by the bus manufacturer.
d) Seatbelt anchorage points to ensure seatbelts retain the occupant in the seat, must comply with the international standard UN/ECE R14.
e) Glass used in the bus windows must be to the standard in UN/ECE 36, and each emergency window must have a glass breaking hammer adjacent to it.
f) The manufacturer must confirm in writing the compliance of the bus to the required UN/ECE standards above.
g) Seat capacity – maximum 45 passenger seats.
h) ABS braking system.
i) Minimum Euro 3 engine.
j) Power steering – by rack & pinion.
k) Fuel tank minimum capacity 350 litres.
l) Dual circuit braking system.
m) Heavy duty battery and alternator.
n) Air suspension.
o) Driver’s seat with air suspension.
p) Driver’s assistant seat at the front of the bus.
q) Air bag for driver.
r) Airbag for the drivers’ assistant seat if there is any fixed structure less than 1 metre in front of the seat backrest.
s) Radial tubeless tyres.
t) Two spare tyres.
u) Full-size mirrors and wide-angle convex mirrors,electrically adjustable from the drivers’ cockpit, on each side of the bus.
v) Reversing sensors, or a rear view camera to show to the driver the road surface directly behind the bus whenever reverse gear is selected.
w) Main passenger entry door must be pneumatically operated, and must be interlocked to the parking brake so the driver can only open the door when the parking brake is on, with emergency override.
x) Fog lights, front and rear.
y) Front sun visor for driver and driver’s assistant.

[17] Buses / vehicles commuting over 200km one way

z) Side exit door, with alarm when open.
aa) Luggage compartment to have tilt opening and minimum capacity of 9 m^2.
bb) Luggage stowage to have lighting automatically operated on opening.
cc) Luggage stowage to have segregation to aid removal of luggage at different stops.

4.4.2.2 General safety

a) Signage at emergency exits, with advise how to open.
b) Tools and spares for easy repairs and changing tyres.
c) Two wheel chocks, size to match tyre diameter.
d) First aid box as per clause 4.2.11.2.
e) High visibility vests for the driver and drivers' assistant.
f) Two rechargeable torches for driver and drivers' assistant to use outside.
g) Driver personal announcement system to communicate to passengers.
h) Additional spare heavy duty battery and tools to change the battery.
i) Fire extinguishers: 2 dry powder, 4 kg, located near the front.
j) Flat floor covered with fire-resistant anti-slip floor covering in the centre aisle.
k) All new contracts with effect from issue date utilising heavy commuting buses must be equiped with colour cameras with 12 hours of continuous recording ability onto removable digital storage media:
    - Front facing camera – viewing the road ahead.
    - Driver and passenger entry camera – located in the top left front corner, above the dashboard, viewing downwards to the drivers' face and to the passenger door.
    - Passenger cabin camera – located at the front of the aisle, viewing rearwards.

4.4.2.3 Passenger comfort

a) Passenger entry step(s) maximum height 250 mm each.
b) Centre aisle minimum width 400 mm.
c) Minimum height between the floor and the ceiling 1,950 mm.
d) Minimum seat pitch 780 mm.
e) Seat recline angle tolerance – minimum 5 degreesfrom vertical, maximum 30 degrees from vertical.
f) Minimum height of the backrest, including the headrest, above the seat cushion 850 mm.
g) Minimum leg room 350 mm.
h) Minimum seat width 440 mm.
i) Cushioned headrest.
j) Seat covers of fabric, removable and cleanable.
k) Footrest to be a pull down and adjustable design.
l) Arm rests are required, and to be foldable on all seats.
m) Seats to be adequately padded so to provide comfortable sitting position.
n) Glare protection – curtains/blinds/tinted windows, for all windows behind the drivers' seatbelt mounting. Note: the entire front windows and side windows ahead of the drivers' seatbelt mounting shall not be tinted or obscured except for each sunvisor.
o) Central air conditioning to provide constant bus interior temperature of 22°C within 10 minutes of starting the engine.
p) Air blowers to be adjustable by passengers for each seat.
q) Reading light to be fitted for each passenger seat.
r) Free Wi-Fi internet system accessible to all passengers.
s) Background soft sleep lighting for night driving for passengers must be fitted.
t) USB mobile power socket for charging electrical equipment, 1 socket per seat.
u) Two TVs placed at the interval along the bus, visible to all passengers, minimum size 15'' connected to DVD player, operated by the driver's assistant.
v) Refrigerator for keeping drinks and snacks cool with continual supply of chilled drinking water and disposable cups.
w) Netting or a pouch on the rear of each seat / bulkhead ahead, to hold rubbish or personal items.
x) Digital clock visible to all passengers and maintained at the correct time.

y) Internal temperature display visible to all passengers.

4.4.2.4 Passenger safety

a) Warning signs for seatbelts and no smoking.
b) Handholds required on top corner of seats adjacent to the aisle, for passenger stability.
c) Overhead enclosed and closable luggage containment for passenger hand luggage.

4.5 Requirements for heavy vehicles

In addition to the general requirements, heavy vehicles must also comply with the following:

4.5.1 No driver shall sleep in a cab overnight unless the vehicle is designed as a sleeper cab; if a helper is also employed in the cab, the vehicle must be designed as a double sleeper cab.

4.5.2 All heavy vehicles must have the maximum payload detail (in kg) of a cargo or load area clearly visible to persons loading the vehicle. The maximum payload details must be printed on both sides of the vehicle, except on the prime mover unit and tankers.

4.5.3 Each prime mover shall be fitted with a metal grid catwalk between rear of the cab and 5thwheel, across the whole width of the vehicle, sufficient to provide safe access.

4.5.4 Safe means to access the prime mover or trailer bed.

4.5.5 Flatbed and dropside trucks for general cargo use must be equipped with:

a) A smooth cargo deck surface, with no holes or protruding parts,
b) A solid headboard at the front of the load bed, capable of restraining 0.5 times the weight of the maximum payload and configured so that all forces imposed by the load are transmitted to the main chassis,
c) The headboard must extend to the height of the roof of the cab, and must not have any cut-out or opening,
d) An access ladder fitted to safely access the truck bed, where the load bed is more than 1 metre above ground level,
e) Load securing anchorage points of adequate design and sufficient number to restrain any carried load, and so that all forces imposed by the load are transmitted to the main chassis,
f) Flatbed trucks shall have side stanchions of sufficient number, design, and strength, to restrain the load from sideways movement off the load bed, and
g) Flatbed trucks may also be equipped with sufficient twist-locks for the transport of ISO shipping containers, such twist-locks should be retractable.

4.5.6 In the case of any heavy vehicle carrying a load that is wider than the vehicle, or which is oversize in terms of width, height, length, or weight, refer to **Annex B-6** “ROP Escort Rules”.

4.5.7 Opertor shall define rig move, convoy driving and oversize loads procedure for their own operation, Refer to **Annex B-7**: Rig move, convoy driving, and oversize loads as a guide.

4.5.8 All heavy vehicles must have mud and water spray suppression around every tyre, i.e. a textured wheel-arch / mudguard which is designed to catch and reduce spray.

4.5.9 All heavy vehicles must have a secure storage box for tools and auxiliary lashing equipment.

4.5.10 All heavy vehicles must have a retroreflective band of alternate yellow and black chevrons, 150 mm high, across the entire width at the rear of the vehicle. Prime movers must have similar across as much of the rear width including rear mudguards, as is reasonably feasible.

4.5.11 All heavy vehicles must have vehicle retarder which may be an exhaust brake.

4.5.12 Heavy vehicles may be fitted with towing apparatus, including a 5th wheel, “Rockinger” coupling, and/or “Pintle” hook, but any such towing apparatus must:

a) comply with vehicle manufacturer specifications.
b) be fitted by the manufacturer / main dealer.
c) be complete with associated automotive 7-pin electrical connections and airline brake connections.

4.5.13 All heavy vehicles must have a dual-circuit, dual-line service brake system with an emergency braking system, and (for vehicles which will tow a trailer) two-line or three-line colour coded trailer brake system fittings.

4.5.14 All braking systems must be fail-safe in the event of loss of air pressure:

a) every steering axle must be fitted with a single-acting braking mechanism.
b) every truck, prime mover, semi-trailer and trailer must be fitted with a dual-acting fail-safe braking mechanism fitted to every non-steering axle.

4.5.15 Prime movers must have colour coded palm couplings.

4.5.16 Prime movers must have colour coded or tagged two-line or three-line brake lines:

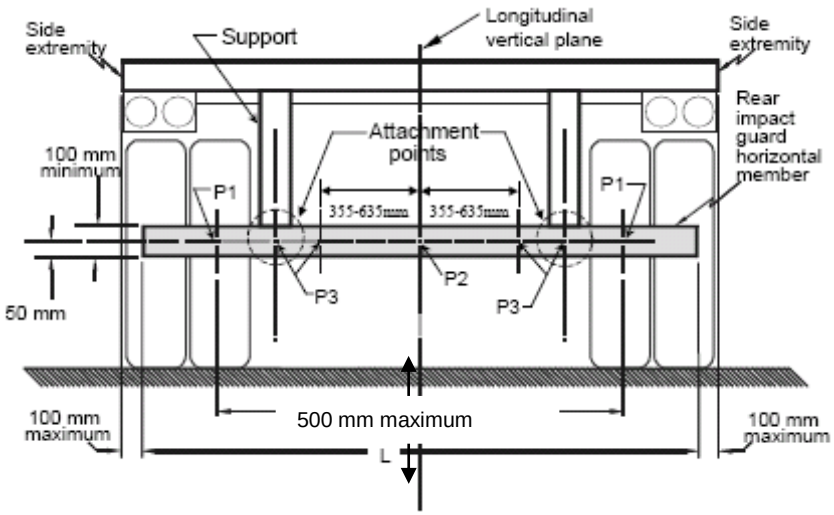
4.5.17 (Red = emergency, Yellow = service brake, Blue = auxiliary).

4.5.18 Prime movers must have a 5th wheel which oscillates only longitudinally (unless hauling a specialised type of trailer, such as steerable, which may require a freely oscillating fifth wheel).

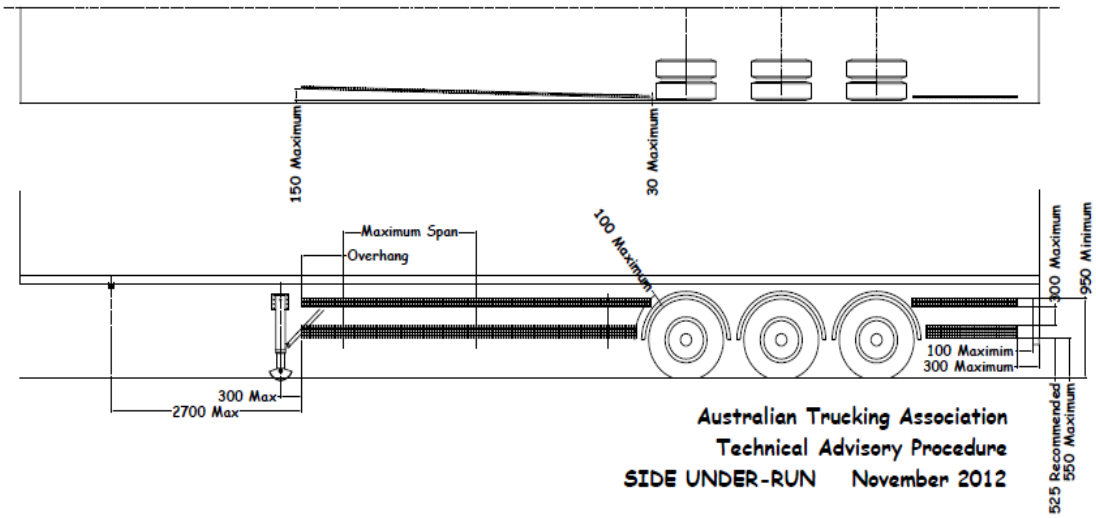
4.5.19 All heavy vehicles, inlcuding trailers, must be fitted with a heavy-duty rear bumper. This bumper where available from the supplier must be no more than 500mm above the ground when the vehicle is unladen. It must not extend beyond the outer edge of the tyres and must not be less than 100mm less than the distance between the outer edges of the outer tyres. The bumper must be connected to the vehicle chassis side members. It must be capable of withstanding an impact of 2,500kg at its middle point and half the gross vehicle weight (up to a maximum of 10,000kg) at the attachment points.

4.5.20 A band of alternate yellow and black chevrons, 150mm high, must be painted across the entire rear width of the HGV, except on prime-movers.

4.5.21 All heavy vehicles should have under-ride protection placed as per the following:



It is also advisable to install side under-run protection, as per the following:



The dimensions and detailed regulations are presented in UN-ECE regulation R73[18]

[18]Can be found on: http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/R073r1e.pdf

4.6 Requirements for trailers

In addition to the vehicle general requirements, and requirements for heavy vehicles, all trailers must also comply with the following:

4.6.1 Have adual-acting fail-safe braking mechanism fitted to all non-steering axles.

4.6.2 Have colour-coded palm couplings (Red: Emergency, Yellow: Service).

4.6.3 Have a 7-pin automotive electrical socket for electrical system compatible with the prime mover.

4.6.4 Every trailer must have in a working condition at all times all necessary lights, including:

a) side (amber colour) and rear position lights (red colour), and registration plate light (white colour),
b) brake lights,
c) direction indicators,
d) reversing lights, and
e) two high-intensity rear-facing red lights, located as rearward, and as high, and as far apart as practicable, wired from the headlight switch but also with an override switch.

4.6.5 If the body of the trailer is wider than the body of the prime mover, the forwards facing projecting parts of the trailer body must display a white light facing forwards.

4.6.6 Semitrailers shall have the kingpin located such that the trailer does not interfere with the prime mover when turning. Semitrailers used on graded roads shall have a king pin size of 3.5” and the prime mover must have a fifth wheel of a corresponding size. A two inch (2”) king pin with an adapter collar shall not be fitted on semitrailers used on graded roads.

4.6.7 Kingpins on any trailer and the lower mounting fillet weld shall be subjected to annual Non Destructive Testing (NDT) testing by radiography and magnetic spray as part of the RAS inspection scheme.

4.6.8 Semitrailers shall have the kingpin located such that the trailer does not interfere with the prime mover when turning.

4.6.9 Have landing gear appropriate to the Vehicle Gross Weight, and which does not interfere with the swing of the prime mover when stowed.

4.6.10 Have a manual securing device to lock the trailer brakes while the trailer is not coupled.

4.6.11 Trailers having a gross weight not exceeding 3,500 kg, must be fitted with overrun brakes and parking brake.

4.6.12 Trailers having a gross weight exceeding 3,500 kg, must be fitted with double-acting fail-safe brakes to all axles.

4.6.13 Any suitable trailer may carry an ISO shipping container, but each ISO container shall be restrained by not less than 4 twist-locks, and shall not deploy any other securing devices for such container.

4.6.14 Flatbed trailers for general cargo use must be equipped with:

a) A smooth cargo deck with no holes or protruding parts. Use of metal cargo decks is discoursed.
b) A solid headboard at the front of the load bed, capable of restraining 0.5 times the weight of the maximum payload and configured so that all forces imposed by the load are transmitted to the main chassis.
c) The headboard must extend to the height of the roof of the cab, and must not have any cut-out or opening.
d) An access ladder fitted to safely access the trailer bed, where the bed is more than 1 metre above ground level; the access ladder must not interfere with the prime mover unit when turning.

e) Load securing anchorage points of adequate design and sufficient number to restrain any carried load, and so that all forces imposed by the load are transmitted to the main chassis.
f) Side stanchions of sufficient number, design, and strength, to restrain the load from sideways movement off the load bed.
g) Such flatbed trailers may also be equipped with sufficient twist-locks for the transport of ISO shipping containers, such twist locks should be retractable.

4.7 Requirements for tankers

Exceptions:
a) Tanks built to ISO shipping container standards,
b) Skid parts of drilling rigs e.g. mud tanks,

are exempt from the tank design and construction requirements, but not excluded from driving rules and driver training requirements given in Part A: Driver (**Annex A-2)**.

In addition to complying with the vehicle general requirements, requirements for heavy vehicles, trailers, all tankers including trailer tankers must also comply with the requirements listed below.

4.7.1 General requirements for all tankers:

4.7.1.1 All tankers must have a current valid RAS inspection certificate.

4.7.1.2 All tanker vehicles must comply with the following colour coding:
a) Potable Water: Blue
b) Brackish Water: Green
c) Sewage sludge : Yellow
d) Hydrocarbon tankers (including vacuum tankers required to haul hydrocarbons): Predominantly white with a red stripe along the sides of the tank
e) Chemical tankers (e.g. chlorine): Predominantly white with a yellow stripe along the sides of the tank
f) Bitumen: Predominantly black, with or without a red stripe.

4.7.2 Tanker pumps

4.7.2.1 All tanker vehicles equipped with a PTO operated pump must also be equipped with an air valve control which interlocks the power take-off engagement with the braking system, so that the brakes are applied and the vehicle cannot be moved when pumping.

4.7.2.2 No tanker vehicle shall have an auxiliary discharge driven by a petrol engine.

4.7.2.3 All hoses carried whilst the vehicle is in motion shall be carried securely such that they cannot move, hang or sag such that it can obscure the rear lights.

4.7.3 Additional requirements for tankers

4.7.3.1 Discharge control valves:
The discharge control valves shall be mounted to the side of the vehicle and not centrally mounted at the back. This is to ensure that the driver can see in his mirrors when anyone is operating these control valves.

4.7.3.2 Tanker stability
a) Skidded tanks must only be carried on trailers which are a minimum of 2.8 m wide.
b) The rollover stability of the vehicle shall be such that the point at which overturning occurs would not be passed if a lateral acceleration of 4 m/s^2 has been reached[19]. The stability of tanker vehicles shall be subject of inspection and approval from the authorised Roadworthiness Assurance Standard (RAS) workshop.

[19] Refer to E/ECE/324 E/ECE/TRANS/505 Rev.2/Add.110 addendum 110, Regulation No: 111, Uniform Provisions concerning the approval of Tank Vehicles of categories N and O with regard to Rollover Stability.

4.7.3.3 Internal design of tanks must be such that:

a) The maximum volume contained between two partitions or surge plates shall not exceed 7,500 litres.

b) Surge plates and partitions must be dished, with a depth of dish of not less than 10 cm or must be corrugated, profiled or otherwise reinforced to give equivalent strength. The area of the surge plate must be at least 70% of the cross-sectional area of the tank.

4.7.3.4 Tanker Manholes, Venting and Access

a) Tanker manholes must be such that:
- All tankers (except those having a fully opening rear end) must be fitted with a minimum of two manholes.
- Manholes must be not less than 407 mm (16 inches) by 356 mm (14 inches) if they are rectangular, or 407 mm (16 inches) in diameter if circular.
- Manholes must be designed to resist opening in the event of a rollover, (except in the case of potable water tankers).
- Manholes must be protected by a valance, (except in the case of potable water tankers). The valance must be higher than the manhole and cover, and any other tank top fittings. It must be designed to withstand 2 times the weight of the fully loaded vehicle in a vertical direction, and 1.5 times the weight of the fully loaded vehicle in a horizontal direction. Drainage of the valance must be provided.

b) Tanker venting must be such that:
- All tankers must be protected from overpressure by being fitted with at least one pressure relief valve or vent, which may be fitted within a manhole.
- For all tankers all vents must be fitted with suitable flame/spark arrester (except water tankers).

4.7.3.5 Tanker access must be such that:

a) Tankers must be fitted with a non-slip walkway a minimum of 600 mm wide for access to the tank top and a non-slip ladder must be fitted to enable access to the walkway. The ladder should be designed so that the lowest rung is between 40 cm and 90 cm from the ground.

b) All water tankers must be fitted with hand rails on the tank top. Although not mandatory on hydrocarbon tankers (due to terminal loading restrictions) folding hand rails are recommended.

c) The handrail needs to be around 1,100 mm to be effective in preventing a fall over it.

4.7.4 Tankers carrying flammable / hazardous substances

4.7.4.1 Tankers carrying flammable / hazardous substances including Class 3 flammable substances must:

a) Display the appropriate Hazchem placards at front, rear, and both sides, according to the actual load.

b) Carry all necessary SHOC and/or TREM Cards as necessary according to the actual load.

c) Carry fire extinguishers, quick-release mounted.
- Rigid tanker: 2 extinguishers located externally: 1 near the front of the tank on the drivers' side, and 1 near the rear of the tank on the opposite side; each to be dry powder 6 kg.
- Trailer or semitrailer tanker: 3 extinguishers located externally: 1 located near the front of the tank on the drivers' side, 1 located near the rear of the tank on the opposite side, and 1 located externally on the prime mover unit; each to be dry powder 6 kg.

d) Have exhaust systems forward of the front axle, below the chassis on the driver's side, with discharge directed away from the tank on the driver's side of the vehicle, or, an exhaust system fitted with a flame/spark arrester.

e) Have anti-static tyres i.e. tyres which will conduct electricity, with a maximum resistance of (1 x 106 ohms) i.e. one-million ohms.

f) Have a master isolation switch outside the cab to isolate all electrical circuits, except the IVMS.

- The switch must be clearly marked in Arabic and English "Electrical Isolation Switch" in red letters on a white background. The "ON" and "OFF" positions of the switch itself must be clearly marked in Arabic and English. A sign in Arabic and English reading "In Case of an Accident or Fire Put this Switch to OFF" must be fitted next to the switch. The sign must be red text on a white background, readable at a distance of 5 metres.
- If the engine fuel feed is via a mechanical pump, there must be a clearly marked (as above) and easily operated, fuel isolation valve.

g) Have battery terminals that are covered to prevent accidental shorting.

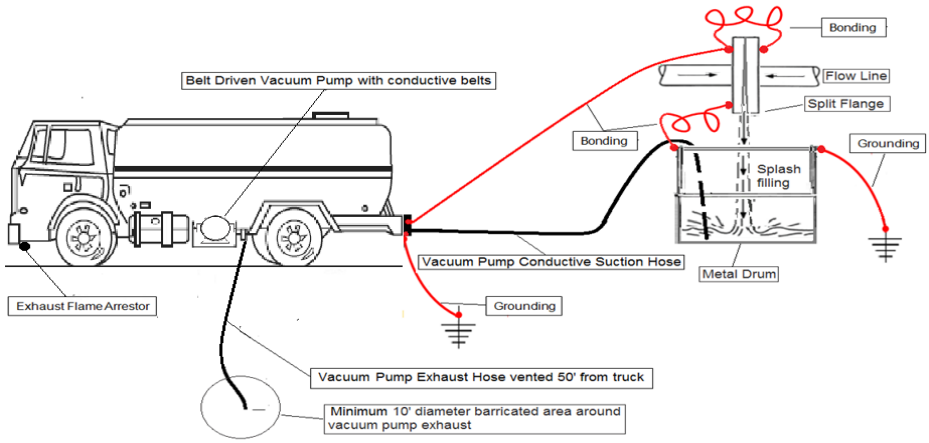
h) Have the loading and discharge pipe/valve so designed in such a way that when in transit, the flammable substance is only carried within the body of the tank, not within the piping external to the tank.

i) Have electrical wiring complying with BS 6862 or equivalent, and protected by solid drawn tubing suitable for bulk vehicles carrying Class 3 petroleum products.

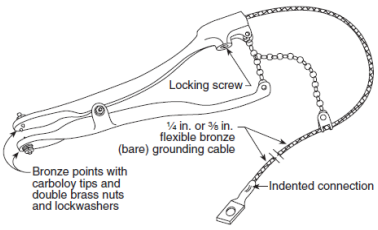
j) Have a fire resistant shield, screening the engine from the body of the vehicle if the engine protrudes behind the rear of the cab, or if the engine is open to the rear. The fire screen must cover any unenclosed part of the engine above or to the rear of the cab and extend down to the top of the chassis side members.

- Where the rear of the cab acts as the fire resistant shield, the cab shall not have any rear window.

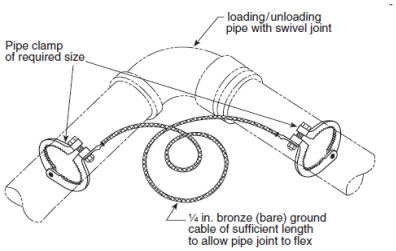
k) Have at least one means of earthing and bonding with continuity to earth shall be established with the tanker for use during loading and unloading operations.

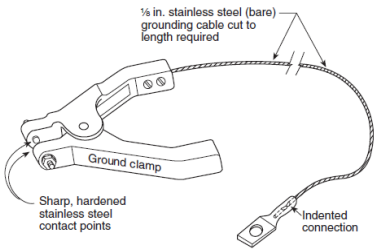


l) Bonding / earthing ground jumpers are illustrated in the below picture

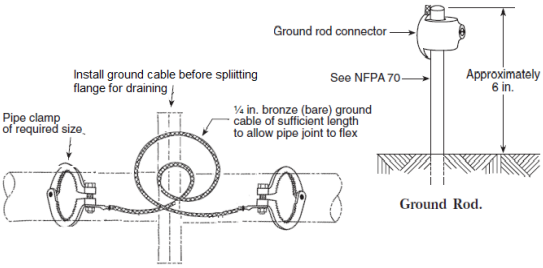


Large Ground Clamp.



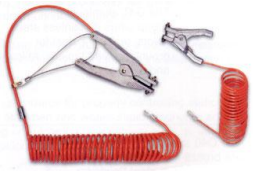


Small Ground Clamp.



Ground Rod.

Pipe Grounding Jumper.



m) All grounding and bonding connections must be bare metal to bare metal. Remove all dirt, paint, rust or corrosion from points of contact
n) Tankers loading and/or unloading where a vapour recovery system is installed, must be fitted with a vapour recovery system and it must be functional.
o) Have vacuum relief valve, with suitable flame/spark arrester, which may be fitted within the manhole.

4.7.5 Tankers transporting potable water

4.7.5.1 Tankers transporting potable water must:

a) Be designed, constructed, internally coated, and certified for the sole purpose of transporting potable water.
b) Have all hoses, pump, and fittings suitable for potable water.
c) Never have been previously used for holding or transporting any other substance.
d) Not be merely cleaned or adapted after carrying any other substance, regardless of any certification.

4.7.6 Pressurised Tankers

4.7.6.1 Pressurised Tankers (vacuum tankers, bulk cement tankers, LPG/LNG tankers) must comply with the additional requirements:

a) All Pressurised Tankers must be pressure tested annually by a qualified third party inspector.
b) A certificate of compliance must be prominently displayed inside the vehicle cab indicating the next inspection due date.

4.8 Requirements for ambulances

4.8.1.1 In addition to complying with the vehicle general requirements, and the light vehicle requirements, ambulances must also comply with the requirements below.

4.8.1.2 Every ambulance must also comply with MoH requirements.

4.8.1.3 All ambulances must have approval, inspection certificate, medical equipment test report, and certification, from the Ministry of Health. A letter requesting the above should be addressed to: Director General of Engineering Affairs, MoH.

4.8.1.4 All ambulances must have:

a) current valid RAS inspection certificate,
b) dual speed limiter,
c) IVMS,
d) high intensity rear lights, and
e) reversing alarm.

4.8.1.5 Additional requirements for ambulances are given in **Annex B-5**.

4.9 Requirements for escort vehicles

4.9.1 In addition to complying with the vehicle general requirements, and the light vehicle requirements, escort vehicles must comply with the requirements below:

a) Twin rotating orange beacons,
b) Red flag,
c) Means of communication such as Radio/GSM,
d) Traffic cones, and
e) Four extra beacons

Part C: Monitoring and Management Systems

5 In-Vehicle Monitoring System

5.1 Exclusion

Bicycles, motorcycles, trailers, lifting, handling, and earthmoving equipment are exempted from the requirements and do not need IVMS installed[20].

5.2 General Requirements

5.2.1 Operator/Company shall develop IVMS management system including Driver Merit Systems (DMS) and with clear roles and responsibilities as part of their own transport policies and procedures. Refer to **Annex C-1 IVMS Management System** as a guide.

5.2.2 Operator/Company shall use In-Vehicle Monitoring System approved by OPAL.

5.2.3 The service provider/contractor shall provide reports to its respective focal point / Operator. Refer to **Annex C-1 IVMS Management System** as a guide.

5.2.4 All In-Vehicle Monitoring Systems must be geo-fenced in regards to speed limits. Speed limits shall not exceed ROP limits for public roads. Operators must provide their geodata for the speed settings of block roads.

5.2.5 The IVMS shall have the ability and capacity to generate data from the vehicle based on GPS/VSS data and cover parameters measured from the vehicle, transfer it to the vendors' server via GPRS and internet, and make it available to the Company via the web. The data will be formatted using a software data management program widely available to the Company into reports, Notification System by email and/or SMS alerts. The systems' ability will also include:

5.2.5.1 Measuring and reporting vehicle speed using GPS and V.S.S (Vehicle Speed Sender).

5.2.5.2 Measuring and reporting over-speeding from geo-fencing or geo-spatial referencing and set speeds programmed in to the On Board Computer.

5.2.5.3 Measuring and reporting seatbelt non-conformances on vehicles having manufacturer-fitted seatbelt sensors.

5.2.5.4 Measuring and reporting harsh braking and harsh acceleration as defined by the Company.

5.2.5.5 Recording and reporting panic button activations.

5.2.5.6 Recording and reporting power/battery disconnections.

5.2.5.7 Recording and reporting tampering.

5.2.5.8 Recording and reporting GPS visibility.

5.2.5.9 Recording and reporting system crashes.

5.2.5.10 Measuring and recording second by second history of the speed, braking and acceleration for a rolling 5 minutes to be utilised in incident investigation.

5.2.5.11 Recording location and navigation for the purposes of defining the driver, location, and time of all above events, and to display the route of a vehicle on a map.

5.2.6 Requirements for IVMS Vendors are given in **Annex C-2**.

5.2.7 The Company reserves the right to audit reports for erroneous or corrupt data and report instances to the vendor.

5.2.8 The vendor is responsible for maintaining and updating all data entry fields relevant to the contract.

5.2.9 Any instance of non compliance with the OPAL requirments will have a consequence as described in a service agreement between the Operator/Company and the vendor.

[20] It is recommended to install IVMS in lifting, handling, and earthmoving equipment, etc, for security tracking purposes, exclusive of these requirements.

5.3 Assurance

5.3.1 Only OBC's approved by the OPAL are to be fitted by the vendor.

5.3.2 The OBC and associated hardware and installation are to be guaranteed for all Oman operating temperatures and environments for the life of the contract.

5.3.3 The vendor guarantees all functionality of the system and quality of the installation for the life of the contract.

5.3.4 The vendor shall indemnify vehicles and/or property should the OBC and/or associated hardware or installation of these, cause damage to the vehicle, and/or other property.

5.4 Geo-fencing

5.4.1 The system shall monitor and report defined speed limit violations with configurable time tolerances for all roads used in Operators' concession limits via geo-fencing or geo-spatial referencing, based on the geo-spatial data information provided by Operators. This is estimated to be 4,000 multi-point geo-fences consisting of approximately 50,000 vertices points.

5.4.2 The system shall have the capability to add additional geo-fences over and above the standard geo-fencing required for the monitoring of speeds on roads according to the Operators geo-spatial data supplied. These zones will also be able to be monitored, alerted, and reported as exclusion zones and non-exclusion zones by the system.

5.4.3 Geo-fences associated with mobile equipment shall be programmed and notified to the requestor within 24 hours of receiving the request via the Customer Support Service facility.

5.4.4 Vendor shall provide evidence of buit-in geo-fences with snaps for them over the map. Supply snap of OS build for these geo-fences.

5.5 Reports

5.5.1 The system shall provide a suite of the reports that will be reviewed quarterly for the first year and then annually for effectiveness and relevance, with reasonable changes agreed and implemented based on the review.

5.5.2 The reports shall provide the following information, bu not limited to:

a) Vehicle violations
b) Driver violations
c) Position report with speed whenever the speed changes by more than 5 km/h from the previous reported speed
d) Position report with direction whenever the direction changes by more than 10 degrees from the previous reported direction
e) Second by second report for a rolling 5 minutes with tacho data show speed snaping every 1sec for accident investigations
f) Kilometres driven by driver
g) Kilometres driven by vehicle
h) Detailed trip report broken down into the following:
   - Trip start and stop time
   - Driving times
   - Driving hours
   - Rest duration
   - Distance driven
i) Entry and exit reports based on geo-fenced locations
j) Idling times
k) Vehicles not reporting
l) Panic Button Alerts
m) Hardware and software crash reports– Sample report is required
n) Tampering– Sample report is required.

5.5.3 In addition to other reports the system will generate a RAG (Red, Amber, Green) report that ranks drivers by performance, based on a scoring metric that does not disadvantage drivers on the amount of kilometres driven, idle times or hours of driving for the reporting period.

5.5.4 The scoring metric will place the ranked drivers in a Red (poorest performers), Amber, or Green (best performers) colours predefined by an approved configurable scoring parameter.

5.5.5 The report shall have the ability to be generated in any reporting period specified and any segment of driver/vehicles as identified by the Company.

5.5.6 The report shall include, but not limited to, the following:

a) Kilometres driven
b) Harsh acceleration count
c) Harsh deceleration count
d) Over speeding violation count for all speed limits defined in the system
e) Total over speeding time
f) Highest maximum speed for each driver
g) Seatbelt violation count
h) Total score for each driver
i) Summary line including the sum totals of all above parameters colour coded by the predefined scoring parameter.
j) Maximum speed reached in the reporting period
k) Drivers Names
l) Reporting period date range
m) Date the report is generated
n) Title of the report
o) Reporting groups name where applicable
p) Company approved scoring metric
q) Total number of IVMS installed and number of units reporting for the month.
r) Total kilometres driven
s) Green, Amber, and Red, kilometres driven in kilometres and percentages of total kilometres driven
t) Number of drivers in Green, Amber, and Red, and in percentages of total number of drivers
u) Number of over-speeding, harsh acceleration, harsh braking, and seatbelt events
v) Number of tampering events recorded
w) Number of Panic Alerts recorded
x) Unauthoized night driving.

5.6 Event Parameter Settings (Minimum mandatory requirements)

Event Parameter Settings			
Event	Description	Notification	Alarm Activation and Delay
Over-speeding	Driving at speed higher than 10km/h above the speed limit for consecutive 30 seconds	Alarm in cabin HTML	Alarm Activation – Configurable alarm and reporting delay
Over-speeding geo-fenced zones	Driving at speed higher than 10km/h above the speed limit for consecutive 30 seconds	Alarm in cabin HTML	Alarm Activation – Configurable alarm and reporting delay
Excessive Over Speeding Event	Driving at speed 20km/h or more above the speed limit	Alarm in cabin HTML	Excessive speed needs to be fully investigated before the consequence matrix is applied. Excessive speed investigation report should be delivered to Operator /Company within 15 days of the event identification.
Seatbelt Violations*	Not using the seatbelt at speeds greater than 10km/h for consecutive 10 seconds	Alarm in cabin HTML	Alarm Activation – Configurable alarm and reporting
Harsh Braking	Deceleration exceeding 15km/h/s while driving at speed higher than 30km/h	Alarm in cabin HTML	Alarm Activation – alarm and no reporting delay
Night Driving	Driving between 19:00hrs and 05:00hrs for more than 5 kilometers outside the geofenced area	HTML and SMS	No alarm – No delay
Panic Button**	Panic button pressed for the duration exceeding 5 seconds	HTML and/or SMS	Alarm Activation – alarm and no reporting delay
Power/Battery Disconnection	Battery Disconnect	HTML	No alarm – No delay
***Tampering	Tampering alert	HTML and/or SMS	No alarm - No delay
GPS Visibility	Minimum number of satellites visible	HTML	No alarm - No delay
System Crash Alert	As approved by Company	HTML and/or SMS	No alarm - No delay

5.6.1 All events must record and report the following:

a) Event type
b) Driver name
c) Vehicle Identification
d) Event Location
e) Date and time of the event
f) Vehicle speed at the time of the event.

*For all seats that have a compatible seatbelt warning system fitted as part of the original manufactures vehicle specification.
** The Panic Button switch shall be located in a convenient location to prevent accidental activation.
*** Were applicable to IVMS that have tamper alerts.

6 Journey Management System

6.1 JMS Minimum Requirements

6.1.1 All Operator/Company shall have the journey management system in place that complies with this Standard. Refer to **Annex C-3 Journey Management Procedure** as a guide.

6.1.2 Minimum requirements for each company in terms of their Journey Management System are:

6.1.2.1 Operator/Company shall define the suitable number of trained and certified Journey Managers, capable of managing the Journeys per day in its entirety.

6.1.2.2 Suitable manpower resources to ensure emergency coverage.

6.1.2.3 All Journey Management Systems shall be auditable, at least once a year, and any non conformance following from the audit shall be rectified.

6.1.2.4 Journey Management Plan must have the following data, but not limited to:

- Company Name
- Date
- Driver and Safe Journey Manager names
- Driver and Safe Journey Manager contact numbers
- Driver DD Permit Number
- Passenger Names
- Vehicle registration Number
- Route(s)
- Departure & Arrival times
- Rest Areas / communication schedules
- What to do in case of Emergency and Emergency contact numbers
- Driver remarks regarding the trip and the vehicle
- Night Time Driving Authorisation, if night driving is required
- Authorisation for crossing the border of Sultanate of Oman, if required.

6.1.2.5 Appointed person for authorising Night Driving.

6.1.2.6 24 hour per day, 7 days a week emergency contact.

6.1.2.7 Printed or electronic records of managed journeys for the previous 3 months for both the company vehicles and sub-contractor vehicles if the company is using sub-contractors.

6.1.2.8 Ability of online, real-time monitoring of the journeys via In-Vehicle Monitoring Systems (IVMS).

6.1.3 A sample of the paper based Journey Management Plan is given in **Annex C-4** of this document.

6.1.4 A sample of the Night Driving Authorisation Form is given in **Annex A-5** “Night Driving Procedure” of this document.

7 Commuting

7.1 General requirements

7.1.1 Each Operator/Company shall define their own commuting policy to ensure compliance to this Standard.

7.1.2 The Operator/Company shall actively discourage the use of PRIVATE VEHICLE in the interior.

7.1.3 Operator/Company are not permitted to pay directly to their employees for travel arrangements, except the payments regulated by Sultanate Of Oman.

7.1.4 Operator/Company must arrange commuting by flight or heavy bus that is compliant to this Standard for distance beyond 200 km one way.

7.1.5 Where commuting by flight or heavy bus is not practical due to financial/logistic reasons, Operator shall define use of an OPAL compliant light vehicle/buses for more than 200 km one way, provided all necessary authorisations are obtained from the authorized person as defined in the commuting policy.

7.1.6 OPAL compliant light vehicles/buses can be used for commuting distances less than 200 km one way.

7.1.7 Operator/Company can arrange their own bus or contract with any transport company that is fully compliant with the requirements given in this Standard.

7.2 Non-work-related travel

7.2.1 Voluntary use of private vehicles or non Operator/Company vetted vehicles by any person for travelling in the interior.

7.2.2 Personnel deviating from a business trip for personal reasons.

7.2.3 Non-business related travel in Operator/Company vehicles.

7.2.4 A sample of Commuting Procedure is shown in **Annex C-5** for reference.

8 Road Safety Compliance and Consequences Management

8.1 General requirements

8.1.1 Operator/company shall determine and establish internal /external audit requirements to verify compliance including management commitment and continual improvement.

8.1.2 All events affecting road safety shall be investigated to identify root causes and ensure carrying out appropriate corrective action plans.

8.1.3 Each Operator/Company shall establish a consequence matrix specifically addressing road safety noncompliance.

8.1.4 Each Operator/Company shall comply with the road safety consequence matrix below.

Consequence Matrix

Offence	First instance	Second instance	Third instance	Fourth instance
Driving under the influence of drugs or alcohol	Dismissal			
Driver or Passenger Not using the seatbelt while the vehicle is in motion	Final warning	Dismissal		
Over speeding recorded by IVMS	Final warning	Dismissal		
Using mobile phone while driving (both handheld and hands-free)	Final warning	Dismissal		
Tampering safety device	Final warning	Dismissal		
Not complying with the Journey Management Plan rules	First warning letter	Final warning	Dismissal	
Unauthorized driving for private use	First warning letter	Final warning	Dismissal	
Driving with expired ROP license and DD driving permit	Verbal Warning	First Warning	Final Warning	Dismissal
Leaving ignition key and/or IVMS smart key with vehicle unattended or use of smart key of others	Verbal Warning	First warning letter	Final warning	Dismissal
Any other road safety non-compliance not mentioned in the above offences	Verbal Warning	First warning letter	Final warning	Dismissal

8.1.5 Company must ensure that the same consequence matrix applies to them. If desirable, they may be more stringent, but not less than the matrix, provided they do not exceed the Law or legal obligatory requirements.

8.1.6 Offenses, number of occurrences, disciplinary actions and/or rehabilitative actions undergone in order to assess the driver along his career shall be recorded, maintained and available upon request from any Operator/Company.

9 Guide documents for compliance verification and monitoring

Refer to additional guides mention below for:

- Compliance verification and audits against OPAL Road Safety Standard: **Annex C-6 Seven Pillars Audit Template.**
- Step-Out request form: **Annex C-7 Step-Out Request.**
- Compliance monitoring forms: **Annex C-8 Road Safety Monitoring Forms.**
- Road Safety Key Performance Indicators: **Annex C-9 Road Safety Key Performance Indicators.**

10 List of Annexure

	Part A: Driver
Annex A-1	Fitness to Work – Professional and Heavy Duty Drivers
Annex A-2	Defensive Driver Training
Annex A-3	Driver and Other Road Users Roles and Responsibilities
Annex A-4	Specifications for Speed limiters
Annex A-5	Night Driving Procedure
Annex A-6	Fatigue Managment and Ramadan Driving
	Part B: Vehicle
Annex B-0	Generic vehicle types and their graphic representation
Annex B-1	OPAL Roadworthiness Assurance Standard (RAS) Procedure
Annex B-2	Transport of hazardous materials
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Annex B-4	Roll Over Protective Structure (ROPS) requirements
Annex B-5	Ambulance vehicle requirements
Annex B-6	ROP Escort Rules
Annex B-7	Rig move, convoy driving, and oversize loads
Annex B-8	Vehicle Maintenance and Compliance Monitoring Procedure
	Part C: Monitoring and Management System
Annex C-1	PDO IVMS Management System
Annex C-2	Requirements for IVMS Vendors
Annex C-3	Journey Management Procedure
Annex C-4	Journey Management Plan
Annex C-5	Commuting Procedure
Annex C-6	Seven Pillars Audit Template
Annex C-7	Step-Out Request
Annex C-8	Road Safety Monitoring Forms
Annex C-9	Road Safety Key Performance Indicators

Annex A-1: Fitness to Work Examination for Professional Drivers and Heavy Duty Drivers

Scope	Professional drivers, whether employed or contracted, are those drivers where driving on company business are an integral and significant part of their job.
Critical activity and potential hazards	Operate a vehicle within above definition in a safe and reliable manner such that safety of self, colleagues or third party is not compromised. Hazards of driving may be exacerbated by pre-existing medical condition or treatment thereof.
Procedure	• Pre placement questionnaire and examination including assessment of risk of sleep apnea. • Periodic review including questionnaires and examination. • Many legislations require specific questionnaires and examinations to be completed. Local country requirements must be met. • The guidelines apply in addition to country specific requirements.
Physical evaluation	Physical examination including: • Visual acuity and fields (confrontation method only unless abnormal) • Blood pressure • Forced whisper test (Audiomtery only required if a statutory requirement of country of operation or abnormal whisper test)
Investigations	• Cardiovascular (CVS) Profile • Audiometry
Frequency	• Under 40 years - every five years. • Over 40 years - every two years. • Over 60 annually.
Key fitness for work issues	• Visual acuity with corrective lenses must be carefully assessed. • Cardiovascular risk must be assessed in all candidates and cardiology review completed if indicated (pre-existing disease and or over age 40 and >20% 10 year risk of MI). • Assess endocrine disorders and impact of any medication • BMI - consider trade testing for fitness for duty if BMI >30 and screen all for sleep apnea. • Evidence of active alcohol or substance abuse. • Capacity to complete associated tasks - e.g. climb on trailer.
Reference Resources	*http://www.dvla.gov.uk/* *http://www.austroads.com.au* Any of these reference sources provide detailed guidance of fitness to drive. These must be interpreted within country specific disability legislation.
Performance indicators	• % of professional drivers completing assessment within required time frame.

Fitness to Work Group	Heavy vehicles driving
Key fitness for work issues	• Visual acuity with corrective lenses if necessary must be carefully assessed. • Cardiovascular risk must be assessed in all candidates and cardiology review completed if indicated (pre-existing disease and/ or over age 40 with >20% 10 year risk of myocardial infarction) • Assess endocrine disorders and impact of any medication. Potential for loss of consciousness related to Insulin dependent diabetes, epilepsy or related condition must be assessed. • Body Mass Index (BMI) - consider trade testing for fitness for duty if BMI >30 and screen all for sleep apnea. • Capacity to complete associated tasks (e.g. climb on trailer & crane gantry)
Scope and Application	• Drivers of overhead cranes, long vehicles, large buses and dozers, water tankers, fuel and petrochemical tankers etc shall be assessed against this protocol. It may be applied to smaller workshop cranes on the basis of a local risk assessment.
Critical activity and potential hazards	• Operate a heavy vehicle within above definition in a safe and reliable manner such that safety of self, colleagues or third party is not compromised. • Hazards of heavy vehicles driving may be exacerbated by pre-existing medical condition or treatment thereof. Particular attention should be made in the risk assessment to the requirement to lift and place the load and to clear obstacles during transfer.
Procedure	• Pre placement questionnaire and Medical examination including assessment of risk of sleep apnoea. • Periodic review questionnaire and examination. • All applicants for heavy vehicles driving positions require a pre placement evaluation prior to taking up position whether as a new hire or a transfer from a new position.
Physical evaluation	Physical examination shall include: • Visual acuity and fields (confrontation method only unless abnormal) • Cardiovascular (CVS) assessment. • Forced whisper test
Investigations	• Audiometry. • Cardiovascular (CVS) assessment using Framingham risk calculator. Risk of 20% or more requires further cardiac evaluation with Stress test (TME). • Drug and alcohol screening.
Frequency	Every two years. 60 years is maximum acceptable age for drivers
Reference Resources	*USA National Commission Certification of Crane Drivers* *http://www.nccco.org/general/handbooks.html*
Performance indicators	% of professional drivers completing assessment within required time frame.

1 Epworth Screening Questionnaire for Sleep Apnea

Employee Data		**Date**
Last Name		**First Name**
I.D No.	**Tel #**	**Occupation**

This questionnaire will help identify if you have any health condition which may need a more detailed medical assessment as part of your fitness to work determination. If you have any queries please contact your local Health Services staff. All information provided on this form and during consultations remains strictly confidential.

How likely are you to fall asleep in the following situations?

0 Would never doze

1 Slight chance of dozing

2 Moderate chance of dozing

3 High chance of dozing

..... **sitting and reading**

..... **watching TV**

..... **sitting inactive in a public place (e.g. theatre or meeting)**

..... **as a passenger in the car for an hour without a break**

..... **Lying down to rest in the afternoon when circumstances permit**

..... **Sitting a talking with someone**

..... **Sitting quietly after lunch without alcohol**

..... **In a car, while stopped for a few minutes in traffic**

Total .....

If you score a total of 15 or more you should seek advice from medical personnel on site before continuing to drive or operate machinery in the workplace.

Declaration: I,_____ *(Print Name) certify* that to the best of my knowledge the above information supplied by me is true and correct.

Signature:_____ **Date:** _____

2 Guidance on physiological parameters

Fitness to work group	Professional drivers
Blood pressure	<140/90
Audiometry (with hearing aid if required)	Average hearing loss in 500, 1K, 2K Hz of <40dB
Body Mass index	<35
Visual acuity (corrected)	20/40 (6/12) in each eye
Visual fields (only map if abnormal on confrontation)	At least 70° in horizontal meridian of each eye
Colour Vision	Field test
CVS profile (10 year risk)	<20%
Sleep Apnoea Score (Epworth)	<16

Values indicated in this table are minimum values which if the candidate meets, they may be considered fit for the indicated task. (These are not pass / fail standards.) Should a candidate not meet the standard then further assessment on a case-by-case basis should be conducted to address their suitability for the task and any accommodation that may be necessary to permit the safe completion of the task. In the event accommodation cannot be made, alternative employment should be sought.

Annex A-2: Driver Training Specifications

1 Purpose

This Annex describes Operator requirements for ensuring that all drivers of motor vehicles are properly trained and assessed, and hold the appropriate driving permit.

2 Scope

This specification applies to the training and driving permit for driving any motor vehicle subject to the OPAL Road Safety Standard by Company staff, contractors, subcontractors, and vendors, anywhere whilst on Company business.

3 Application

The courses in this Annex may be delivered only by the OPAL Approved Training Provider(s) (ATP), including any In-House Training Provider(s) (IHTP), which hold current approval by the Company to deliver one or more of the Defensive Driving courses.

Assessment for each respective course, and issue of the respective Defensive Driving Permit, shall be conducted only by an independent Defensive Driving Assessment Team, DDAT, endorsed by OPAL.

4 Review and Improvement

This Annex shall be reviewed as necessary by the OPAL Working Group, at least every three years.

5 Overview of DD courses

Course code	Vehicle	Road surface	Training duration
DD01	Light	blacktop	2 days
DD02	Heavy	blacktop	2 days
DD03	any	graded	1 day
DD04	Tanker	blacktop	1 day
DD05	Bus (light or heavy)	blacktop	1 day
DD06	any	any	½ day
DD07	Light	blacktop	½ day
DD08	Ambulance	various	6 days
DD09	Fire Tender	various	6 days
DD10	Vehicles carrying hazardous materials	various	TBA
SJM	any	none	1 day

Note: there are no-longer any combined courses.

6 Expediency of training for new drivers

DD courses shall be offered only to drivers who hold valid ROP driving licence and DD course application signed from the employer with seal. The application shall state his years of professional experience in the driving category to which DDT is sought.

7 Initial training

In the case of a:

- DD03

  where the driver holds both DD01 & 02, the training and assessment should be done in the relevant vehicle, depending on the ROP license category.

In the case of a:

- DD04
- DD05

  each of which may be taken in a relevant vehicle (bus/tanker); if training and assessment is in a light bus or light tanker, this will be marked as a restriction on the DD Permit, regardless as to whether DD02 is also held.

8 Expiry and Recertification

Each Defensive Driving Permit shall expire on the date stated on the permit. The expiry date will be in exact multiples of calendar years or half-years, such that the expiry date will be one day before the anniversary of the assessment date or recertification date. However, if the employer finds his driving is not satisfactory, based on RAG or incident investigation report, he/she will have to reappear for the recertification.

Defensive Driving Permits for:

- DD01
- DD02
  - shall remain valid for not less than two (2) years, but not more than three (3) years, depending on the quality of driving exhibited by that driver during his driving assessment.
  - Drivers who display higher driving standards, hence lower risk, will be granted the longest intervals before next recertification.
- DD06
  - shall remain valid for not less than two (2) years, but not more than four (4) years, depending on the quality of driving exhibited by that driver during his driving assessment.

In the case of a person failing a DD06 recertification, he shall be permitted a free further assessment (only one).

In the case of a person failing his 2nd DD06 recertification, he must then take a complete DD01 or DD02 course as applicable, and must not drive until this course is passed and a new DD Permit is issued.

The additional categories of:

- DD03
- DD04
- DD05
  - shall remain valid indefinitely with no expiry, but only so long as the respective DD01 or DD02 or DD06 remains valid.
  - If the respective DD01 or DD02 or DD06 expires, the DD03 or DD04 or DD05 also immediately expires.

- The DD03 or DD04 or DD05 may be revalidated automatically, providing documentary evidence of previously holding that permit is presented at the time of successful reassessment for DD01 or DD02.
- The documentary evidence required is:
    - HSE passport showing all the required courses with dates, and
    - DD Driving Permit,
        - when in all cases the relevant assessments were conducted on 1st September 2009 or later.

Defensive Driving courses DD07 are offered for family members of staff, are recommended but optional, a DD Permit is not issued, and thus have no expiry.

Defensive Driving Permits for:

- DD 08
- DD 09
    - shall remain valid for one (1) year before reassessment.

Procedure for Renewing a Defensive Driving Permit

Those persons empowered with on-line access to directly make an on-line request for recertification & renewal must do so before expiry of the DD Permit.

In the case of others applying by e-mail or fax, the request for recertification must be received in the head office of the DDAT, before the expiry date of the DD Permit.

If the DD Permit is due to expire at a weekend, or on a public holiday, the recertification request must be received in the head office of the DDAT before that office closes before the weekend or public holiday.

It must be recognised that whereas in the interior, work continues every day, but the head office of the DDAT is in Muscat and follows commercial office hours and workdays.

A request for recertification for a DD Permit can be made at any date before expiry. Applying more than 2 weeks before expiry could be advantageous to any person on shift rota, or before travelling on vacation.

Providing that a recertification request is received by the DDAT before the expiry date, the confirmed reassessment date by DDAT can either be before or after the expiry date. The driver may continue to drive, but must carry a copy of the confirmed recertification date or the recertification request.

Responsibility

The HSE department in any organisation has the full responsibility to ensure a system is in place to monitor expiry of DD permits of their employees and initiate recertification / booking process. If a DD certification expires, any additional costs are the responsibility of the organisation.

Course Title:

(DD01) Defensive Driving, Light Vehicles, Blacktop Roads

Course Aim:

To promote SAFE driving behavior and eliminate the instances of motor vehicle crashes

Course Objectives

1. Promote and develop a positive attitude towards driving and other road users.
2. Consistently Display low risk driving techniques in Light Vehicles.
3. Reliably demonstrate the use of creating adequate space and time.

Essential AHAR Syllabus components (MUST HAVE topic areas)

1. Driving environments – urban, rural, weather, road surfaces, traffic density & type.
2. Hearts and Minds (Attitude) – (e.g. human behaviours, emotional effects;)
3. Vehicle checks – why, what, how, when, where and by whom. Records.
4. Distractions - Mobile phone, audio, GPS, radio, vehicle passengers, insecure loads, weather effects
5. Creating space / use of speed. – response elements; braking distances v speed, Recognizing Road Hazard and risk. – Systematic all-round observation; observation zones; driving planning; effects of observation and adjustments to plan (Observation and Anticipation)
6. Fatigue – causes and effects.
7. Seat Belts and seating position.
8. Driving Systems

Max. Duration	Max. re-certification interval	Min. delegates	Max. delegates
Sixteen (16) hours	Three (3) years	Three (3)	Twelve (12)

Delivery Language(s)

Arabic or English

Course Title	Course Code	Target Population	Type
DD Light vehicles, blacktop roads	DD01	Operator & all contractor personnel required to drive light vehicles in the performance of their work.	Entry

Pre-requisites for DD01 Course

All delegates

Prescribed aids to vision	Current, valid ROP issued light vehicle driving	2 x Passport sized photos
	Coverall or working clothing	Safety Footwear
	OPAL / PDO HSE Passport	

DD01 Assessment Performance criteria (MUST be able to do)

1. During a 30 minute observed drive in a light vehicle in a city or large town based urban area, demonstrate the constant use of low risk driving techniques including vehicle and passenger sympathy, smooth use of brakes / clutch / accelerator, adjust speed for conditions of traffic / road / weather, steering technique – push pull method for high speed or hand over hand for low speed; seat belt, that produces no more than 3 assessed major faults.
2. Correctly explain verbally in a classroom syndicate environment, the effects of fatigue, the signs, symptoms and root cause of fatigue, how medications and other drugs may affect drivers, and the action to be taken with all of these with respect to SJM requirements.
3. Demonstrate effective use of Observation and Anticipation skills whilst operating a light commercial vehicle in city traffic under any conditions. Subject to conditions at the time of assessment, the Assessor may ask questions of the driver regarding decisions made. Questions are to be directly related to the situation at the time, with minimal distraction, and answers must be correct.
4. Continually display a positive attitude towards other road users.
5. Correctly carry out a pre trip inspection of the vehicle.
6. Demonstrate all elements of Hearts and Minds whilst driving.
7. In a classroom syndicate environment, accurately explain the dangers of over speeding.
8. In a classroom syndicate environment, accurately explain the dangers of using a mobile phone while driving.
9. In a classroom environment, accurately explain the three second rule and apply the rule effectively during practical assessment in a light vehicle, whilst raveling urban roads.

Course Title:

(DD02) Defensive Driving, Heavy Vehicles, Blacktop Roads

DD02 / A – RIGID Heavy Vehicles
DD02 / B – ARTICULATED Heavy Vehicles (Special elements to be determined)

Course Aim:

To enhance the existing skills of a driver to operate a heavy rigid or articulated heavy vehicle and to promote Crash-Free Driving.

Course Objectives

1. Promote and develop a positive attitude towards driving and other road users.
2. Consistently Display low risk driving techniques in Heavy articulated and rigid chassis vehicles.
3. Reliably demonstrate the use of creating adequate space and time.

Essential DD02 Syllabus components (MUST HAVE topic areas)

1. Driving environments – urban, rural, weather, road surfaces, traffic density & type.
2. Hearts and Minds (Attitude) – (e.g. human behaviours, emotional effects;)
3. Vehicle checks – why, what, how, when, where and by whom. Records.
4. Distractions - Mobile phone, audio, GPS, radio, vehicle passengers, insecure loads, weather effects
5. Creating space / use of speed. – response elements; braking distances v speed,
6. Recognizing Road Hazard and risk. – Systematic all-round observation; observation zones; driving planning; effects of observation and adjustments to plan (Observation and Anticipation)
7. Fatigue – causes and effects.
8. Seat Belts and seating position.
9. Driving Systems

Max. Duration	Max. re-certification interval	Min. delegates	Max. delegates
Sixteen (16) hours	Three (3) years	Three (3)	Twelve (12)

Delivery Language(s)

Arabic, English, Hindi

Course Title	Course Code	Target Population	Type
DD Heavy vehicles, blacktop roads	DD02	Operator & all contractor personnel required to drive heavy vehicles in the performance of their work.	Entry

Pre-requisites for DD02Course

Non-supervisory staff	All delegates
Safety Footwear	2 x Passport sized photos
Coverall or working clothing	Prescribed aids to vision
Current, valid ROP issued heavy vehicle driving license	OPAL / PDO HSE Passport

DD02 Assessment Performance criteria (MUST be able to do)

1. During a 30 minute observed drive in a heavy vehicle in a city or large town based urban area, demonstrate the constant use of low risk driving techniques including vehicle and passenger sympathy, smooth use of brakes / clutch / accelerator, adjust speed for conditions of traffic / road / weather, steering technique – push pull method for high speed or hand over hand for low speed; seat belt, that produces no more than 3 assessed major faults.
2. Correctly explain verbally in a classroom syndicate environment, the effects of fatigue, the signs, symptoms and root cause of fatigue, how medications and other drugs may affect drivers, and the action to be taken with all of these with respect to SJM requirements.
3. Demonstrate effective use of Observation and Anticipation skills whilst operating a heavy commercial vehicle in city traffic under any conditions.
4. Continually display a positive attitude towards other road users.
5. Correctly carry out a pre trip inspection of the vehicle.
6. Demonstrate all elements of Hearts and Minds whilst driving.
7. In a classroom syndicate environment, accurately explain the dangers of over speeding.
8. In a classroom syndicate environment, accurately explain the dangers of using a mobile phone while driving.
9. Accurately explain the three second rule and apply the rule effectively during practical assessment in a heavy vehicle, whilst travelling urban roads.

Course Title:

(DD03) Defensive Driving, Graded Roads

Course Aim:

To enhance the existing skills of a driver to operate a vehicle over graded roads and to promote Crash-Free Driving.

Course Objectives

4. Promote and develop a positive attitude towards driving and other road users.
1. Consistently Display low risk driving techniques in Light or Heavy Vehicles on a graded road.
2. Reliably demonstrate the use of creating adequate space and time.

Essential DD03 Syllabus components (MUST HAVE topic areas)

1. Dust Code, Rollover, Windrows and safety lanes.
2. Graded Road Hazards and vehicle handling characteristics.
3. Vehicle checks/Pre trip inspection.
4. Recognizing Road Hazard and risk. (Observation and Anticipation)
5. Driver Attitude. (Hearts and Minds)
6. Seat belts.
7. Fatigue.
8. Driving Systems.

Max. Duration	Max. re-certification interval	Min. delegates	Max. delegates
Sixteen (4) hours	Three (3) years	Three (3)	Twelve (12)

Delivery Language(s)

Arabic , English, Hindi

Course Title	Course Code	Target Population	Type
DD Graded roads	DD03	Operator & contractor personnel required to drive any vehicle type on graded roads in the performance of their work.	Entry

Pre-requisites for DD03 Course

All delegates

Safety Footwear	Coverall or working clothing	2 x Passport sized photos
	Current, valid ROP issued light/heavy driving	Prescribed aids to vision
	(DD01 or DD02) current , valid permit	OPAL / PDO HSE Passport

Non-Omani DD04 or DD05 permit holders must provide the vehicle type they are licensed to drive.

DD03 Assessment Performance criteria (MUST be able to do)

1. During a 30 minute observed drive in a light or heavy vehicle on an approved graded road, demonstrate the constant use of low risk driving techniques including vehicle and passenger sympathy, smooth use of brakes / clutch / accelerator, adjust speed for conditions of traffic / road / weather, steering technique – push pull method for high speed or hand over hand for low speed; seat belt, that produces no more than 3 assessed major faults.
2. Explain Graded Road Hazards and vehicle handling characteristics in a classroom syndicate environment, and apply the principles correctly during an on-road assessed drive.
3. Correctly explain verbally in a classroom syndicate environment, the effects of fatigue, the signs, symptoms and root cause of fatigue, how medications and other drugs may affect drivers, and the action to be taken with all of these with respect to SJM requirements.
4. Demonstrate effective use of Observation and Anticipation skills whilst using a light or heavy commercial vehicle on an approved graded road.
5. Continually display a positive attitude towards other road users.
6. Correctly carry out a pre-trip inspection of the vehicle.
7. Demonstrate all elements of Hearts and Minds whilst driving.
8. In a classroom syndicate environment, accurately explain the dangers of over speeding.
9. In a classroom syndicate environment, accurately explain the dangers of using a mobile phone while driving.
10. Demonstrate effective space management, adhering to the conditions present, during an assessed drive on an approved graded road, at all times complying with the requirements of SP 2000.

Course Title:

(DD04) Defensive Driving, Bulk Tankers, Light & Heavy course

Course Aim:

To promote SAFE driving behavior and eliminate the instances of motor vehicle crashes

Course Objectives

1. Promote and develop a positive attitude towards driving and other road users.
2. Consistently Display low risk driving techniques in Bulk Tankers.
3. Reliably demonstrate the use of creating adequate space and time.

Essential DD04 Syllabus components (MUST HAVE topic areas)

1. Driving environments – urban, rural, weather, road surfaces, traffic density & type.
2. Hearts and Minds (Attitude) – (e.g. human behaviours, emotional effects;)
3. Vehicle checks – why, what, how, when, where and by whom. Records.
4. Distractions - Mobile phone, audio, GPS, radio, vehicle passengers, insecure loads, weather effects
5. Creating space / use of speed. – response elements; braking distances v speed,
6. Recognizing Road Hazard and risk. – Systematic all-round observation; observation zones; driving planning; effects of observation and adjustments to plan (Observation and Anticipation)
7. Vehicle dynamics in relation to tankers.
8. Fatigue – causes and effects.
9. Driving Systems

Max. Duration	Max. recertification interval	Min. delegates	Max. delegates
Four (4) hours	Three (3) years	Three (3)	Twelve (12)

Delivery Language(s)

Arabic, English, Hindi

Course Title	Course Code	Target Population	Type
DD Bulk Tankers, Light & Heavy	DD04	Operator & Contactor drivers required to drive tanker vehicles on blacktop or graded roads in Oman in the performance of their work.	Entry

Pre-requisites for DD04 Course

All delegates

Current, valid ROP issued vehicle driving license	2 x Passport sized photos
Prescribed aids to vision	Coverall or working clothing and Safety Footwear
Current, valid DD permit of appropriate type.	OPAL / PDO HSE Passport

DD04 Assessment Performance criteria (MUST be able to do)

1. Correctly explain verbally in a classroom syndicate environment, the effects of fatigue, the signs, symptoms and root cause of fatigue, how medications and other drugs may affect drivers, and the action to be taken with all of these with respect to SJM requirements.
2. In a classroom syndicate environment, accurately explain the dangers of over speeding.
3. In a classroom syndicate environment, accurately explain the dangers of using a mobile phone while driving.
4. In a classroom syndicate environment, correctly explain the characteristics of a bulk tanker when full or part full.
5. Correctly carry out a pre trip inspection of the vehicle.
6. During a 30 minute observed drive in a heavy vehicle in a city, large town based urban area, or in-field environment, demonstrate the constant use of low risk driving techniques including vehicle and passenger sympathy, smooth use of brakes / clutch / accelerator, adjust speed for conditions of traffic / road / weather, steering technique – push pull method for high speed or hand over hand for low speed; seat belt, that produces no more than 3 assessed major faults.
7. Demonstrate effective use of Observation and Anticipation skills whilst operating a heavy vehicle in city traffic under any conditions.
8. Continually display a positive attitude towards other road users.
9. Demonstrate all elements of Hearts and Minds whilst driving.
10. Demonstrate effective space management during practical assessment in a heavy vehicle, whilst travelling on various road types.

Course Title:

(DD05) Defensive Driving, Buses, Light & Heavy Course

Course Aim:

To enhance the existing skills of a driver to operate a light or heavy bus.

Course Objectives

1. Demonstrate low risk driving techniques in driving a Bus.
2. Display a positive attitude towards driving and other road users.
3. Demonstrate the use of creating space and time.

Essential DD05 Syllabus components (MUST HAVE topic areas)

1. Driving environments – urban, rural, weather, road surfaces, traffic density & type.
2. Hearts and Minds (Attitude) – (e.g. human behaviours, emotional effects;)
3. Vehicle checks – why, what, how, when, where and by whom. Records.
4. Distractions - Mobile phone, audio, GPS, radio, vehicle passengers, insecure loads, weather effects
5. Creating space / use of speed. – response elements; braking distances v speed, Recognizing Road Hazard and risk. – Systematic all-round observation; observation zones; driving planning; effects of observation and adjustments to plan (Observation and Anticipation)
6. Fatigue – causes and effects.
7. Driving Systems

Max. Duration	Max. recertification interval	Min. delegates	Max. delegates
Sixteen (16) hours	Three (3) years	Three (3)	Twelve (12)

Delivery Language(s)

Arabic, English, Hindi

Course Title	Course Code	Target Population	Type
DD Light & Heavy Buses	DD05	Operator & all contractor personnel required to drive light or heavy bus vehicles in the performance of their work.	Entry

Pre-requisites for DD05 Course

Non-supervisory staff	Supervisory staff	All delegates
Safety Footwear	Coverall or working clothing	2 x Passport sized photos
Age over 25 years	Prescribed aids to vision	OPAL / PDO HSE Passport

Current, valid ROP issued driving license for vehicle being driven, either light (held for minimum 8 years and endorsed for bus driving) or heavy (held for at least 4 years and endorsed for bus driving).

(AHAF) AHA Heart saver First Aid, CPR & AED

DD05 Assessment Performance criteria (MUST be able to do)

1. In a classroom syndicate environment, accurately explain the dangers of over speeding.
2. In a classroom syndicate environment, accurately explain the dangers of using a mobile phone while driving.
3. In a classroom syndicate environment, explain the dangers of driving in adverse conditions, the correct action to be taken, and apply these principles correctly during a practical assessment.
4. In a classroom environment, accurately explain the three second rule and apply the rule effectively during practical assessment in a light vehicle, whilst travelling urban roads. During a 30 minute observed drive in a light or heavy bus in a city or large town based urban area, demonstrate the constant use of low risk driving techniques including vehicle and passenger sympathy, smooth use of brakes / clutch / accelerator, adjust speed for conditions of traffic / road / weather, steering technique – push pull method for high speed or hand over hand for low speed; seat belt, that produces no more than 3 assessed major faults.
5. Correctly explain the handling characteristics of buses, and demonstrate the sympathetic control of these during an assessed drive.
6. Correctly explain verbally in a classroom syndicate environment, the effects of fatigue, the signs, symptoms and root cause of fatigue, how medications and other drugs may affect drivers, and the action to be taken with all of these with respect to SJM requirements.
7. Demonstrate effective use of Observation and Anticipation skills whilst operating a light commercial vehicle in city traffic under any conditions. Subject to conditions at the time of assessment, the Assessor may ask questions of the driver regarding decisions made. Questions are to be directly related to the situation at the time, with minimal distraction, and answers must be correct.
8. Demonstrate consideration for passenger safety and comfort.
9. Continually display a positive attitude towards other road users.

10. Correctly carry out a pre trip inspection of the vehicle.
11. Demonstrate all elements of Hearts and Minds whilst driving.

Course Title:

(DD06) Defensive Driving, Recertification

Course Aim:

To promote SAFE driving behavior and eliminate the instances of motor vehicle crashes

Course Objectives

1. Promote and develop a positive attitude towards driving and other road users.
2. Consistently Display low risk driving techniques in Light Vehicles.
3. Reliably demonstrate the use of creating adequate space and time.

Essential DD06 Syllabus components (MUST HAVE topic areas)

1. Driving environments – urban, rural, weather, road surfaces, traffic density & type.
2. Hearts and Minds (Attitude) – (e.g. human behaviours, emotional effects;)
3. Vehicle checks – why, what, how, when, where and by whom. Records.
4. Distractions - Mobile phone, audio, GPS, radio, vehicle passengers, insecure loads, weather effects
5. Creating space / use of speed. – Response elements; braking distances v speed, Recognizing Road Hazard and risk. – Systematic all-round observation; observation zones; driving planning; effects of observation and adjustments to plan (Observation and Anticipation)
6. Fatigue – causes and effects.
7. Seat Belts and seating position.
8. Driving Systems

Max. Duration	Max. re-certification interval	Min. delegates	Max. delegates
Five and a half (5 ½) hours	Four (4) years	three (3)	Twelve (12)

Delivery Language(s)

Arabic, English, Hindi

Course Title	Course Code	Target Population	Type
DD permit recertification	DD06	Operator & Contractor staff holding DD permits of any kind, required to drive in performance of their work or services.	Entry

Pre-requisites for DD06 Recertification

Non-supervisory staff	Supervisory staff	All delegates
Safety Footwear	Current, valid ROP issued light vehicle driving	2 x Passport sized photos
Coverall or working	Current, valid DD permit of appropriate type	Prescribed aids to vision
DD05 permit holders current AHA Heart saver First Aid, CPR & AED certificate		OPAL / PDO HSE Passport

DD06 Assessment Performance criteria (MUST be able to do)

During a 30 minute observed drive in a light or heavy bus in a city or large town based urban area, demonstrate the constant use of low risk driving techniques including vehicle and passenger sympathy, smooth use of brakes / clutch / accelerator, adjust speed for conditions of traffic / road / weather, steering technique – push pull method for high speed or hand over hand for low speed; seat belt, that produces no more than 3 assessed major faults.

Correctly explain verbally in a classroom syndicate environment, the effects of fatigue, the signs, symptoms and root cause of fatigue, how medications and other drugs may affect drivers, and the action to be taken with all of these with respect to SJM requirements.

Demonstrate effective use of Observation and Anticipation skills whilst operating a light commercial vehicle in city traffic under any conditions. Subject to conditions at the time of assessment, the Assessor may ask questions of the driver regarding decisions made. Questions are to be directly related to the situation at the time, with minimal distraction, and answers must be correct.

Continually display a positive attitude towards other road users.

Correctly carry out a pre trip inspection of the vehicle.

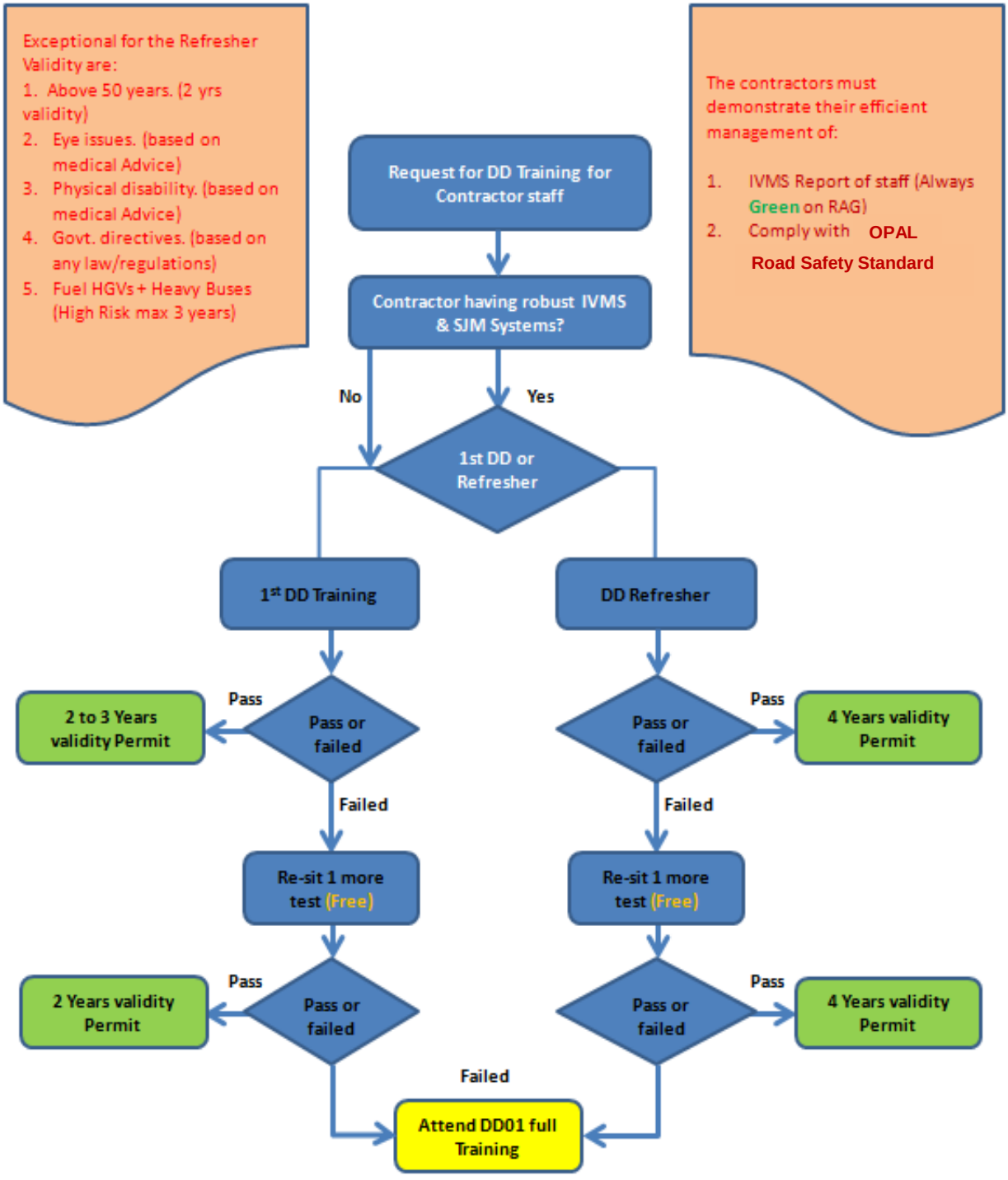
Demonstrate all elements of Hearts and Minds whilst driving.

In a classroom syndicate environment, accurately explain the dangers of over speeding.

In a classroom syndicate environment, accurately explain the dangers of using a mobile phone while driving.

In a classroom environment, accurately explain the three second rule and apply the rule effectively during practical assessment in a light vehicle, whilst raveling urban roads.

PROCESS FOR DEFENSIVE DRIVING PERMIT VALIDATION FOR CONTRACTOR STAFF



Course Title:

(DD07) Defensive Driving, staff families, blacktop roads

Course Aim:

To promote SAFE driving behavior and eliminate the instances of motor vehicle crashes

Course Objectives

1. Promote and develop a positive attitude towards driving and other road users.
2. Consistently Display low risk driving techniques in Light Vehicles.
3. Reliably demonstrate the use of creating adequate space and time.

Essential DD07 Syllabus components (MUST HAVE topic areas)

1. Driving environments – urban, rural, weather, road surfaces, traffic density & type.
2. Hearts and Minds (Attitude) – (e.g. human behaviours, emotional effects;)
3. Vehicle checks – why, what, how, when, where and by whom. Records.
4. Distractions - Mobile phone, audio, GPS, radio, vehicle passengers, insecure loads, weather effects
5. Creating space / use of speed. – response elements; braking distances v speed, Recognizing Road Hazard and risk. – Systematic all-round observation; observation zones; driving planning; effects of observation and adjustments to plan (Observation and Anticipation)
6. Fatigue – causes and effects.
7. Seat Belts and seating position.
8. Driving Systems

Max. Duration	Max. recertification interval	Min. delegates	Max. delegates
Four (4) hours	None Applicable	Three (3)	Twelve (12)

Delivery Language(s)

Arabic or English

Course Title	Course Code	Target Population	Type
DD staff spouses	DD07	Staff family members holding recognised ROP driving licenses.	Recommended

Pre-requisites for DD07 Course

Family member of Operator employee	2 x Passport sized photos
Sturdy, flat heeled closed footwear	Valid ID or residency card issued by ROP.
Prescribed spectacles or contact lenses	Current, valid ROP issued light vehicle driving license
Physically and medically fit	

DD07 Assessment Performance criteria (MUST be able to do)

1. During a 30 minute observed drive in a light vehicle in a city or large town based urban area, demonstrate the constant use of low risk driving techniques including vehicle and passenger sympathy, smooth use of brakes / clutch / accelerator, adjust speed for conditions of traffic / road / weather, steering technique – push pull method for high speed or hand over hand for low speed; seat belt, that produces no more than 3 assessed major faults.
2. Correctly explain verbally in a classroom syndicate environment, the effects of fatigue, the signs, symptoms and root cause of fatigue, how medications and other drugs may affect drivers, and the action to be taken with all of these with respect to SJM requirements.
3. Demonstrate effective use of Observation and Anticipation skills whilst operating a light commercial vehicle in city traffic under any conditions. Subject to conditions at the time of assessment, the Assessor may ask questions of the driver regarding decisions made. Questions are to be directly related to the situation at the time, with minimal distraction, and answers must be correct.
4. Continually display a positive attitude towards other road users.
5. Correctly carry out a pre-trip inspection of the vehicle.
6. Demonstrate all elements of Hearts and Minds whilst driving.
7. In a classroom syndicate environment, accurately explain the dangers of over speeding.
8. In a classroom syndicate environment, accurately explain the dangers of using a mobile phone while driving.
9. In a classroom environment, accurately explain the three second rule and apply the rule effectively during practical assessment in a light vehicle, whilst raveling urban roads.

Course Title:
(DD08) Defensive Driving, Ambulance Drivers
Course Aim:
To promote SAFE driving behavior and eliminate the instances of motor vehicle crashes
Course Objectives
1. Promote and develop a positive attitude towards driving and other road users. 2. Consistently Display low risk driving techniques in Light Vehicles. 3. Reliably demonstrate the use of creating adequate space and time.
Essential DD08 Syllabus components (MUST HAVE topic areas)
1. Driving environments – urban, rural, weather, road surfaces, traffic density & type. 2. Hearts and Minds (Attitude) – (e.g. human behaviours, emotional effects;) 3. Vehicle checks – why, what, how, when, where and by whom. Records. 4. Distractions - Mobile phone, audio, GPS, radio, vehicle passengers, insecure loads, weather effects 5. Creating space / use of speed. – response elements; braking distances v speed, Recognizing Road Hazard and risk. – Systematic all-round observation; observation zones; driving planning; effects of observation and adjustments to plan (Observation and Anticipation) 6. Fatigue – causes and effects. 7. Seat Belts and seating position. 8. Driving Systems

Max. Duration	Max. recertification interval	Min. delegates	Max. delegates
Forty (40) hours	One (1) year	Three (3)	Twelve (12)

Delivery Language(s)
English (however an Arabic Version will be produced later on)

Course Title	Course Code	Target Population	Type
DD Ambulance vehicle drivers	DD08	Operator and contractor staff required to drive ambulance vehicles as part of their work or services.	Entry

Pre-requisites for DD08 Course		
Non-supervisory	**Supervisory staff**	**All delegates**
Safety Footwear	Coverall or working clothing	2 x Passport sized photos
Aged over 25 years	Current, valid ROP issued light vehicle driving	Prescribed aids to vision
(AHAF) AHA Heart saver First Aid, CPR & AED		OPAL / PDO HSE Passport
Minimum of 5 years driving experience		

DD08 Assessment Performance criteria (MUST be able to do)
1. Identify and explain the law regarding emergency vehicles, their use of lights and sirens, negotiating controlled and uncontrolled intersections, lane selection and the use of communication devices. 2. Explain correctly in writing the characteristics of ambulance vehicles including seating arrangements for all vehicle occupants and types of vehicle use, emergencies and patient transfers. 3. During a 30 minute assessed drive in a light vehicle in a city or large town based urban area, demonstrate during a commentary drive, constant effective use of low risk driving techniques including vehicle and patient sympathy, smooth use of foot operated controls, appropriate speed for road environment conditions, appropriate steering control and use of seat belt, that produces no more than 3 assessed major faults. 4. During assessed drives, consistently demonstrate the effective use of Hearts and Minds in your driving by staying within the law relating to ambulance vehicles, being consistently courteous to other road users, controlling the use of seat belts and driving to prevailing conditions. 5. During an on road driving assessment consistently demonstrate your use of the system of vehicle control to take, use, and give information, react systematically and flexibly to adjust road position, speed, gears and acceleration in order to safely negotiate a variety of hazards. 6. During an assessed drive, continually demonstrate a positive attitude towards other road users by giving and accepting (assertive) rights of way, as appropriate, at all types of intersections,

roundabouts, changing lanes and merging, using indicators as appropriate, and without aggressive driving behaviour at any time.

7. Demonstrate effective use of observation and anticipation skills whilst conducting a commentary drive in an ambulance in city traffic under any conditions.
8. During an assessed drive in an ambulance, correctly answer questions about driving decisions made related to 360˚ observation, hazard identification, prioritizing hazards, managing risks, and the system of vehicle control.
9. Demonstrate effective commentary driving that reflects driver patience, the system of vehicle control, and actions being taken during a 30 minute drive under any conditions.
10. During assessed drives, demonstrate a consistent consideration for patient care and comfort, by adjusting the vehicle use to suit road and terrain conditions, and stopping safely if requested to by attendants.

Course Title:

(DD09) Defensive Driving, F&RS Emergency Vehicle Driver

Course Aim:

To equip the participants with the knowledge and skill to drive an Emergency Fire appliance safely

Course Objectives

1. Promote and develop a positive attitude towards driving and other road users.
2. Demonstrate high quality emergency driving skills.
3. Demonstrate knowledge of the vehicle's handling characteristics.

Essential DD09 Syllabus components (MUST HAVE topic areas)

1. Driving environments – urban, rural, weather, road surfaces, traffic density & type.
2. Hearts and Minds (Attitude) – (e.g. human behaviours, emotional effects;)
3. Vehicle checks – why, what, how, when, where and by whom. Records.
4. Distractions - Mobile phone, audio, GPS, radio, vehicle passengers, insecure loads, weather effects
5. Creating space / use of speed. – Response elements; braking distances v speed, Recognizing Road Hazard and risk. – Systematic all-round observation (Observation and Anticipation)
6. Fatigue – causes and effects.
7. Seat Belts and seating position.
8. Commentary driving technique.
9. Driving Systems and vehicle control
10. Emergency response driving techniques.
11. Skid control
12. Positioning and cornering

Max. Duration	Max. re-certification interval	Min. delegates	Max. delegates
Forty (40) hours	One (1) year	Three (3)	Twelve (12)

Delivery Language(s)

Arabic , English, Hindi

Course Title	Course Code	Target Population	Type
DD Fire & Rescue Service Emergency Vehicle Driver	DD09	Operator or contractor staff required to drive fire & rescue service vehicles to emergency responses, as part of their work.	Entry

Additional Pre-requisites for DD09 Course

All delegates

(AHAF or AHAR) AHA Heart saver First Aid, CPR & AED & current, valid	2 x Passport sized photos
2 years Operator specific Fire & Rescue Service driving experience	Safety Footwear
Current, valid DD01, DD02 or DD05 permit, endorsed for DD03	Coverall or working clothing
Current, valid ROP issued appropriate driving license	OPAL / PDO HSE Passport

DD09 Assessment Performance criteria (MUST be able to do)

1. Identify and explain the law regarding emergency vehicles, their use of lights and sirens, negotiating controlled and uncontrolled intersections, lane selection and the use of communication devices.
2. Explain correctly in writing the characteristics of fire and rescue response vehicles including seating arrangements for all vehicle occupants, types of vehicle use, and emergency responses.
3. During a 30 minute assessed drive in a light vehicle in a city or large town based urban area, demonstrate during a commentary drive, constant effective use of low risk driving techniques including vehicle and patient sympathy, smooth use of foot operated controls, appropriate speed for road environment conditions, appropriate steering control and use of seat belt, that produces no more than 3 assessed major faults.
4. During assessed drives, consistently demonstrate the effective use of Hearts and Minds in your driving by staying within the law relating to fire and rescue service vehicles, being consistently courteous to other road users, controlling the use of seat belts and driving to prevailing conditions.
5. During an on road driving assessment consistently demonstrate your use of the system of vehicle control to take, use, and give information, react systematically and flexibly to adjust road position,

speed, gears and acceleration in order to safely negotiate a variety of hazards.

6. During an assessed drive, continually demonstrate a positive attitude towards other road users by giving and accepting (assertive) rights of way, as appropriate, at all types of intersections, roundabouts, changing lanes and merging, using indicators as appropriate, and without aggressive driving behaviour at any time.
7. Demonstrate effective use of observation and anticipation skills whilst conducting a commentary drive in a fire and rescue service vehicle in city traffic under any conditions.
8. During an assessed drive in a fire and rescue service vehicle, correctly answer questions about driving decisions made related to 360˚ observation, hazard identification, prioritizing hazards, managing risks, and the system of vehicle control.
9. Demonstrate effective commentary driving that reflects driver patience, the system of vehicle control, and actions being taken during a 30 minute drive under any conditions.
10. During assessed drives, demonstrate high quality emergency vehicle driving techniques with consistent consideration for vehicle crew care and comfort, by adjusting the vehicle use to suit road and terrain conditions, and stopping safely if requested to by the crew commander.

Course Title:
(SJM) Safe Journey Manager Course
Course Aim:
To provide delegates with the knowledge of the Safe Journey Management system and its components, so they are able to effectively fulfill the role of a Safe Journey Manager.
Course Objectives
1. Describe the roles and responsibilities of all persons involved in the process. 2. Explain the correct emergency procedures. 3. Describe the components a of a journey plan.
Essential SJM Assessment components (MUST HAVE topic areas)
1. Definition of SJM 2. Responsibilities of : Authorizing person - Journey Manager - Driver 3. Driver - Emergency Procedures: Incident or Crash – Breakdown - Overdue / Lost Man 4. Weather 5. Journey Plans 6. Convoy procedures 7. Vehicle checklist **8.** Multi-destination journeys

Max. Duration	Max. reassessment interval	Min. Delegates	Max. delegates
Eight (8) hours	Two (2) years	Three (3)	Twelve (12)

Delivery Language(s)
Arabic, English, Hindi

Course Title	Course Code	Target Population	Type
Safe Journey Manager	SJM	Operator and Contractor first line supervisors and/or managers responsible for the operational management of driving activities, and Contractor HSE Advisers.	Entry

Pre-requisites for SJM Course	
(DD01) defensive driving, light vehicles, blacktop	Age 25 or over
Current, valid DD01 permit	Current, valid ROP issued ID or residency card
(CMC) Coaching, Mentoring & Performance	2 x passport size photos
Supervisors – (SLS) Safety leadership for Supervisors	Managers – (SLM) Safety Leadership for Managers
OPAL / PDO HSE Passport	

SJM Assessment Performance criteria (MUST be able to do)
1. Correctly define Safe Journey Management 2. Correctly define which journeys require a formal Safe Journey Management Plan. 3. Detail the responsibilities of all parties involved in the Safe Journey Management system. 4. Explain correctly the emergency procedures associated with Safe Journey Management. 5. List all of the checks that need to be made in a vehicle safety check, and the responsibilities of the SJM in relation to them. 6. Correctly explain the different components of a Safe Journey Plan. 7. Correctly describe convoy procedures, and list the exemptions. 8. Explain multi-destination procedures correctly. 9. Describe how weather conditions may affect a journey, and what actions a SJM would take in becoming aware of changing conditions.

Assessment Title:
(SJMR) Safe Journey Manager scheduled Reassessment
Assessment Aim:
To confirm, using a computer based assessment, delegates have retained the required knowledge of the Safe Journey Management system and its components, so they may continue to effectively fulfill the role of a Safe Journey Manager.
Course Objectives
1. Describe the roles and responsibilities of all persons involved in the process. 2. Explain the correct emergency procedures. 3. Describe the components a of a journey plan.
Essential SJM Assessment components (MUST HAVE topic areas)
1. Definition of SJM 2. Responsibilities of : Authorizing person - Journey Manager - Driver 3. Driver - Emergency Procedures: Incident or Crash – Breakdown - Overdue / Lost Man 4. Weather 5. Journey Plans 6. Convoy procedures 7. Vehicle checklist 8. Multi-destination journeys

Max. Duration	Max. reassessment interval	Min. Delegates	Max. delegates
One (1) hour	Three (3) years	three (3)	Limited by PC access only

Delivery Language(s)
Arabic, English, Hindi

Course Title	Course Code	Target Population	Type
Safe Journey Manager Reassessment	SJMR	Operator and Contractor first line supervisors and/or managers responsible for the operational management of driving activities, and Contractor HSE Advisers.	Entry

Pre-requisites for SJMR Reassessment	
Attended SJM or SJMR within previous 3 years.	Current, valid ROP driving license
OPAL / PDO HSE Passport	2 x passport size photos

SJMR Reassessment Performance criteria (MUST be able to do)
1. Correctly define Safe Journey Management 2. Correctly define which journeys require a formal Safe Journey Management Plan. 3. Detail the responsibilities of all parties involved in the Safe Journey Management system. 4. Explain correctly the emergency procedures associated with Safe Journey Management. 5. List all of the checks that need to be made in a vehicle safety check, and the responsibilities of the SJM in relation to them. 6. Correctly explain the different components of a Safe Journey Plan. 7. Correctly describe convoy procedures, and list the exemptions. 8. Explain multi-destination procedures correctly. 9. Describe how weather conditions may affect a journey, and what actions a SJM would take in becoming aware of changing conditions.

Annex A-3: Driver and Other Road Users Roles and Responsibilities

1 Before starting the engine

Before the driver starts the vehicle he must do the following:

- Ensure he has authorisation for using the vehicle.
- Ensure he is physically and mentally fit to drive the vehicle (had enough rest, he is not sick, under the influence of alcohol, illegal substances, or medications that can reduce his driving abilities).
- Refuse to drive if he is not feeling fit (empowered to stop unsafe act).
- Ensure that he has with him his valid ROP driving license and valid Driving Permit for the type of vehicle he is intending to drive.
- Ensure that the vehicle he is intending to use has a valid ROP registration card (mulkia) and valid RAS inspection certificate,
- Ensure he is equipped with all necessary SHOC and TREM cards according to the vehicle load, if carrying Flammable/Hazardous substances.
- Ensure he is using his own IVMS driver identification key.
- Ensure that he has taken his Journey Plan if the journey he is planning to make is longer than 20 km one way, or unless exempted from the Journey Management procedure. The journeys exempted from the Journey Management Procedure are:
    - journeys within the Muscat Capital Area or within other towns, if more than 95% of the journey is on blacktop road,
    - journeys between a seismic camp and the seismic work-area or the airstrip under radio control,
    - journeys under the radio (or telephone) control of the Local or Corporate Emergency Base Controller,
    - journeys managed under the Convoy Movement Procedure.
- Perform the daily vehicle check using a Daily Vehicle Checklist forms (Annex A-4).
- Report to the Journey Manager any defects found during the daily check, these defects must be reported and documented in writing, including when the defect has been corrected.
- For journeys that are not subject of the formal Safe Journey Management Procedure, the driver must report any defects to the concerned Transport Supervisor. Such defect reports are part of the maintenance record of the vehicle and must be kept, together with details of the remedial action taken, for at least 12 months with the vehicle maintenance records.
- Ensure the load is secured as per the industry standards (for example,SP2001 - PDO HSE Specification for Load Safety and Restraining).
- Ensure that the load extremity is marked with retro-reflective chevron markers and illuminated as necessary at the extremity of the load, if any part of the load extends beyond the width or length of the vehicle.
- Report any problem with the load security to his supervisor.
- Refuse to drive if the vehicle is in such a condition that it is dangerous to use it, or the load is not secured as per the industry standards (for example, SP2001 - PDO HSE Specification for Load Safety and Restraining).
- For driving light vehicle wear suitable sturdy footwear; such footwear must hold behind the heel (no sandals or loose shoes).
- For driving any light or heavy bus, or any heavy vehicle, wear safety shoes and coveralls.
- Remove any loose items from the vehicle cab.

2 After starting the engine but before driving

After starting the engine but before starting to drive, must do the following:

- Ensure the fuel tank is full.
- Check the AC is functioning.

- Ensure the seat is adjusted correctly.
- Adjust all rear-view mirrors correctly.
- For light vehicles, perform a test of the handbrake and footbrake.
- For heavy vehicles, perform a full air brakes daily check, as detailed at Annex A-4.
- If a trailer is to be coupled, the procedure for Coupling shall be followed.
- He may then notify his Journey Manager of staring the journey if he is being journey managed.
- Ensure all vehicle occupants are wearing the seatbelt correctly.

3 While driving

While the vehicle is in motion the drivers must comply with the following:

- Comply with Omani road traffic law.
- Drive defensively as taught in the DD training courses.
- Maintain a safe distance from the vehicle ahead of not less than 3 seconds behind the vehicle ahead, at all speeds, but increasing the separation to 4 seconds or more in all adverse conditions.
- If stopping in a queue of traffic, ensure sufficient distance is kept from the vehicle in front (tyres on tarmac).
- Always be attentive to all other road users.
- Comply with posted speed limits and road signs.
- Drivers shall not engage a cruise control at any time during a journey (if a vehicle is equipped with it)
- Always drive at an appropriate speed for the prevailing road and weather conditions.
- Give way to other vehicles at junctions in accordance with signs and rules.
- Signal / indicate before making any turn or lateral change of position on any road.
- Always hold the steering firmly, to prevent a rollover if a tyre blow-out occurs.
- Stop the vehicle if passengers' actions endanger the vehicle, and inform the Journey Manager.
- Switch on dipped headlights in any bad weather including: fog, sandstorm, or heavy rain.
- If fog, sandstorm, or heavy rain seriously reduces visibility, park in a safe place away from the road and inform the Journey Manager if the journey is journey managed.
- Switch on the headlights and use dip / main beam as appropriate at night time.
- Switch on dipped headlights and rear high intensity lights, when the vehicle enters a graded road.
- Comply with the "Dust Code" below.
- Switch off headlights and rear high intensity lights, when leaving a graded road and entering blacktop.
- Before using a mobile phone, park the vehicle in a safe position away from the road.
- Slow the speed and give pedestrians a wide berth when approaching them, particularly when they are walking on the side of the road.
- Comply with the driving hours and rest periods.
- Stop at places / times defined in the Journey Plan, if journey managed.
- Call the Journey Manager as required by the Journey Plan.
- When approaching each fuel station, check the fuel level.
- Wear sunglasses in bright conditions.
- If feeling fatigued or tired, including micro-sleep, constant yawning, sore eyes, or daydreaming, stop as soon as possible in a safe place off the road and rest.
- Do not smoke or permit a passenger to smoke, in any vehicle at any time,
- Ensure the handbrake is on before exiting the drivers' seat.

The driver must **NOT**:

- Use company vehicles without authorisation.
- Drive any vehicle which does not have a valid RAS sticker.
- Drive unless they are well rested.

- Drive unless they are medically fit.
- Drive if they are under the influence of alcohol.
- Drive if they are under the influence of drugs including prescription drugs which can cause drowsiness.
- Drive unless they have a recognised and valid driving licence.
- Drive unless they have a valid, in-date, defensive driving permit for the specific type of vehicle to be driven.
- Drive unless they have a valid journey plan if a Journey Plan is required for the journey they are to take.
- Drive beyond 20 km range without a Journey Plan.
- Drive along any route not approved in the Journey Plan.
- Drive if they do not know where they are going.
- Take any shortcuts, whether the route is Journey Managed or not.
- Drive their vehicle without ensuring that the vehicle has undergone a daily pre-use check and has been deemed safe to drive.
- Drive their vehicle without ensuring that occupants' seatbelts are fully functional.
- Drive if they believe that the vehicle has a fault which presents a risk to their safety,
- Drive until they have positioned the seat, mirrors, seatbelt, headrest and steering wheel so as to be comfortable and safe whilst driving.
- Drive without having and using their own valid drivers' identification key when driving a vehicle installed with an In Vehicle Monitoring System.
- Drive until it is ensured that all loose items have been removed from the passenger section of the vehicle.
- Drive until they have ensured and have checked that any load is adequately fastened and secure as per the industry standards (for example, SP2001 - PDO HSE Specification for Load Safety and Restraining).
- Drive until they have checked that all occupants, including rear seat passengers have fastened their seatbelts.
- Continue to drive if an occupant removes his seatbelt or behaves in a manner so as to endanger the safety of the vehicle and occupants. The vehicle shall be stopped and parked in a safe place until the occupant wear the seatbelt or refrains from the unsafe actions.
- Tamper or interfere with any safety devices or any part of the vehicle which may cause the safety device to become ineffective.
- Drive along a pipeline right-of-way unless authorised.
- Drive within 4 seconds of the rear of a dust cloud.
- Overtake:
    - through a dust cloud,
    - near a junction,
    - where overtaking is prohibited by posted sign or continuous central line,
    - generally wherever any other hazard warning sign is posted,
    - over a central reserve,
    - at sharp bends,
    - on the top (crest) of a hill,
    - whilst approaching or passing through the dip of a dry wadi,
    - if it would involve exceeding a speed limit,
    - where it will not significantly shorten journey time, e.g. near the end of a journey.
- Eat or drink whilst driving.
- Light or smoke a cigarette whilst driving, and not allow any passenger to smoke at any time in a vehicle.
- Read any material in the vehicle when driving.
- Talk, text, or press any buttons on a GSM phone including "hands-free or voice recognition" units - whilst driving. If it is necessary to make or answer a call, first the vehicle must be parked in a safe location off the road.
- Use handheld computers whilst the vehicle is in motion.
- Drive whilst using music headphones or ear phones whilst driving.

- Drive whilst watching any TV or computer screen. Satellite navigation screens are permitted provided the screen is placed within the drivers' forward view but without obstructing the driver's vision of the road ahead.
- Drive with his leg, or with any passengers' leg on the dashboard.
- Drive whilst the drivers' or passengers' seat is unduly reclined.
- Cross a wadi when the water is flowing over the red marker on the wadi marker.
- Drive in dense fog, sandstorm, or heavy rain, where visibility is seriously reduced.
- Leave the vehicle and walk for help in the case of a breakdown.

4 Driving on Graded Roads

Before entering a graded road, drivers shall ensure the graded road is an authorised and open graded road and that the vehicle's high intensity rear lights and dipped headlights are switched on.

- Graded roads often generate dust clouds when vehicles travel along them. The surface can be variable; in some locations more dust is generated than in other places, but the quantity of dust may also depend on the vehicle, its tyres, its speed, and upon climatic conditions.
- The dust cloud may drift to the right or left, or may continue to hang above the road.
- In many cases overtaking may not be possible for a long time, the driver must be patient, and wait behind until visibility is clear.
- This section doesn't give any advice for overtaking on graded roads; in many situations it is not possible to overtake safely, in some situations it may be best to move off the road, park safely, inform the Journey Manager, and have a break.

5 The "Dust Code"

Following a vehicle travelling the same direction:

- When a vehicle ahead travelling in the same direction is creating a dust cloud that makes it difficult to see the road ahead, drivers shall:
    - slow down,
    - never enter the dust cloud,
    - expect fast oncoming traffic to suddenly emerge through the dust cloud,
    - keep at least 4 seconds from the rear of the dust cloud, far enough back to be able to identify and stop safely if the vehicle in front was to suddenly stop,
    - never overtake in a dust cloud,
    - recognise that the vehicle creating the dust cloud may approach a bend, junction, or other hazard,
    - it may be suitable to move off the road, inform the Journey Manager, and have a break until visibility is clear.

Approaching an oncoming vehicle from the opposite direction:

- When an oncoming vehicle is creating a dust cloud that will blow across the road and make it difficult to see the road ahead, drivers must:
    - slow down,
    - steer off the road, cross over the windrow well before entering the dust cloud, and keep moving slowly along the safety lane if visibility is clear, otherwise stop safely at a reasonable distance from the road,
    - only re-join the road when they can see the road in both directions is clear.
    - slowly drive as close to the road edge as practicable, if it is not possible to leave the road,
    - stop immediately if they cannot see any physical features that may be in front of the vehicle, then switch on the hazard lights.

Following a vehicle travelling the same direction and approaching an oncoming vehicle from the opposite direction:

- When following another vehicle and faced with an approaching vehicle creating a dust cloud that will blow across the road and make it difficult to see the road ahead, drivers:
    - must enter the safety lane and stop; the driver of the vehicle ahead may have become disorientated and stopped, putting you at a risk of a rear end collision in the dust cloud.
    - after stopping switch on your hazard lights and occasionally honk the horn to alert the other drivers of your presence.
    - must only re-join the road when they can see the road in both directions is clear.

6 At stops and rest areas (mid-journey)

At the times defined by the Journey Plan the driver must stop the vehicle, for the defined period and during this time he shall:

- Stop the vehicle in a safe place off the road.
- If you are not in a parking area but off the side of a road, if practical steer around in a loop to park well away from the road but with the front facing directly to the road. This is the “comfort” position.
- Turn off the engine and remove ignition key and drivers’ identification key from the vehicle when the vehicle is unattended,
- Ensure the handbrake is on before exiting the driver’s seat.
- Perform a vehicle check, checking minimum: tyres, lights, oil, water, and fuel.
- Inform the Journey Manager about the road condition if it has presented a hazard for driving, or of some circumstances that are affecting the driving, or the journey (detours, road layout changes etc.).
- Eat, drink water, rest your eyes, do some stretching exercises to reduce the hazard of tiredness and fatigue.
- Call home or friends if needed.
- Call the Journey Manager before continuing the journey.

7 At the end of the Journey

When the driver finishes the journey he/she shall do the following:

- Stop the vehicle off the road, preferably at the designated parking place, or as necessary for loading/unloading.
- If a trailer is to be uncoupled, the procedure for Uncoupling shall be followed.
- Turn off the engine and remove ignition key and drivers’ identification key from the vehicle when the vehicle is unattended,
- Ensure the handbrake is on before exiting the drivers’ seat,
- Attend the Journey Managers’ office, or call the origin Journey Manager by telephone, to close the Journey Plan,
- Inform the Journey Manager about the road condition if it has presented a hazard for driving, or of some circumstances that are affecting the driving, or the journey (detours, road layout changes etc.).
- Clean, or arrange the vehicle to be cleaned if finishing the work for the day,
- Hand over the vehicle ignition key to the designated person, if required.

8 Parking, reversing, & manoeuvring

To reduce reversing collisions, wherever possible every vehicle shall be parked so its first move is forwards.

- Where single-ended bays are marked, the vehicle shall be reversed into the bay.
- Avoid reversing wherever possible by driving into a parking bay and drive out forwards.
- Don't park on a road except in a marked bay.
- Don't park at the side of the road where a yellow line is painted.
- Don't park at the side of the road where the kerb is painted black and yellow.
- You may park at the side of the road where the kerb is painted black and white.
- Don't park near either side of a pedestrian crossing.
- Don't park within 10 metres from a junction.
- Don't park where it may cause danger or inconvenience to others.
- Don't park on a footpath.
- Don't park where there is a sign prohibiting parking.
- Don't park wrongly, not even briefly.
- On a road carrying high speed traffic, park in a safe place, drive as far as reasonable from the road before parking.
- Never reverse along the shoulder of a highway.
- Never reverse at any type of junction.
- Never reverse onto a busy road.
- Always ensure nothing is behind you before reversing, get out to have a look.
- Before reversing, open your window to listen, and sound the horn.
- Before and during reversing, constantly check all 9 areas around your vehicle:
    - Left mirror, right mirror, centre mirror,
    - Left blind spot, right blind spot, directly through rear window,
    - Left side window, right side window, front windscreen.
- If you can't see clearly behind, get someone to help you, but ensure they NEVER stand or walk behind your vehicle; they must stand at the side in a constant view of the driver.
- If you can't see the person helping you to reverse, STOP.
- Whilst reversing, always reverse slowly.
- Be aware of others who may reverse towards you without looking properly.
- Never walk behind a vehicle which is reversing, or which has its white reversing lights illuminated, or its reversing alarm is sounding.
- After parking, always check your mirrors before opening a door to avoid conflict with someone who may be moving alongside.
- If your vehicle breaks down, if possible keep it moving off the side of the road but keep it parallel to the road facing the direction of travel or turn it only a few degrees away from the road. Follow the vehicle Breakdown and Recovery Procedure.
- Turn off the engine and remove ignition key and drivers' identification key from the vehicle when the vehicle is unattended.
- Always ensure the parking brake is properly applied before exiting the driver's seat.

9 In case of a Motor Vehicle Incident (MVI)

Motor Vehicle Incidents (MVIs) are stressful events and the driver involved in an MVI, if possible, shall do the following:

- Immediately stop the vehicle in a safe place outside the road; and
- Call and inform Emergency Team about the incident.

	PDO	BP	OXY	ORPIC	CCED	OOCEP	ARA	Oman LNG	ROP
Tel. No	5555 / 2467-5555								9999

- Be prepared to provide to an Emergency Telephone Operator (ETO) your name & designation, location of the incident, what type of the incident / MVI, your contact number and whether medical or fire response teams are required.
- Expect a follow up call from the Local Emergency Base Controller and try to collect additional information regarding the incident that may help the emergency team to plan adequate response:
    - How many vehicles are involved in an MVI?
    - If there are injured persons, how many?
    - Are any of these trapped in the vehicle?
    - Is there a fire, or risk of fire?
    - Are any vehicles carrying any hazardous load and if yes, what is the HazChem code number on the hazardous load?
    - Is the hazardous load leaking?
- If fitted with GPRS IVMS, press the emergency button to seek assistance.
- Place the hazard warning triangle 100 meters before the incident location, or use any other means to warn other road users about the incident.
- Avoid using heavy and big stones that may involve approaching vehicles in serious incidents.
- Move off the road wherever possible.
- In the case where you encounter a previous incident where an injured person is lying in the road, or similar, park your vehicle in the best position for maximum visibility by approaching traffic, to provide a safe barrier to the injured person(s), using all lights and hazard lights.
- Immediately provide First Aid assistance as best as you can, provided you are formally trained as a first aider; try to calm and stabilise the injured people.
- Call and inform the Journey Manager or supervisor about the incident; and
    - remain on-site until the emergency services arrive,
    - if you were involved in the collision, or actually witnessed the collision occurring, give a statement to ROP to assist with their procedures,
    - comply with the requests and instructions given by the ROP or an Operator representative on site.
- In the case of a single-vehicle incident, e.g. a single-vehicle roll-over, where there is no other passing traffic, no-one to assist, and no mobile phone signal, the driver and all occupants MUST remain with the vehicle until help arrives. Walking away from the vehicle is prohibited because it will endanger those persons and make it difficult to find them.

10 Vehicle breakdown and recovery

- If possible, keep the vehicle moving to a safe place off the road.
- If fitted with GPRS IVMS, press the emergency button to seek assistance.
- Always contact the Journey Manager if your vehicle has become stuck or immobilised to inform him of the situation and request help as necessary.
- Inform the Journey Manager or senior management if providing assistance to other parties on the road.
- If a vehicle suffers a puncture, the driver shall inform the Journey Manager, and only attempt to change the wheel:
    - after parking in a safe and suitable place as far as reasonable from the road on a firm level surface,
    - after all occupants don their high-visibility vest, exit the vehicle, and move a long distance from the road,
    - if all the necessary equipment is available and functioning,
    - if the driver or others are physically able.
- If a vehicle suffers an engine failure or other mechanical problem, if possible try to keep the vehicle moving to a safe place off the road, then inform the Journey Manager:
    - ensure all occupants don their high-visibility vest, exit the vehicle, and move a long distance from the road,

    - all occupants must remain in the location of the vehicle; it is forbidden for anyone to walk for help,
    - if you are able to fix the problem, or if a passing vehicle provides assistance and the problem is fixed, inform the Journey Manager.
- If a vehicle becomes stuck in soft ground, the driver shall inform the Journey Manager, and only attempt to extract the vehicle:
    - if he has the required equipment, i.e. jack spreader-board, sand-boards and spade,
    - if he has sufficient water, because such work can lead to dehydration,
    - the best option usually is to be seek assistance from another vehicle to enable the vehicle to be towed out from the direction it entered the soft ground.
- Inform the Journey Manager when the vehicle is back on the road again,
- In all cases of puncture, breakdown, or becoming stuck, etc, the driver and all occupants MUST remain with the vehicle until help arrives. Walking away from the vehicle will endanger those persons and make it difficult to find them.

11 Towing

Uncoupling and coupling a semitrailer:

Note: both uncoupling and coupling of a semitrailer are “1-man” operations, i.e. the driver alone shall complete all tasks in sequence, and no other persons shall be nearby, or behind, between, or on the prime mover and/or trailer. If the driver sees any person close to the prime mover or trailer he must stop until the person has moved to a safe place.

Semitrailer Uncoupling Procedure:

- Choose a legal, safe, level, firm, location.
- Apply the prime mover unit parking brake on.
- Place a pair of chocks at front and behind a trailer wheel.
- Apply the trailer brake fully on.
- Lower the landing legs (use wood supports if necessary).
- Stow the winding handle.
- Turn off any taps fitted to the air lines.
- Disconnect the air lines, and stow the lines safely.
- Disconnect the electric line and stow safely.
- Disconnect any ‘dog-clip’ securing the kingpin release handle.
- Release the kingpin coupling locking bar.
- Drive the prime mover unit slowly forward, observe (via mirrors) the trailer landing.
- Take any anti-theft precautions, e.g. kingpin lock etc.
- Remove the light lenses and bulbs if theft is possible.

Semitrailer Coupling Procedure:

- Ensure you have all correct & valid documents for the prime mover unit, trailer, and load.
- Check the trailer load is properly secured as per the industry standards (for example, SP2001 - PDO HSE Specification for Load Safety and Restraining).
- Ensure trailer wheels are securely chocked.
- Ensure the trailer parking brake is fully on.
- Ensure the kingpin and turntable are both clean with sufficient grease.
- Reverse towards the trailer and check turntable height is correct.

- Reverse slowly under the trailer until the coupling engages.
- Select first gear and tug forward TWICE to test and confirm the locking mechanism.
- Apply the prime mover unit parking brake on.
- Apply the ‘dog clip’ or safety catch.
- Connect the air lines.
- Open any taps fitted to the air lines.
- Connect the electric cable.
- Raise the landing legs.
- Stow the winding handle.
- Release the trailer parking brake off.
- Start the engine, check air pressure is rising in the tanks.
- Function check all lights and indicators are operating correctly.
- Perform a full air brakes check.
- Remove the trailer wheel chocks.

Heavy drawbar trailers

Note: for heavy drawbar trailers, the main sequences for uncoupling and coupling both types are similar to above, but some details vary depending upon drawbar height and support, latching mechanism, and “Suzie” connections.

If a person is deployed to guide the driver by arm signals for coupling, he MUST stand at the side of the truck where he is visible in the driver’s mirror.

Light vehicle towing a drawbar trailer:

- Towing must only be conducted where both vehicle and trailer are coupled with matching towing apparatus, e.g. a “Rockinger” coupling, or “Pintle” hook, etc., both must be designed and approved by the respective manufacturer.
- The use of “D” shackles to tow any equipment is prohibited.
- Must only be conducted after reference is made to the manufacturers’ handbook to confirm the trailer does not exceed the maximum towing weight for the vehicle, and recommendations for towing.
- The weight of the trailer shall not exceed the weight of the towing vehicle.
- If a person is deployed to guide the driver by arm signals for coupling, he MUST stand at the side of the vehicle where he is visible in the drivers’ mirror, i.e. NEVER stand between vehicle and trailer.
- Any towed equipment equipment must be fitted with position lights, direction indicators, brake lights, and reversing lights, powered via 7-pin automotive plug / socket, powered by the towing vehicle; such trailer lights can be mounted on a temporary lighting board which is transferable between towed equipment.
- Any trailer greater than 750 kg gross weight must have a braking system that operates automatically, or, can be operated by the driver of the towing vehicle, and must have an independent parking brake.
- Speed is restricted to a maximum 50 km/h.
- Towing is confined to “in-field” journeys only.
- If 5 or more vehicles are queued behind the towing vehicle, or when a vehicle has been following the towing vehicle for more than 10 minutes the towing vehicle shall move off the road to let the traffic behind to pass, but only when it is safe to do so. This does not apply to rig moving convoys.

Vehicle towing a disabled motor vehicle:

- Towing of a loaded vehicle is permitted only until such place where the load can be unloaded and transferred to another vehicle.
- It is not permitted to tow the vehicle on a government dual carriageway, except for removing the towed vehicle off the dual carriageway to the first off-ramp.
- It is not permitted to tow a motorcycle.

- It is not permitted to tow a vehicle which has a higher kerb weight than the towing vehicle, except for purpose-built breakdown recovery trucks.
- While towing, hazard lights of towing vehicle may be turned on, as well as on the vehicle being towed if they are working.
- When approaching a junction and turning, the hazard lights must be switched off and the direction indicators used instead, so other drivers can understand where the vehicles are going.
- Towing can be done by nylon rope, webbing, steel chain, or rigid tow bar. Steel rope shall not be used because it can cause damage.
- If the towed vehicle doesn't have fully functioning brakes, the towing must only be done by tow bar.
- If towed by rope, webbing, or chain, the distance between the towing and the towed vehicle must be longer than 3 meters, but not longer than 5 meters.
- If towed by a tow bar the distance between towing and the towed vehicle must not be longer than 5 meters.
- The maximum speed permitted for the vehicle while towing is 50 km/h.
- If a queue of 5 or more vehicles accumulates behind, the towing & towed vehicles shall move off the road briefly to let the others overtake.

12 Use of additional fuel containers (Jerry cans)

Jerry cans or any other types of fuel containers are not permitted.

13 Passengers

This section shall apply to passengers in any vehicle, including in any light vehicle, any bus, a helper in a heavy vehicle, and includes any co-driver whilst he is travelling as a passenger.

Passengers shall:

- Be correctly seated before the vehicle starts to move.
- Correctly wear their seatbelt whilst the vehicle is in motion.
- Remain in a reasonably upright position in their seat throughout the entire journey.
- Keep their feet on the floor at all times whilst the vehicle is in motion.
- Not distract the driver from his concentration on the road.
- Not behave as to endanger the safety of the vehicle or its occupants.
- Alert the driver when he is driving unsafely and request that the situation be remedied immediately.
- Report other passengers not wearing seatbelts or horse-playing on a bus.
- Not smoke at any time in any vehicle.

14 Pedestrians

Pedestrians must:

- Always walk on a designated pedestrian walkway where available.
- If it is necessary to walk along the side of a road:
    - always walk so as to face the oncoming traffic,
    - always walk in single file when walking on a road,
    - step off the road when a vehicle is approaching on the same side of the road,
    - wear high visibility clothing or material when walking along a road at night,
- Look in both directions at least twice each way, before crossing a road.
- Never cross the road when vehicles are approaching.
- Never stand in the road.
- Always use pedestrian crossing to cross the road.

- Never walk along a roadside when using a mobile phone; stand in a safe place away from where vehicles may move.
- Never walk behind a vehicle which is reversing, or which has its white reversing lights illuminated, or its reversing alarm is sounding.

Annex A-4: Specifications for speed limiters

1 General Requirements

1.1 "Speed limiter" means a device which primary function is to limit the maximum speed of a vehicle at the set speed.

1.2 "Set speed" is the intended mean vehicle speed when operating in a stabilized condition. This set speed shall not be greater than any speed limit set out in the law for that class of vehicle.

1.3 An approved speed limiter shall be:

- calibrated and maintained in a good working order; and
- capable to limit the speed at the set speed as stipulated by the Operator.

1.4 An information plate shall be attached adjacent to the speed limiter device. The plate shall be clearly and correctly marked with the:

- Maximum speed settings;
- Manufacturer and model of the speed limiter; and

1.5 The maximum speed limit settings shall also be clearly painted at the back of each vehicle.

2 Technical Requirements of an approved speed limiter

2.1 The speed limiter shall be so constructed that the vehicle may not be accelerated by the operation of the acceleration devices, such as the accelerator pedal, when the vehicle is running at its set speed. Normal accelerator control for the purposes of gear changing is allowed.

2.2 The set speed must not, in any case, be capable of being increased or removed temporarily or permanently on the vehicle which the speed limiter is fitted.

2.3 The speed limiter shall not actuate the service braking system of a vehicle. A permanent brake (eg. retarder) may be actuated only if it operates after the speed limitation device has restricted the fuel feed to the minimum fuel position.

2.4 No malfunction or unauthorized interference shall result in an increase in engine power above the demanded by the position of the driver's accelerator. The malfunction of the speed limiter will not affect the normal vehicular performance.

2.5 The input speed signal shall be obtained from speedometer vehicle speed signal or a converted speed signal from vehicle gearbox or from other separately installed sensor as deemed appropriate.

2.6 The speed limiter shall operate satisfactorily in its electromagnetic environment without unacceptable electromagnetic disturbance for anything in this environment. The manufacturer or supplier shall provide certificate or test report or written documentation to demonstrate the speed limiter complies to any international standards on electromagnetic compatibility (EMC), such as UN/ECE Regulation 10, 72/245/EEC, 95/54/EC or equivalent standards with requirements not lower than those specified above.

2.7 The speed limiter shall be of industrial grade and designed for automotive application and aligned with operator geofencing parameters.

2.8 The performance of the speed limiter shall conform to:

2.8.1 ECE Regulation 89 made by the Economic Commission for Europe dated 31st March 1993 (E/ECE/324-E/ECE/TRANS/505/Rev.1/Add.88) including all revisions with regard to speed limitation device made before the date this paragraph comes into operation; or

2.8.2 Council Directive 92/24/EEC of 31st March 1992 made by the Council of the European Communities including all revisions relating to speed limitation devices or similar speed limitation on-board systems of motor vehicles made before the date this paragraph comes into operation; or

2.8.3 Directive 2004/11/EC of the European Parliament and of the Council including all revisions relating to speed limitation devices or similar speed limitation on-board systems of motor vehicles made before the date this paragraph comes into operation; or

2.8.4 Any other specifications and standards which are demonstrated to OPAL / Operator to be substantially the same as or more stringent than the standards specified in paragraphs 2.8.1 to 2.8.3.

3 Anti-tampering Requirements

3.1 The speed limiter and the connections necessary for its operation, except those essential for the running of the vehicle, shall be capable of being protected from any unauthorized adjustments that will hamper the function of the speed limiter, by means of the attachment of seals and /or the need to use special tools.

3.2 For the purpose of anti-tampering of the setting of the “set speed” of a speed limiter, the connection points on a speed limiter for adjustment of “set speed” shall be properly sealed and protected from unauthorized adjustment.

3.3 The supplier shall ensure there is a methodology of anti-tampering sealing.

3.4 The Operator shall arrange anti-tampering sealing for their speed limiters at the RAS Inspection Workshops within reasonable working days, right after a speed limiter has been newly installed, or with the controller calibrated, repair or replaced which the seal was damaged or removed.

4 Conformity Requirements

4.1 Speed limiters of the same model shall exhibit the same characteristics regarding design, construction and performance.

4.2 The manufacturer or supplier shall inform Clients of any updates or recall actions necessary for maintaining or improving the performance of the speed limiter.

4.3 If at any time the device is found possibly to be tampered without the rupture of the anti-tampering seals, the speed limiter supplier shall propose a new methodology to pinpoint any loophole and carry out the remedial work as required by OPAL / Operator.

4.4 Operator will inspect the proper operation of the speed limiter and the validity of the sealing, whenever necessary, and as a minimum during annual RAS inspection.

Annex A-5 PDO Night Driving Procedure

1 General Requirements

There is a significantly increased risk associated with night driving, with decreased vision and increased tiredness resulting in more frequent collisions with camels, other animals, unlit obstacles and other road users. Rollover Motor Vehicle Incidents (MVIs), MVIs at junctions and vehicles drifting off the road are also more prevalent due to poor visibility and tiredness of drivers, including falling asleep at the wheel. Operators and Companies must therefore reduce the night driving risk to a level that is as low as reasonably practicable (ALARP).

A formal plan is required to prove that night driving has been minimised and controls introduced to achieve ALARP risk levels. Management of night driving is a line responsibility.

Company / Contractor shall ensure that the below minimum control measures form part of their night driving policy and procedures:

- 24/7 Journey Management System with the IVMS access for the real time monitoring (dedicated night shift JM).
- Dedicated night shift drivers, trained and well rested.
- At least 2 vehicles as a convoy for recovery in case of an Emergency or breakdown
- Tool box talks and review of the IVMS records.
- Route hazards survey and regular hazards log update to the JM/ drivers.
- Monthly report of night driving operations to the Contract Holder with IVMS/DMS records (part of the regular IVMS performance review i.e. number of journeys/ vehicles involved in night driving operations for the month, driver performance and KM driven, work schedule, etc.)

Work must be planned to avoid the need for night driving, including circumstances where operations take place during the night. Supervisors responsible for such operations must plan so that they do not require night driving by support functions or service providers.
Company and Contractor personnel are prohibited from driving on blacktop, graded or off road, outside the Muscat Capital or other Urban Areas during the hours of darkness unless permitted by this Procedure. Commuting at night to/from domicile or allocated hubs is prohibited.

Where driving in the hours of darkness is deemed necessary, as per the exceptions below, where ever practical no driving is allowed between the high risk fatigue hours of 2am and 6am.

2 Exceptions

- **Pre-scheduled Cargo Haulage**

Pre-scheduled Cargo haulage using HGV is allowed during the night.

- **Emergency Operational Reasons**

Night driving for operational purposes may be considered within the broad activities listed in Table below.

Table - Night Driving for Operational Purposes: Activities and PDO Authority Levels

Activity group	Activity	Authority
Production operations	1. Response to oil deferment	Discipline Coordinator
	2. Response to other outage cost	Discipline Coordinator
	3. 24 hr commissioning	Discipline Coordinator
	4. Unplanned/Unavoidable	Department head
Well Engineering Operations	1. Response to outage cost	Drilling supervisor
	2. Unplanned/Unavoidable	Drilling supervisor
Construction and Commissioning	1. 24 hr commissioning	Department Head
	2. Support of approved 24 hr construction and pre-fabrication work	Department head
	3. Radiography	Department Head
	4. Unplanned/unavoidable	Department head
Exploration Seismic and Topographical Operations	1. Survey crew, between camp and survey area.	Head Geophysical Operations
	2. Authorised seismic activities	Head Topographical Operations
	3. Unplanned/unavoidable	Head Topographical Operations
Support and Others	1. Authorised in support of activities listed above	Department Head
	2. Unplanned/unavoidable	Department Head

3 Safety Versus Cost

Safety versus cost is the governing criterion to determine approval of night driving for operational purposes. Night driving must only be authorised if, all circumstances considered, the increased risk is considered justifiable and manageable with respect to the potential financial loss, as follows:

- Night driving to attend actual or potential production outage should not be authorised if the accumulated oil deferment will be less than 150 m3 net. If the expected deferment exceeds this level or the level of deferment cannot be appropriately assessed, then night driving may be authorised.

- Night driving to avoid costs resulting from unplanned operational circumstances should not be authorised if these costs are less than $15,000. If the costs exceed this level, or the costs cannot be appropriately assessed then night driving may be authorised.

Any planned operation, once-off or routine, potentially requiring night driving must be assessed by the executing department for consistency with this Procedure.
Night driving for any planned operations not listed in the Table above requires the prior approval of the relevant Asset Manager.

3.1 Between Work Site and Camp Site

Night driving is allowed between work site and camp provided they are not more than 5km apart. Where there are working locations with 24 hour operations (e.g. drilling rigs, hoists, well test units) night driving is allowed between the work site and camp site provided the distance is not more than 30km.

3.2 Between Company and Contractor Camps

Night driving is allowed between Company and Contractor camps in the same locality if these are not more than 5 km apart.

3.3 Emergency Purposes

Night driving associated with declared emergency situations must be managed within the framework of PDO Emergency Procedures. Authorisation must be by the Local Emergency Base Controller (LEBC), the Duty Director or the Line Manager, as appropriate, and at their entire discretion.

3.4 Transport of a Deceased Person

Transport of a deceased person during the night is not usually allowed. If the family insists, the LEBC will decide. Transport of a deceased person during the night must be in a convoy of at least two vehicles, or with a police escort.

3.5 Well Services Hoist Moves

Well Services Hoist Moves in convoy are allowed for distances up to 60km. The convoy procedures apply.

3.6 Rig moves

Rig moves as organised and authorised by the Company Logistics Department and following PDO Rig Night Move Standards.

3.7 Seismic operations

Seismic operations as organised and authorised by the Company Exploration Department and following Seismic Night Operational Standards.

At PDO, for any other reasons the night time driving must be previously approved by:

- LEBC for emergency purposes and transport of a deceased person
- Department Head/Discipline Coordinator for PDO staff,
- Contractor Senior Manager formally approved by PDO Contract Holder for respective Contractor staff only.

The list of the people who are authorised to approve night driving must be printed and placed on a notice board and at the Journey Manager office, together with their contact details.

4 Speed Limits for Driving at Night

Speed limits for driving at night within the Concession Area are 80kph on blacktop roads and 50 kph on graded roads.

5 Safe Journey Management for Night Driving

A 24/7 Journey Management System with the IVMS access for the real time monitoring will apply for all approved night journeys through an approved dedicated night shift Journey Manager.

6 Night Driving Authorisation Form

Place of Departure:	Expected date/time of departure:
Destination/itinerary:	Expected date/time of arrival:

Vehicle Type	Number	Names of driver and passengers in vehicle

Approval for the above Night driving journey is requested for the following purpose:

Requesting party

Name:

Reference indicator:

I authorise the above journey as consistent with PDO road specification for Night driving for the following reasons(s). The journey (* delete as applicable):

- ***** Is required for the management of safety
- ***** Will avert the deferral of >150 m3 of oil
- ***** Will avoid an additional expense of > $ 15,000
- ***** Supports a 24 hour commissioning program
- ***** Is an unplanned and unavoidable requirement.

Authorising party

Name:

Reference indicator:

Signature:

Distribution: Original to be returned to requesting party
Copy to be retained by authorising party

Annex A-6: Fatigue Management and Ramadan Driving

Fatigue management should incorporate the following activities:

- A positive working environment (culture) where the drivers/employees are encouraged to report tiredness.
- Provision of suitable drivers' rest area.
- Monitoring of driving/working/rest hours.
- "Buddy System".

A positive working environment can be achieved by raising awareness, campaigns and tool box talks.

Monitoring of driving and rest hours is normally achieved by the shift control and /or following a journey management plan or utilising the IVMS for Operator and Contractor drivers.

The provision of drivers' rest area plays an important role, especially in cases where fitness-to-work is identified as an issue, for example if the driver feels tired, reports tiredness or fails the pre-journey assessment. Rest areas should be identified / introduced for all long-haul journeys, taking into consideration the maximum driving time of four hours when the driver must stop and rest.

Existing rest areas (e.g. petrol stations, restaurants along the route) can be utilised. These rest areas should be operational and staffed with provision for parking, vehicle inspection, driver checks and rest if needed.

The "Buddy System" is a safety assurance process where someone from the passengers in the vehicle supports the driver by ensuring he is awake, alerted and concentrated on driving activity.

The "Buddy System" is considered to be an additional barrier for driver fatigue management and prevention of potential consequences that may result in MVI. By monitoring of driver's performance and behavior, a dedicated passenger - "Buddy" is playing an active role in a journey safety assurance process.

The "Buddy System" may involve anyone; however there might be a preference based on the actual journey. The preference should be given to the experienced driver who is familiar with the potential route and hazards associated with the particular journeys. It is important that the co-driver is able to recognize the fatigue related warning signs. The "Buddy" must intervene when the fatigue warning signs are obvious and driver is:

- showing difficulty in focusing and frequent blinking
- missing exits or traffic signs
- yawning repeatedly or rubbing eyes
- not able to keep his head up constantly
- drifting from the lane, tailgating, or hitting a shoulder rumble strip
- showing signs of restlessness and irritation

The "Buddy System" should be used at all times if practical. It is required for all journeys beyond 20 kilometres when carrying additional passengers. The most critical period to apply "Buddy-System" is the Holy Month of Ramadan, when most of the drivers are fasting. Based on the effects of fasting and repeatedly disturbance of sleeping pattern, there is a preference that a "Buddy-System" consider a non-Muslim, whenever possible.

Managing Ramadhan driving

- Duty hours during the Holy Month of Ramadhan for drivers who are fasting must be restricted to 8 hours a day. Instances where this is not practical for operational reasons must be clearly justified, a risk assessment conducted and additional controls implemented to ensure the risk is minimised.
- Within the potential risk assessment controls, the use of a second driver for journeys which may exceed 8 hours must be considered.
- Journey Plans and logistics operations must clearly take into account the restrictions caused by the reduced working hours during Ramadhan.
- Management must ensure that all fasting drivers in Ramadhan are sufficiently rested.
- Drivers who have not slept at least 8 hours in the previous 24 hours must not be permitted to drive.
- Arrival at a destination must be before the moment of sunset.
- Fasting drivers must be clearly reminded by the Journey Manager that they are permitted to take additional rest breaks if they feel drowsy.
- It is advisable to have a “Buddy System” during the Holy Month of Ramadhan as a best practise to ensure the driver is alert while managing his journey.

Annex B-0: Vehicle types and correct names

Purpose

This Annex describes the major vehicle categories and some sub-types that are found generally in Oman. This is to avoid confusion when describing or naming various vehicles. This Annex doesn't attempt to include every sub-type, only the most common.

In some cases, similar vehicles are known by different names in different parts of the world; for clarity this document uses the correct English name to identify each type.

Vehicle type		
cycle	bicycle 	motorcycle 
saloon (sedan) (2 or 4 doors) boot opens but rear window is fixed		
hatchback (3 or 5 doors) rear window opens with the boot lid		
coupé (2 doors) (pronounced 'koo-PAY')		
estate (5 doors) rear window is almost vertical		
SUV sport utility vehicle (various configurations of rear door(s))		

MPV multi-purpose vehicle (<8 seats)		
minibus (light bus) (<16 seats)		
light bus (8<25 seats)		
heavy bus coach (≥26 seats)		
pickup single cab		
pickup crew cab		
pickup 1. dropside pickup 2. flatbed pickup		
light truck (kerb weight <4,000 kg) 1. single cab 2. crew cab		

panel van body made by the vehicle manufacturer (no side windows behind the driver)		
box van body made separately		
heavy truck **rigid** (kerb weight >4000 kg)		
heavy truck **rigid** with self-loading **HIAB** crane		
heavy truck **rigid tipper**		
heavy truck **rigid tanker** (including cement / concrete mixer)		
tractive unit (prime mover)		

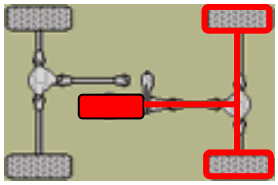
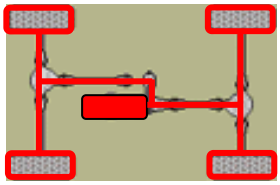
oilfield winch-truck prime mover (with trailer winch, tail roller, & cab protection)	
flatbed semitrailer (for cargo not equipment) (bed height approx 1.5 m)	
low-bed semitrailer (for equipment not cargo) (bed height approx 0.5 m)	
oilfield semitrailer (with tail roller, without headboard)	
tipper semitrailer	 
tanker semitrailer (for various liquids)	
bulk tanker semitrailer (banana trailer) (for dry cement powder, etc.)	 

full trailer (drawbar trailer) (axles at each end, with steering)		
close-coupled trailer (drawbar trailer) (axles in the centre, no steering)		
articulated vehicle (rigid truck & full trailer)		
articulated vehicle (rigid truck & close-coupled trailer)		
articulated vehicle (tractive unit & semitrailer)		
Emergency vehicles		
ambulance		
fire & rescue		
ROP Royal Oman Police		
Special vehicles		

concrete pump	
wireline trailer	
drilling rig	
mobile crane	
rough terrain mobile crane (only 4 wheels, off-road tyres)	
crawler crane tracklaying crane	

mobile elevating work platform **MEWP** (vehicle mounted)				
mobile elevating work platform **MEWP** (self-powered)	 **scissor**	 **knuckle boom**	 **telescopic**	 **mast**
side-boom (pipe-line crane)				
forklift				
telescopic handler (tele-handler) (may be fitted with forks or various tools)				
tool carrier (may be fitted with forks or various tools)				
loader				

backhoe loader (JCB)		
skid-steer loader (or may be fitted with a variety of tools)		
excavator (tracklaying) (or may be fitted with a variety of tools)		
dozer **bulldozer** (tracklaying)		
grader		
roller 1. pedestrian 2. tandem 3. tricycle	 	
roller 1. pneumatic 2. vibratory		

asphalt planer (on wheels or tracklaying)		
paver (on wheels or tracklaying)		
tracklaying (caterpillar track)		
4x2 = 2wd (2 wheel drive) (engine power connected to only 2 wheels)		
4x4 = 4wd (4 wheel drive) (engine power connected to all 4 wheels)		

Annex B-1: Roadworthiness Assurance Standard

1 Purpose

The Standard provides minimum requirements to inspecting companies (RAS approved companies). The vehicle user is responsible for its roadworthiness. The vehicle itself may belong to the user, or be in the user's possession under agreement for hire, loan, or lease. The requirements of this standard are mandatory.

2 Standards

2.1 Accountability

Any workshop management gaining OPAL's approval to run RAS certification will be deemed legally bound and accountable in case of any discrepancies or fraud related to issuing RAS stickers without adhering to all requirements mentioned in this section.

Workshops will be monitored on a regular basis via random spot checks and inspections by OPAL or on behalf of OPAL without prior notice as well as annual auditing. Such audits might include financial audits related to the number of RAS stickers issued vs. financial income.

Penalties will be applied where a RAS sticker is issued without a proper inspection and certification process. Such penalties will be based on the HSE penalty matrix related to HSE defaults.

2.2 Roadworthiness Assurance Standards (RAS) Inspection Scheme

The RAS Inspection scheme must ensure that all vehicles engaged in Operator/Company related operations comply with the requirements of the latest version of OPAL Road Safety Standard.

2.3 Exceptions

- Any vehicle not subject to OPAL Road Safety Standard is not included within this RAS Inspection and Certification Scheme.

3 Vehicle Inspections

As a pre-requisite before any vehicle can be RAS inspected, and re-inspected at annual intervals, the vehicle maintenance must be carried out in compliance with the vehicle manufacturers' recommended specifications and standards, i.e. it must be serviced in accordance with the manufacturers stated specifications and intervals.

Maintenance must be carried out or directly supervised by trained and qualified vehicle mechanics.

3.1 RAS Vehicle Inspection

This will be performed by a RAS approved company in the following cases:

- Prior to the vehicle commencing work with any Operator, this includes a vehicle which is brand new to confirm it is complete with all necessary safety equipment to meet OPAL Road Safety Standard,
- Annual renewal inspection.

4 RAS Approved Companies

RAS approved companies are those contractors and vehicle dealers who fully comply with RAS registration and maintenance criteria.

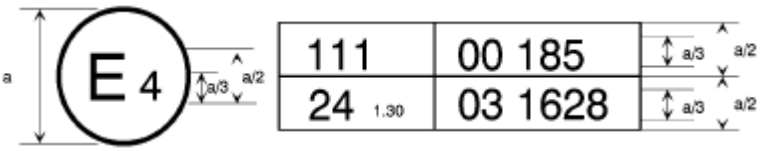
The following criteria are prerequisites for approval as a RAS approved company:

- Satisfactory inspection and maintenance facilities for keeping vehicles in a fit and serviceable condition,
- Ownership and operation of a vehicle or equipment inspection facility,
- Employment of not less than 2 competent inspectors of vehicles and/or mobile equipment, each RAS inspector:
- Must be a qualified mechanic,
- Must have minimum of four years' experience as a mechanic,
- Should hold a recognised Diploma in automotive engineering,
- Must be able to read English checklists, and write reports in English language,
- Must pass the written test of knowledge of OPAL Road Safety Standard conducted by the OPAL's appointed representative. Note: the initial test is free of charge, but any follow-up after a failure will incur a charge.
- Auditable inspection and maintenance record keeping.

5 Tankers Stability

The tanker vehicle shall be deemed approved if having the approval mark, as shown on the diagrams bellow:

Or



The calculation steps are derived from the:

> "UN Agreement Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts Which Can Be Fitted and/or Be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of These Prescriptions".

The calculation process from this agreement is presented in this document.

Approval to carry out RAS Inspections is for a period of twelve months, renewable after satisfactory re-assessment by the Company.
Renewal is in writing by the OPAL's appointed representative.

Approval may be immediately suspended or withdrawn permanently if inspections, audits or investigations show that the RAS approved company is conducting substandard RAS inspections demonstrated by non-compliant vehicles being issued RAS stickers, or performing RAS inspection by unapproved RAS inspectors.

In the case of a RAS workshop requiring an additional audit after correction of any deficiency, the company owning RAS inspection workshop may be charged for the additional audit.

Authorisation to carry out RAS Inspections will be facility specific, will name the approved Inspectors, and the types of vehicle and mobile equipment that the RAS Approved company is authorised to inspect.

RAS Approved companies must submit to OPAL a legally endorsed letter holding them fully and legally accountable in case of any shortfalls in their RAS process.

The maximum amount that can be charged to conduct a RAS inspection for each type of vehicle is subject to annual review and can be obtained from OPAL.

6 Random Checks of Maintenance Facilities/Systems

The OPAL's appointed representatives will also conduct random audits on workshops to ensure maintenance of standards and identify any deficiencies. Operator/Company representatives may request further inspections and audits of vehicle maintenance systems and facilities.

7 Certification Validity

Hazardous chemical licence, and pressure vessel or vacuum tanker inspection certificates, must be valid at the time of RAS Inspection.

Reference shall be made to the relevant company vehicle specification and the manufacturer's recommended tolerances to ensure that each item addressed in the checklist is inspected properly.

8 Workshop Facilities Inspection

Workshops that desire to be approved as RAS inspection workshops for the first time must send their requests for the audit to OPAL / appointed representative.

Workshop maintenance facilities must at all times comply with the following:

- Have a roof over a suitable floor surface, and sized appropriate to the size and nature of the fleet to be maintained,
- Trailer maintenance - by virtue of the trailers' size - may take place partially outside the confines of a workshop roof, providing the entire trailer is within the secure perimeter of the property boundary.
- Have appropriate vehicle access pits, vehicle ramps, and/or vehicle hoists / lifts,
- Each vehicle hoist / lift, engine hoist, and any other lifting equipment (excluding jacks and axle stands) must be identified by inventory number, and periodically inspected & tested and externally certified in accordance with relevant procedures on Lifting and Hoisting Inspection, Testing and Certification,
- Each jack, axle-stand, and any other equipment used for lifting or supporting a significant weight, must be identified by inventory number, and periodically inspected by the workshop supervisor and a record maintained,
- Possess all necessary tools and equipment appropriate to the size and type of the fleet to be maintained,
- Each tool powered by electric / air / hydraulic must be identified by inventory number, and periodically inspected by the workshop supervisor and a record maintained,
- Provide a safe working environment with hazards identified and managed appropriately,
- The workshop may be approved by the OPAL / appointed representative based upon the results of the initial, annual, and periodic audit carried out. The audit includes:
- Auditing the workshop compliance regarding the facilities, tools and equipment,
- Auditing the workshop compliance regarding the staff experience, training, literacy, and competence,

- Auditing the workshop administration procedures and documentation.

9 Inspection Reports – Procedure

- Each RAS inspection report must be written in English language in ink.
- All defects must be highlighted by the inspector on the inspection report. A vehicle with a defect will fail the inspection until remedial work has been completed, and has satisfactorily been re-inspected.
- For each vehicle having any defect noted on a Checklist (Part 1, forms included in this Annex), the defects must be transferred to the Defect Information form (Part 2, form included in this Annex).
    - After all defects have been corrected, the Defect form can be signed off by the vehicle inspector.
- RAS Approved companies are permitted to design and print their own forms provided they include, as a minimum, all items as listed in the relevant forms.
- The original inspection report, including the signed checklist, must be given to the owner of the vehicle. The owner must keep a copy of this with the vehicle maintenance records.
- A copy of the Part 1 Checklist, and Part 2 Defect Information form, must be retained by the RAS Approved Company for a minimum of one year.
- The master copy of all RAS inspection checklists must be available at the central maintenance facility of the contractor.
- The validity of an RAS inspection is one year from date of inspection.

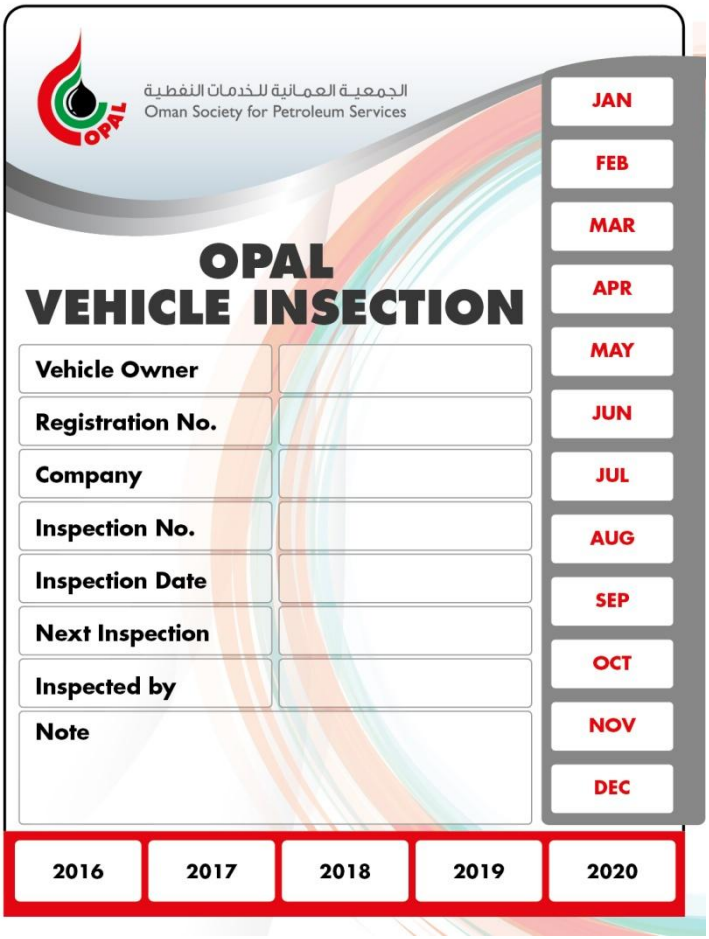
10 RAS Inspection Stickers

A unique sticker must be used as visual evidence of a successful RAS inspection.
The sticker must include, as a minimum:

- Serial number of inspection
- Holographic protection with bar code (RFID)
- Vehicle identification
- Contract Number (if applicable)
- Name of owner
- Date of inspection
- Date of next inspection
- Name of the inspector
- Logo of the RAS Approved Inspection Company

Stickers must be fixed to the vehicle at the time of the inspection, by the RAS Inspector – they must not be handed to the vehicle driver/user.

The sticker must be approximately 9 cm x 6 cm. The position of the sticker must be such that fading due to the sun is avoided (e.g. on the side of the dashboard at the driver side door). A typical format and design is presented on the following illustration:



Blank stickers must be kept in a secure location prior to use. The loss of one or more stickers must be immediately notified to OPAL / appointed representative.

Any RAS centre identified by the OPAL/Operator/Company as having provided blank RAS stickers to employees or third parties will have their authorisation terminated with immediate effect with no option to renew or re-instate.

Any contractor that comes into possession of blank RAS stickers must immediately notify their company representative (for example, Contract holder). Should a contractor be found by a Company to be in possession of blank RAS stickers or to have vehicles with RAS stickers which have not been provided by an authorised RAS centre after a successful RAS inspection, they will be subject to sanctions as per the Contract clause, including possible termination of the contract.

11 RAS Inspection Arrangements and Reports

The RAS approved company must ensure that RAS inspections include all the items listed in the appropriate checklists, similar to the ones presented below:

LIGHT VEHICLE				
				Service Code LV
Owner:			Vehicle Type and Model:	
Fleet Number:			Registration No:	
Odometer Reading:			Inspection Date:	
Current User (Ref Indicator):If applicable)			Inspected At:	
Valid ROP Registration			Contract Number (if applicable)	
COMPANY Spec. used (for First Use Inspection only)			Contract Holder (Ref Indicator):(If applicable)	

PART 1: CHECKLIST FOR INSPECTION

In Status column, enter ✓ - Pass ✗ - Fail
* = if required. Shaded box = according to contract or operational requirements.
Numbers in italics, in second column, refer to UK MOT Inspection Manual checkpoints.

			STATUS	DEFECT FOUND	RE-CHECKED
01	*1.1*	Position/Parking lights			
02	*1.2*	Headlights			
03	*1.3*	Brake lights			
04	*1.4*	Reflectors			
05	*1.5*	Indicators			
06		Reversing lights			
07	*1.6*	Headlight aim			
08	*2.1*	Steering control			
09	*2.2*	Steering system including tie rod ends			
10	*2.3*	Power steering*			
11	*2.4*	Suspension – general			
12	*2.5*	Front suspension/ bearings, drive shafts			
13	*2.6*	Rear suspension/bearings			
14	*2.7*	Shock absorbers			
15	*3.1*	Parking brake lever			
16	*3.2*	Handbrake control valves			
17	*3.3*	Service brake control			
18	*3.4*	Anti-lock braking systems*			
18		Dual Air Bags*			
19	*3.5*	Mechanical brake components			
20	*3.6*	Hydraulic, air and vacuum systems			
21	*3.7*	Brake performance			
22	*4.1*	Tyres: type, size, condition, pressure			
23	*4.2*	Wheels			
24	*5.1*	Seatbelts			
25	*6.1*	Windscreen, vision, (40 mm max crack in swept area)			
26	*6.2*	Horn			
27	*6.3*	Exhaust system			

28	*6.4*	Exhaust emissions			
29	*6.5*	Bodywork			
30	*6.6*	Mirrors			
31	*6.7*	Fuel system			
32		Spare wheel(s), jack and tools			
33		Rollover cage			
34		High intensity rear lights (fitted with a 21watt bulb or an LED equivalent as a minimum)			
35		A/C unit			
36		Fire extinguisher			
37		First aid kit			
38		IVMS			
39		Fluid levels			
40		Towing hitch*			
41		Roof rack*			
42		Speed limiter by road test			
43		Hazard Warning Triangle			
44		No pendants hanging from the mirror			
45		Front, rear, & side windows ahead of drivers' seatbelt mounting not tinted or obscured			
46		No green or blue lights externally			
		MISCELLANEOUS Enter details on lines below			
90		Music system operating			
91		Reversing alarm if vehicle over 6 metres length			
92		Seat covers are certified flame resistant			

HEAVY VEHICLE

Owner:			Vehicle Type and Model:	
Fleet Number:			Registration No:	
Odometer Reading:			Inspection Date:	
Valid ROP Registration:			HAZMAT LICENCE/PRESSURE VESSEL CERTIFICATE VALID IF RELEVANT	
Current User (Ref Indicator if applicable):			Inspected At:	
No. of COMPANY Spec. Used:			Contract Number: if applicable	
(for First Use inspection only)			Contract Holder (Ref Indicator): If applicable	

PART 1: CHECKLIST FOR INSPECTION

In Status column, enter ✓ - Pass ✗ - Fail
* = if required or applicable. Shaded box = according to contract or operational requirements.
Numbers in italics, in second column, refer to UK Dept of Transport LGV Inspection Manual checkpoints.

			STATUS	DEFECT FOUND	RE-CHECKED
01	*3*	Seat belts			
02	*5*	Smoke emission			
03	*6*	Road wheels and hubs			
04	*7*	Tyres, size and type			
05	*8*	Tyres: type, condition, size , pressure			
06	*9*	Side guards, under-run guards, bumpers			
07	*10*	Spare wheel, jack, tools			
08	*11*	Trailer coupling			
09	*14*	Mudguards			
10	*15*	Cab mountings			
11	*16*	Cab doors			
12	*17*	Cab floor and steps			
13	*18*	Seats			
14	*19, 20*	Bodywork, load area, headboard fixed			
15	*22*	Mirrors			
16	*23, 24*	Windscreen, glass, vision 100 mm crack max. in swept area			
17	*25*	Windscreen wipers, washers			
18	*26*	Speedometer			
19	*27*	Horn			
20	*28*	Driving Controls			
21	*29*	IVMS			
22	*30, 31, 32*	Steering wheel, column			
23	*34*	Pressure/Vacuum warning			
24	*35*	Pressure/Vacuum build up			
25	*36*	Mechanical brakes lever			
26	*37*	Service brake pedal			
27	*38*	Service brake operation			

28	*39*	Handbrake control valves			
29	*41*	Chassis, sub-frame			
30	*42*	Electrical equipment, wiring			
31	*43*	Engine, transmission mountings			
32	*44*	Oil leaks			
33	*45*	Fuel tank(s) and systems			
34	*46*	Exhaust			
35	*48, 49, 50*	Suspension			
36	*51*	Shock absorbers			
37	*53*	Axles, wheel bearings			
38	*54, 55, 56*	Steering assembly-including tie rod ends.			
39	*57*	Transmission			
40	*59*	Mechanical brake components			
41	*60*	Brake actuators			
42	*61*	Brake system and components			
43	*62*	Rear markings			
44	*63, 64*	Position lamps			
45	*65*	Reflectors			
46	*66*	Indicators			
47	*67*	Headlamp aim			
48	*68*	Headlamps			
49	*69*	Brake lights			
50	*71*	Service brake performance			
51	*72*	Secondary brake performance			
52	*73*	Parking brake performance			
53		Reversing lights			
54		Reversing alarm			
55		High intensity rear lights (fitted with a 21watt bulb or an LED equivalent as a minimum)			
56		Revolving lights			
57		A/C unit			
58		Fire extinguisher for cab			
59		Fire extinguisher for load			
60		First aid kit			
61		Hazard Warning Triangles			
62		Wheel chocks – 2			
63		Winch: General Condition			
64		Slings			
65		Oilfield Headboard			
66		Speed limiter-by road-test			
67		Fluid levels			
68		Music system operating			
69		Fifth wheel assembly on prime mover			
70		Security of attachment of fifth wheel to prime-mover chassis			
71		Front & side windows not tinted or obscured			
72		No green or blue lights			
		MISCELLANEOUS ITEMS Enter details on lines below			
90		Tippers: ram operation, oil leaks*			
91		Tippers: hinge shaft and bearings*			
92		Centre of Gravity certificate for tankers			
93		Seat covers are flame retardant			

TRAILER/TANKER

Owner:	Trailer Type and Model:
Fleet Number:	Registration No:
Valid ROP Registration	Inspection Date:
Current User (Ref Indicator If applicable):	Inspected At:
No. of COMPANY Spec. Used: (for First Use inspection only)	Contract Number: (If applicable)
	Contract Holder (Ref Indicator if applicable):

PART 1: CHECKLIST FOR INSPECTION

In Status column, enter ✓ - Pass ✗ - Fail
* = if required or applicable. Shaded box = according to contract or operational requirements.
Numbers in italics, in second column, refer to UK Dept of Transport LGV Inspection Manual checkpoints.

			STATUS	DEFECT FOUND	RE-CHECKED
01	*6*	Road wheels and hubs			
02	*7*	Tyres, size and type			
03	*8*	Tyres, type, size, condition, pressure			
04	*9*	Side guards, under-run guards, bumpers			
05	*10*	Spare wheel, jack, tools			
06	*11*	Trailer coupling			
07	*12*	Trailer emergency brake			
08	*13*	Trailer landing legs			
09	*14*	Mudguards			
10	*19, 20*	Bodywork, load area, headboard fixed			
11	*38*	Service brake operation			
12	*39*	Hand operated brake control valves			
13	*41*	Chassis, sub-frame			
14	*42*	Electrical equipment, wiring			
15	*44*	Oil leaks			
16	*48, 49, 50*	Suspension			
17	*51*	Shock absorbers*			
18	*53*	Axles, wheel bearings			
19	*59*	Mechanical brake components			
20	*60*	Brake actuators			
21	*61*	Brake system and components: fail safe spring brake on all axles			
22	*62*	Rear markings			
23	*64*	Position lamps			
24	*65*	Reflectors			
25	*66*	Indicators			
26	*69*	Brake lights			
27	*71*	Service brake performance			
28	*73*	Parking brake performance			
29		Reversing lights			
30		Reversing alarm			
31		High intensity rear lights (fitted with a 21watt bulb or an LED equivalent as a minimum)			
32		Fire extinguisher for load			
33		Wheel chocks – 2			
34		Slings			
35		Oilfield Headboard			

36		Fluid levels			
37		King pin, plate, lower mounting fillet (welding points NDT testing by radiography and magnetic spray) certificate			
38		Trailer bed condition			
39		No green or blue lights			
40		Discharge control valves on tankers are mounted to the side of the vehicle and not centrally mounted at the back.			

		MISCELLANEOUS ITEMS Enter details on lines below			
90		Twist locks operating -- if fitted			
91		Centre of gravity certificate for tankers			
92		Non-slip walkway a minimum of 600 mm wide for access to the tank top for tankers			
93		The lowest rung of the access ladder on tankers is between 40 cm and 90 cm from the ground			
94		The handrail on tanker is fitted and height is approximately 1,100 mm			
95					

BUS LIGHT OR HEAVY

Owner:	Vehicle Type and Model:
Fleet Number:	Registration No:
Odometer Reading:	Inspection Date:
Current User (Ref Indicator) if applicable:	Valid ROP Registration
No. of COMPANY Spec. Used (for First Use inspection only)	Inspected At:
Contract Holder (Ref Indicator) (if applicable):	Contract Number: (if applicable)

PART 1: CHECKLIST FOR INSPECTION

In Status column, enter ✓ - Pass ✗ - Fail
* = if required or applicable. Shaded box = according to contract or operational requirements.
Numbers in italics, in second column, refer to UK Dept of Transport PSV Inspection Manual checkpoints.

			STATUS	DEFECT FOUND	RE-CHECKED
01	*3*	Seat belts			
02	*5*	Smoke emission			
03	*6*	Road wheels and hubs			
04	*7*	Tyres, size and type			
05	*8*	Tyres, condition, pressure			
06	*9*	Bumpers			
07	*10*	Spare wheel, jack, tools			
08	*14*	Wings, wheel arches			
09	*16*	Passenger doors, drivers doors, and emergency exits			
10	*17*	Drivers space and steps			
11	*18*	Driver's seat			
12	*1920*	Bodywork, access flaps			
13	*21*	Interior, passenger entrance, access			
14	*22*	Mirrors, including rear lookdown mirror			
15	*2324*	Windscreen, glass, vision max 100 mm crack in swept area.			
16	*25*	Windscreen wipers, washers			
17	*26*	Speedometer			
18	*27*	Horn			
19	*28*	Driving controls			
20	*29*	IVMS			
21	*30 31 32*	Steering wheel, column			
22	*34*	Pressure/Vacuum warning			
23	*35*	Pressure/Vacuum build up			
24	*36*	Mechanical brakes			
25	*37*	Service brake pedal			
26	*38*	Service brake operation			
27	*39*	Hand operated brake control valves			
28	*41*	Chassis, sub-frame			
29	*42*	Electrical equipment, wiring			
30	*43*	Engine, transmission mountings			
31	*44*	Oil and waste leaks			

32	*45*	Fuel tank(s) and systems			
33	*46*	Exhaust			
34	*48, 49, 50*	Suspension			
35	*51*	Shock absorbers			
36	*53*	Axles, wheel bearings			
37	*54, 55, 56*	Steering assembly including tie rod ends			
38	*57*	Transmission			
39	*58*	Additional braking devices			
40	*59*	Mechanical brake components			
41	*60*	Brake actuators			
42	*61*	Brake system and components			
43	*63, 64*	Position lamps			
44	*65*	Reflectors			
45	*66*	Indicators			
46	*67*	Headlamp aim			
47	*68*	Headlamps			
48	*69*	Brake lights			
49	*71*	Service brake performance			
50	*72*	Secondary brake performance			
51	*73*	Parking brake performance			
52	*74*	Maintenance of additional braking devices			
53		Reversing lights			
54		Reversing alarm if bus > 6 metres			
55		Wheel chocks – 2			
56		Interior luggage cage			
57		High intensity rear lights (fitted with a 21watt bulb or an LED equivalent as a minimum)			
58		A/C unit			
59		Fire extinguisher			
60		First aid kit			
61		Hazard Warning Triangle (s)			
62		Speed limiter by road-test			
63		Fluid levels			
64		Front & side windows ahead of drivers' seatbelt mounting not tinted or obscured			
66		No green or blue lights			
		MISCELLANEOUS ITEMS Enter details on lines below			
90		Seats are fabric covered			
91		Seat covers are flame retardant			
92		Music system operating			
93		Sign to report bad driving			
94		Pouch for drivers HSE passport & DDC permit			
95					

PART 2: DEFECT INFORMATION

In Check No. column, use checklist number from list above. Repairs to be signed-off by repair workshop supervisor.

If many defects, continue on blank page and attach to this report.

Check No.	Defect details	Action taken on Defect	Signed

"I confirm that the above defects, if any were found, have been rectified satisfactorily. The vehicle is now in proper roadworthy condition."	Name of Vehicle Inspector Signature of Vehicle Inspector

TO INCLUDE ADDITIONAL SPECIFICATIONS IN THE CHECK LIST FROM THE MAIN DOCUMENT

Annex B-2: Transport of Hazardous Materials

1 Purpose

This Annex describes minimum requirements when any light or heavy vehicle including with a trailer or in a tanker, as appropriate, is transporting any hazardous load, for the purpose of maximising safety to personnel, the environment, and to minimise the risk of an emergency situation arising. However the government law takes precedence wherever there is discrepancy between the two documents. OPAL requirements are from a critical HSE point of view.

This document is derived in part from: The Directorate of Civil Defence; Fire Safety Requirements; Part 4; Transport, Storage, and Handling of Hazardous Materials.

The requirements of this Annex are mandatory.

In addition to complying with the vehicle general requirements, and requirements for light or heavy vehicles and trailers and/or tankers as appropriate, any vehicle transporting any hazardous material must also comply with the requirements of this Annex.

1.1 Hazardous substances are defined as:

Materials classified as dangerous to humans and/or the environment, which generally includes substances which are: explosive, radioactive, flammable, toxic, or corrosive.

Hazardous materials are divided into 9 major classes, some of which are subdivided, according to the European Agreement Concerning the International Carriage of Dangerous Goods by Road, and often referred to as ADR.

2 Definitions and abbreviations

Item	Definition
Cargo	Any quantity of: goods, burden, mail, foodstuffs, plants, animals, earth, rock, minerals, materials, machinery, equipment, tools, vehicles, liquids, gases, waste, and includes any parts or products of the aforementioned which have been or are to be subjected to a process or treatment, or any other thing of any description.
Fluid load	Any single or composite mixture of: any liquid, wet cement / wet concrete, mud, pitch, resin, slurry, gel, paste, dust, powder, grains, granules, pellets, or waste, which may be loaded or unloaded to/from the tank by either: pumping, pouring, blowing, vacuuming, or flowing due to gravity.
Hazardous Materials[1]	Materials classified as dangerous to humans and/or the environment (generally explosive, radioactive, flammable, toxic, or corrosive). Hazardous materials can be divided into the following categories as per the European Agreement Concerning the International Carriage of dangerous goods by Road (often referred to ADR): Class 1: Explosive substances and articles Class 2: Gases Class 3: Flammable liquids Class 4.1: Flammable solids, self-reacting substances and solid desensitized explosives Class 4.2: Substances liable to spontaneous combustion Class 4.3: Substances which, in contact with water emit flammable gases Class 5.1: Oxidizing substances Class 5.2: Organic peroxides Class 6.1: Toxic substances Class 6.2: Infectious substances Class 7: Radioactive material Class 8: Corrosive substances Class 9: Miscellaneous dangerous substances and articles
Highly Flammable Substance	Any flammable liquid with a flash point below 32 degrees Celsius. Any flammable gas.
Journey Management	A system of management to prevent undesired or unnecessary journeys, and monitoring by documentary control and IVMS of all journeys taken by all vehicles, but allowing for some local area exceptions.
Pressurized vessel	A closed container designed to hold gases or liquids at a pressure substantially different from the ambient pressure.
Semitrailer	A trailer which is supported at its rear by wheels and at its front by bearing on a prime mover, tractive unit, or dolly; drawn as part of an articulated vehicle and which is attached to the tractive unit by a kingpin locked in the centre of a 5th wheel coupling turntable located forward of the tractive rear axle; at least 20 % of the fully loaded trailer weight must be borne on the turntable of the tractive unit.
Tanker	Any motor vehicle or trailer, fitted permanently or temporarily with any vessel, tank, reservoir, or body, for the purposes of transporting a fluid load equal to or greater than 1,000 litres, regardless of whether it is full, empty, or carrying any partial quantity, including when transporting an ISO shipping container tank.

[1] The Hazardous materials are defined and classified as per the ADR classification, the document can be found at: http://www.unece.org/trans/danger/publi/adr/adr_e.html

Item	Definition
Trailer[2]	A vehicle constructed without a propelling engine; designed and manufactured to be drawn or pulled by a motor vehicle; which shall include but not be limited to the following types of trailer: bulk, close-coupled, drawbar, flatbed, full, low-bed, oilfield, refrigerated, semitrailer, skeletal, tipper, tanker, and vacuum tanker.

3 Hazardous materials – general:

All hazardous loads, including by heavy or light vehicle must:

a) Display the appropriate Hazchem placards at front, rear, and both sides, which must describe the actual load using its UN number,

b) In the case of a vehicle transporting more than 1 type of substance, the vehicle placards must display the UN number of the most hazardous substance,

c) In the case of a consignment comprising a number of individual packages or containers on or within the vehicle, every package or container must be individually marked with the UN number of the substance using a placard of suitable size,

d) Each package or container must be distinctly marked with:

- the identity and the chemical name of the material,
- the nature of the hazard involved in the material and how to deal with it in emergencies,
- The U.N. number of each material.

e) The container for each package must be leak-proof; the wrapping and labelling of each package must be waterproof and sufficiently strong so as not to break up during handling, and wherever necessary there should be sufficient cushioning between packages,

f) Differing substances must be segregated, i.e. flammable substances must be segregated from toxic substances,

g) Provide environmental protection for the load during transport, including shade from solar radiation, protection from rain, and consider that it may be beneficial to have sufficient ventilation for some types of load,

h) Carry all necessary PPE appropriate to the load/ spill pads/clean up as per TREM card, in case of leak, fire, crash, or other problem,

i) The driver must carry all necessary SHOC and/or TREM Cards as necessary according to the actual load, but must not carry cards for load not carried.

3.1 Tankers for Classes 2 & 3:

Tankers carrying flammable and/or hazardous substances including but not limited to:

- Class 2 Gases,
- Class 3 Flammable liquids,

In addition to the general instructions, following applies:

a) In the case of an articulated vehicle, the trailer must have not less than 2 axles,

b) Carry fire extinguishers, quick-release mounted, that comply with local and International Standards.

[2] Sultanate of Oman Traffic Law Article 1 Point 8

- Rigid tanker: 2 extinguishers located externally: 1 near the front of the tank on the drivers' side, and 1 near the rear of the tank on the opposite side; each to be dry powder 6 kg,
- Trailer or semitrailer tanker: 3 extinguishers located externally: 1 located near the front of the tank on the drivers' side, 1 located near the rear of the tank on the opposite side, and 1 located externally on the tractive unit; each to be dry powder 6 kg.

c) Have an exhaust system forward of the front axle, below the chassis on the driver's side, with discharge directed away from the tank on the driver's side of the vehicle, or, an exhaust system fitted with a flame/spark arrester,

d) Have anti-static tyres i.e. tyres which will conduct electricity, with a maximum resistance of (1×10^6 ohms) i.e. one-million ohms,

e) Have a master isolation switch outside the cab to isolate all electrical circuits, except the IVMS,

- the switch must be clearly marked in Arabic and English "Electrical Isolation Switch" in red letters on a white background. The "ON" and "OFF" positions of the switch itself must be clearly marked in Arabic and English. A sign in Arabic and English reading "In Case of an Accident or Fire Put this Switch to OFF" must be fitted next to the switch. The sign must be red text on a white background, readable at a distance of 5 metres,
- if the engine fuel feed is via a mechanical pump, there must be a clearly marked (as above) and easily operated fuel isolation valve,

f) Have battery terminals that are individually covered to prevent accidental shorting,

g) Have the loading and discharge piping/valving designed in such a way that when in transit, the flammable substance is only carried within the body of the tank, not within the piping external to the tank,

h) Have electrical wiring complying with BS6862 or equivalent, and protected by solid drawn tubing suitable for bulk vehicles carrying Class 3 petroleum products,

i) Have a fire resistant shield, screening the engine from the body of the vehicle if the engine protrudes behind the rear of the cab, or if the engine is open to the rear. The fire screen must cover any unenclosed part of the engine above or to the rear of the cab and extend down to the top of the chassis side members,

- where the rear of the cab acts as the fire resistant shield, the cab shall not have any rear window,

j) Have a fuel filler cap which is provided with a lock,

k) Have at least one means of earthing the tanker for use during loading and unloading operations,

l) Tankers loading and/or unloading where a vapour recovery system is installed, must be fitted with a compatible vapour recovery system and it must be functional,

m) Have a vacuum relief valve, with suitable flame/spark arrester, which may be fitted within the manhole.

3.2 Tankers for Classes 5, 6, & 8:

Tankers carrying hazardous substances including but not limited to:

- Class 5 Oxidising agents,
- Class 6 Toxic substances,
- Class 8 Corrosive substances,

In addition to the general instructions, following applies:

a) In the case of an articulated vehicle, the trailer must have not less than 2 axles,

b) Carry fire extinguishers, quick-release mounted, that comply with relevant local and international standards:

- Rigid tanker: 2 extinguishers located externally: 1 near the front of the tank on the drivers' side, and 1 near the rear of the tank on the opposite side; each to be dry powder 6 kg,
- Trailer or semitrailer tanker: 3 extinguishers located externally: 1 located near the front of the tank on the drivers' side, 1 located near the rear of the tank on the opposite side, and 1 located externally on the tractive unit; each to be dry powder 6 kg.

c) Have a master isolation switch outside the cab to isolate all electrical circuits, except the IVMS,

- the switch must be clearly marked in Arabic and English "Electrical Isolation Switch" in red letters on a white background. The "ON" and "OFF" positions of the switch itself must be clearly marked in Arabic and English. A sign in Arabic and English reading "In Case of an Accident or Fire Put this Switch to OFF" must be fitted next to the switch. The sign must be red text on a white background, readable at a distance of 5 metres,
- if the engine fuel feed is via a mechanical pump, there must be a clearly marked (as above) and easily operated fuel isolation valve,

d) Have battery terminals that are individually covered to prevent accidental shorting,

e) Have the loading and discharge piping/valving designed in such a way that when in transit, the hazardous substance is only carried within the body of the tank, not within the piping external to the tank,

f) Have a fuel filler cap which is provided with a lock,

g) Tankers loading and/or unloading where a vapour recovery system is installed, must be fitted with a compatible vapour recovery system and it must be functional,

h) Have a vacuum relief valve, which may be fitted within the manhole.

3.3 Classes 1, 2, 3, & 4, carried by other means (not in a tanker)

If the substance is:

- Class 1 Explosives,
- Class 2 Gases, (in cylinders),
- Class 3 Flammable liquids, (in packages, e.g. drums),
- Class 4 Flammable substances,

the vehicle must:

a) have an exhaust which does not extend under any part of the load,

b) the exhaust outlet must not be within 1 metre of any part of the load, or the exhaust system must be fitted with a flame/spark arrester,

c) have anti-static tyres i.e. tyres which will conduct electricity, with a maximum resistance of (1 x 106 ohms) i.e. one-million ohms,

d) have a master isolation switch outside the cab to isolate all electrical circuits, except the IVMS,

- the switch must be clearly marked in Arabic and English "Electrical Isolation Switch" in red letters on a white background. The "ON" and "OFF" positions of the switch itself must be clearly marked in Arabic and English. A sign in Arabic and English reading "In Case of an

Accident or Fire Put this Switch to OFF" must be fitted next to the switch. The sign must be red text on a white background, readable at a distance of 5 metres,

- if the engine fuel feed is via a mechanical pump, there must be a clearly marked (as above) and easily operated fuel isolation valve,

e) have battery terminals that are individually covered to prevent accidental shorting,

f) have electrical wiring complying with BS6862 or equivalent, and protected by solid drawn tubing,

g) have a fire resistant shield, screening the engine from the body of the vehicle if the engine protrudes behind the rear of the cab, or if the engine is open to the rear. The fire screen must cover any unenclosed part of the engine above or to the rear of the cab and extend down to the top of the chassis side members,

- where the rear of the cab acts as the fire resistant shield, the cab shall not have any rear window,

i) carry fire extinguishers, quick-release mounted, that comply with with relevant local and international standards:

- rigid truck: 2 extinguishers located externally: 1 near the front of the load on the drivers' side, and 1 near the rear of the load on the opposite side; each to be dry powder 6 kg,
- trailer or semitrailer: 3 extinguishers located externally: 1 located near the front of the load on the drivers' side, 1 located near the rear of the load on the opposite side, and 1 located externally on the tractive unit; each to be dry powder 6 kg.

h) have a means of securing each part of the load:

- in the case of gas cylinders, a robust mechanical restraint system to ensure all cylinders remain upright at all times, and where necessary are segregated to different substances,
- in the case of drums of liquid, a robust means of restraint ensuring each part of the load will remain securely restrained at all times.

3.4 Classes 5, 6, 8, & 9 carried by other means (not in a tanker)

If the substance is:

- Class 5 Oxidising agent,
- Class 6 Toxic,
- Class 8 Corrosive,
- Class 9 miscellaneous material

    a. carry fire extinguishers, quick-release mounted, that comply with relevant local and international standards.

    b. rigid truck: 2 extinguishers located externally: 1 near the front of the load on the drivers' side, and 1 near the rear of the load on the opposite side; each to be dry powder 6 kg.

    c. trailer or semitrailer: 3 extinguishers located externally: 1 located near the front of the load on the drivers' side, 1 located near the rear of the load on the opposite side, and 1 located externally on the tractive unit; each to be dry powder 6 kg.

3.5 Class 7

If the substance is:

- Class 7 Radioactive material:

a) No other goods, tools, or equipment, shall be carried with the radioactive material containers,

b) A fireproof metal plate shall be fixed in the drivers' cab, engraved in Arabic and English, warning that the vehicle is carrying radioactive material, and showing the telephone number of the person to be contacted in the event of an accident,

c) The radioactive containers must be secured within the vehicle to prevent any internal movement, regardless of the rear body being closed,

d) Whilst any radioactive material is on board, the vehicle must never be parked unattended; if the vehicle is parked, a responsible person must be in close attendance maintaining a permanent watch on the vehicle,

e) The vehicle must be provided with an additional fire extinguisher, located outside the drivers' cabin, quick-release mounted, that complies with relevant local and international standards (dry powder 6 kg).

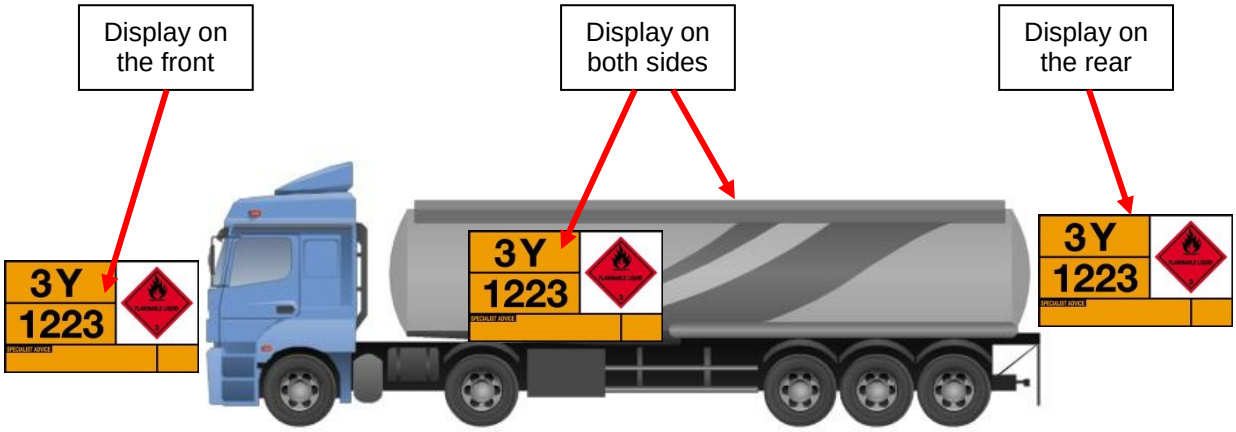
f) The vehicle must carry a radiometer.

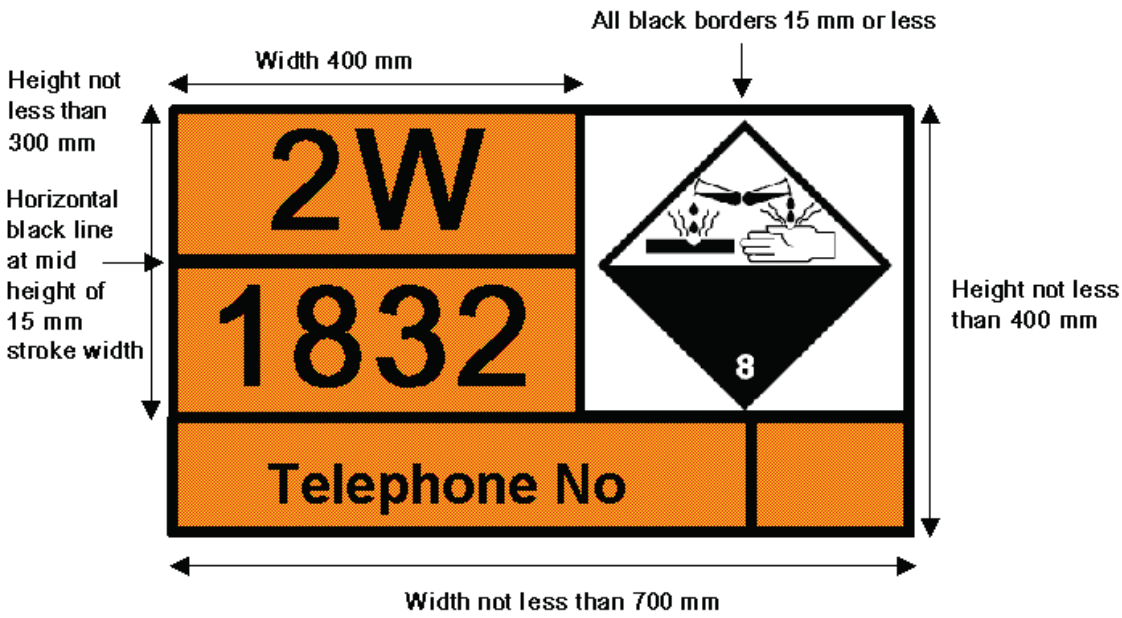
g) The driver must carry a personal dosimeter that must be logged permanently and replaced monthly by the vehicle operator,

h) When the vehicle reaches its destination, the radioactive containers must be promptly unloaded, using a trolley to carry them by the shortest way to the store. The unloading must be performed under supervision.

1.1.1 Hazchem placards:

Each Hazchem placard (both in Arabic and English) shall conform to the UN standards in all relevant details, including colour, size, and layout, as below:





Reference: European Directive 2008/68/EC of the European Parliament and of the Council of 24th September 2008 on the inland transport of dangerous goods (O.J. L260, 30.9.2008, p. 13). This Directive applies the Annexes to the European Agreement concerning the International Carriage of Dangerous Goods by Road signed at Geneva on 30th September 1957, as amended ("ADR") (Current Edition: 2009),
Reference: European Directive 1999/36/EC of 29th April 1999 on transportable pressure equipment (O.J. No. L138, 1.6.1999, p. 20) as last amended by Commission Directive 2002/50/EC of 6 June 2002 (O.J. No. L149, 7.6.2002, p. 28).

Reference: European Council Directive 89/618/Euratom of 27th November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency (O.J. No. L357, 7.12.1989, p. 31) and (Intervention in cases of radiological emergency) of Council Directive 96/29/Euratom of 13th May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation (O.J. No. L159, 29.6.1996, p. 1), in so far as Section 1 of Title IX is relevant to carriage by road.

Annex B-3: Tyres

1 Purpose

This Annex describes OPAL's minimum requirements for managing the use, maintenance, inspection, and replacement of tyres for the purpose of keeping tyres and vehicles roadworthy.

The requirements of this Annex are mandatory. Any deviation in meeting these requirements must be authorized through Step–Out approval process.

2 Summary of Tyre Requirements are given below:

Requirements	**LV**	**HGV**	**Bus**	**Trailer**
All vehicle tyres of the same manufacturer, including spare, type, profile and tread pattern.	✓	X	X	X
Tyres, of the same manufacturer, type, profile, weight rating and tread pattern on the same axle.	✓	✓	✓	✓
Tyres must be radial, with a minimum tread depth of 1.6mm across75% of the tyre width.	✓	X	X	X
Tyres must be radial, with a minimum tread depth of 2.4mm across75% of the tyre width.	X	✓	✓	✓
Re-grooved tyres on any vehicles	X	X	X	X
Re-treaded tyreson the steering axle.	X	X	X	X
Re-treaded tyres on drive axles.	X	✓	X	X
Re-treaded tyres load carrying axles	X	✓	X	✓

3 Periods of Tyre Inspection

There are five intervals of tyre inspection:

- Before purchase,
- At RAS inspection,
- Weekly checks,
- Daily checks,
- At each break in a journey.

	before purchase check	RAS checks	weekly checks	daily checks	mid-journey checks	defects
manufacture date	yes	yes		yes		purchase tyres having the youngest shelf-life to give the longest working life within 4 years
tread		yes		yes		tread depth <1.6 mm (LV) or 2.4 mm (HV), penetration, irregular wear, mismatch, fabric visible, excessive nibbling – (graded roads)
sidewall		yes		yes		cut, crack, split, bulge, mismatch, fabric visible, no gap between duals, trapped stone between duals

wheel / rim		yes		yes		nut / bolt missing / loose, dent, damage, missing valve cap
inflation pressure test		yes	yes			check with a gauge, before driving, at the coolest time of the day, adjust correctly
visual				yes	yes	visually check inflation, sidewall damage, trapped stone between duals
Multi piece rim		yes	yes	yes	yes	Locking ring movement during moves

4 Tyre Related ted Risks

- Inflated tyres contain a large amount of stored energy. For example, the sidewall of a typical truck tyre has over 34 tones of force acting on it.
- Tyres are designed to withstand this but if they are damaged or used while flat, or significantly underinflated, they may fail.
- The force can then be released explosively at an angle of up to 45 degrees from the rupture (which is often, but not always, the face of the sidewall), resulting in a destructive air blast and the ejection of high-speed particles.
- If the wheel is not restrained, it can fly meters through the air.
- Similarly, failure of multi-piece ('split rim') wheels can result in explosive ejection of component parts. These types of tyre explosion have led to numerous fatalities.
- There will be an increased risk of failure:
    - following tyre repair;
    - where there has been sidewall damage (e.g. after a tyre has been run flat or significantly underinflated); or
    - when fitting a tyre to a split-rim wheel.

To reduce this risk:

- Before deflating a tyre, check the pressure and chalk the reading on the tyre wall. Low tyre pressure may have caused tyre wall damage.
- Do not inflate any tyre that has been significantly underinflated until it has been adequately checked. Examine wheels and tyres (externally and internally) for signs of damage, e.g. cracks, "marbling" (black lines), bulging, soft spots or exposed steel cord in the tyre carcass. If in doubt, do not re-inflate the tyre.
- When re-inflating, follow the precautions set in this document, taking particular care to stay outside the likely explosion trajectory. Watch and listen for signs that might indicate a zipper failure. If you suspect a problem, do not approach the tyre to deflate it, use the quick-release connection at the operator's end of the hose.

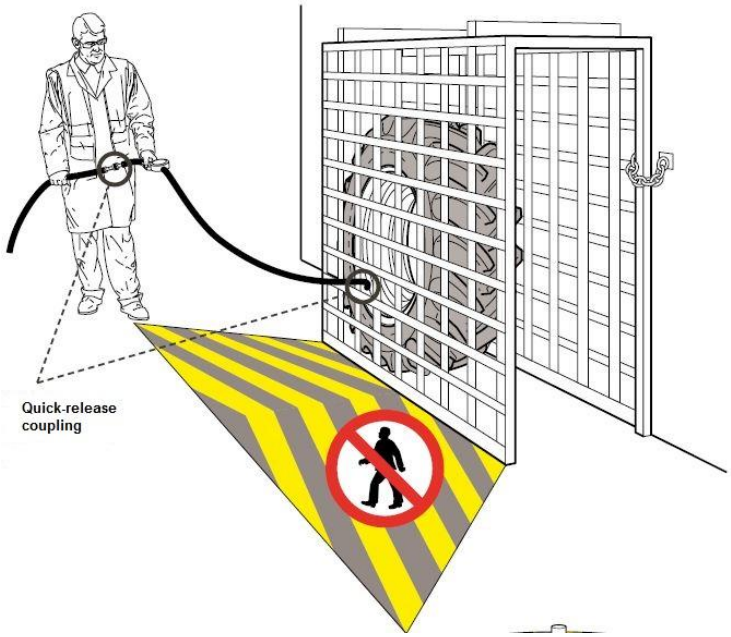
5 Tyre Inflation Pressure

- Tyre pressures must be checked by using a calibrated pressure gauge (including the spare tyre) at least weekly.
- Tyre pressures must be corrected if they do not correspond to the pressures recommended by the vehicle manufacturer for the conditions of use. Ideally, pressures should be checked when the tyres are cold; this means that they have not been used in the last 2 hours.
- Any tyre not in this "cold" condition is considered to be "hot".
- If the tyres are "hot" when they are checked:

- Use a pressure four to five psi (0.3 bar) higher than the pressures recommended by the vehicle manufacturer.
- Never deflate a “hot” tyre, even if the pressure is above the recommended level.
- Re-check the pressures when the tyres are cold.

6 Inflating tyres

- Where a compressor is being used to inflate tyres, an in-line pressure gauge shall be installed to guard against over inflation. The airline between the chuck and the control valve shall be at least 3 metres.
- Wheels of split rim type, typically used on heavy vehicles shall be placed in a safety cage for inflation after tyre replacement or repair. Such safety cages shall be supplied by an internationally recognised tyre manufacturer. Alternatively, such safety cages shall be manufactured locally in accordance with the standards set by such a manufacturer.



Dos and Don’ts for all tyre inflation	
• Do use a clip-on chuck to connect the airline with a quick-release coupling at the operator’s end (this allows tyre deflation from a safe position if problems occur). • Do use airline hoses long enough to allow the operator to stay outside the likely explosion trajectory during inflation. • Do use enough bead lubricant when seating the tyre. Consider removing the valve core or using a “bead blaster” if seating is difficult. • Do remove the airline after use to prevent air seepage and possible over inflation.	• Don’t use valve connectors that require the operator to hold them in place. • Don’t exceed the manufacturer’s recommended tyre pressure for the size and rating of the tyre. • Don’t use “unrestricted” airlines (i.e. without a gauge or pressure control device). • Don’t allow the control valve to be jammed open (which could allow the operator to leave the inflating tyre unattended).

7 Tyre Repair

Warning

It is compulsory that tyre fitment and removal procedures are carried out by fully trained personnel only. Safety regulations demand that no person stands or passes in front of tyres undergoing inflation procedures. Use only correct inflation equipment which allows you to stay clear of the trajectory of wheel components. Make certain that all tools and equipment to be utilized are in good working order and do comply with the safety standards.

- It is compulsory that tyre repair (fitment and removal) are carried out by trained and qualified professionals only. Training and qualifications must be to the acceptable international standards (i.e. British Standard BS AU 159) and tyre manufacturer recommendations.
- **Safety regulations demand that no person sits on tyre, stands or passes in front of tyre undergoing inflation procedures.**
- Correct inflation equipment must be used to allow safety clearance in regards to the trajectory of wheel components.
- All tools and equipment to be utilised shall be in good working order and comply with required safety standards.
- All tyre repairs should be preceded as a matter of course by a detailed inspection of the tyre by the professional.
- A tyre that has been run under-inflated or flat may have suffered irreversible damage and only an exhaustive check of the interior of the tyre will enable a diagnosis of whether or not the tyre can be put back into use. Removal of the tyre from the wheel is therefore essential in order to assess its actual condition, if a repair is possible and the type of repair required.
- In the event of a puncture, injection of a sealant through the valve (instant puncture sealant, etc.) can only be a partial and temporary solution and does not comply with the requirement for tyre repairs. These products may be incompatible with the tyre, wheel, valve, pressure sensor, etc. It is essential to follow the manufacturer’s recommendations. In this case, a tyre professional must be consulted to check the tyre and, if possible, make a permanent repair.

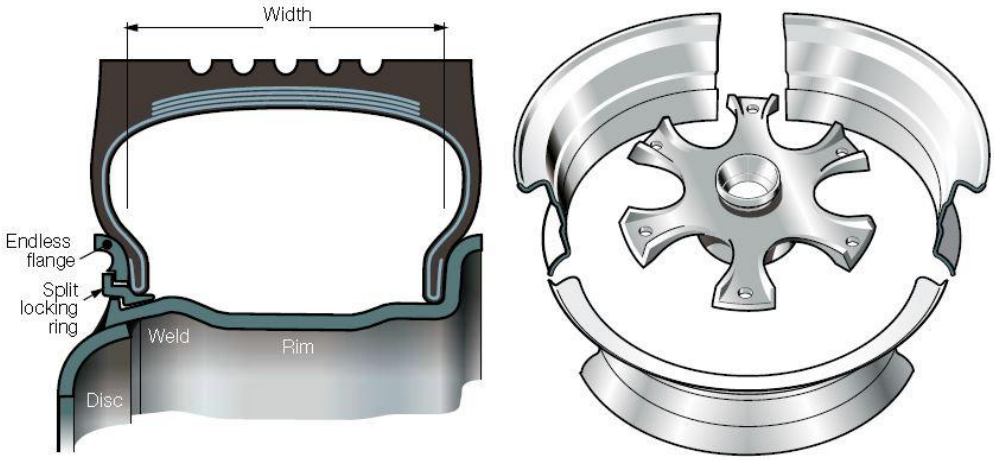
8 Split-rim wheels

Split-rim tyres are found on a heavy commercial vehicles, trucks, forklift trucks, cranes, caravans and wheelbarrows. They are also used for some off-road vehicles. There are two basic types of split-rim wheel assemblies:

- multi-piece wheels; and
- divided wheels.

8.1 Multi-piece wheels

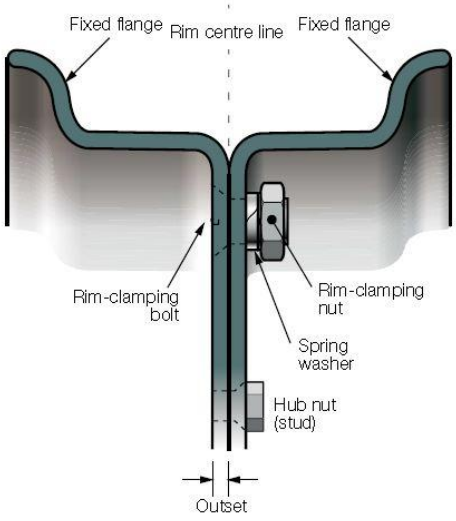
- Multi-piece wheels have a split-spring flange that is levered into a groove in the side of the wheel rim (known as the gutter groove). Some have additional flanges held in place by the split locking ring.
- If these parts are not seated correctly, there can be a violent separation of the wheel parts as the tyre is inflated.
- A special type of multi-piece wheel has a three-piece, demountable rim in which the disc is created by short spokes forming part of the hub.



8.2 Divided wheels

- These consist of two parts bolted together with an outer ring of rim fasteners, the whole assembly then being bolted to the vehicle hub by an inner ring of hub studs.

- Loosening the rim fasteners with the tyre under pressure has resulted in violent separation of rim halves, causing fatal injuries. Loosening the hub studs can have the same result if there has been damage or unauthorised repair to the wheel.



- Lack of knowledge can make working with split-rim wheels particularly dangerous, so it is important that it should only be carried out by competent staff with sufficient experience.

- Always follow the manufacturer's guidance where available and take the precautions set out below, which are in addition to those for car and commercial tyres.

8.3 Reassembling split-rim wheels

- When reassembling split-rim wheels, there may be a need to partially inflate the tyre to check the parts are properly seated. Make sure this is to no more than 15 psi and that everyone is outside the likely explosion trajectory.

- Before inflating further:
  - a **multi-piece** wheel should be put inside a suitable cage or frame;
  - a **divided wheel** should be fitted to the vehicle and the rim and hub fasteners should then be correctly tightened so the wheel halves are fully clamped.

- Where size permits, fit a suitable metal restraining device to contain the wheel components in the event of violent separation. Otherwise, position the assembly in front of a protective barrier, eg a wall, embankment or the side of a vehicle.

8.4 Working on multi-piece wheels: Dos and Don'ts

- Do check locking rings and flanges carefully before refitting and replace any that are damaged.
- Do lubricate the components according to the manufacturer's instructions.
- Do follow the manufacturer's instructions when taking demountable wheels apart and reassembling them.
- Don't hammer components into position.

8.5 Working on divided wheels: Dos and Don'ts

- Do make sure they are clearly identified. Sometimes, the rim-clamping nuts are painted in a contrasting colour to the rim to distinguish them.
- Do remove the valve core and ensure any divided wheel is completely deflated, before undoing the fasteners. Check there is no obstruction in the valve stem preventing deflation (e.g. by inserting a wire or something similar).
- Don't weld the rim-clamping bolts to one half of the wheel. This is likely to weaken the bolt, and if the tyre is still on the wheel, may cause an explosion.

9 General safety requirements for handling big size / Rig tyres

9.1 TYRE INSPECTION	
PRECAUTION	REASON FOR PRECAUTION
• Clean and repaint rims. This will stop corrosion. It will also make it easier to mount and check components. • Clean dirt and rust from lock ring and gutter. • Air inflation equipment should have a filter in the air line. Filter must be checked frequently to see that it works properly.	• Parts must be clean for proper fit. This is especially true of the gutter section which holds lock ring in position. • This is important to seat the lock ring properly. • This will prevent moisture from entering the tyre and prevent corrosion.
• Check rim components for cracks. • Replace all components which are: o Cracked o Badly worn o Damaged o Severely rusted • Use new component of same size and type. Replacement parts must not be cracked, broken or damaged.	• Parts that are cracked, damaged or excessively rusted are weakened. Bent or repaired parts may not engage properly. • This allows for proper fit and function.
• Never, under any circumstances, attempt to rework, weld, heat, or braze any rim components that are cracked, broken or damaged. • Replace with parts that are not cracked, broken or damaged. Always use parts of the same size and type.	• Heating may weaken a part. It may then be unable to withstand forces of inflation or operation. This can lead to an incident resulting in serious injury or death.
• Be sure correct parts are being assembled. • Check the parts' distributor or manufacturer if you have any doubts. • Do not be careless or take chances.	• Mismatched parts may appear to fit. When the tyre is inflated they can fly apart with explosive force. This may lead to serious injury or death.
• If you are not sure about proper mating of rim and wheel parts, consult an expert.	• This may be the tyre man who services your fleet. It may be your wheel distributor.
• Don't re-inflate a tyre that has been run flat until you inspect: o Tyre o Tube o Flap o Rim and wheel assembly • Double check: o Flange(s) o Bead seat o Lock ring o O-ring • Be sure they are secure in the gutter before inflation. • Stand clear of the tyre while inflating.	• Components can be damaged or dislocated when a tyre is run flat or seriously underinflated. • This can lead to an incident resulting in death or serious injury.

9.2 MOUNTING AND TYRE INFLATION

PRECAUTION	REASON FOR PRECAUTION
• Don't hammer bead seat rings or other components while tyre is inflated. • You may tap the lock ring when inflation begins with a rubber or shot hammer to insure it is properly seated.	• If parts are improperly installed they may fly apart with explosive force.
• Double check to be sure all components are properly seated before inflating.	• If parts are improperly installed they may fly apart with explosive force.
• Inflate in a safety cage. Use safety chains or equivalent restraining devices during inflation.	• Parts can fly apart with explosive force during inflation.
• Don't inflate tyre before all components are properly in place. • Place in safety cage or use chain sling and inflate to approximately 5 PSI (0.5 Bar). Recheck components for proper assembly. • If assembly is not proper at approximately • 5 PSI (0.5Bar) completely deflate tyre (both tube-type and tubeless) and start over. • Inflation to recommended operating pressure should be done on the vehicle.	• Properly matched and assembled components will seat without tapping. If a part is tapped, it or the tool can fly out with explosive force.
• Never hammer on a fully or partially inflated tyre/rim assembly.	• Parts can fly apart with explosive force.
• Never sit or stand in front of a tyre and rim assembly that is being inflated. • Use a clip-on chuck. Use inflation hose long enough to stand to side of tyre. • Do not stand in front or back of tyre assembly.	• Failure to do so can result in death or serious injury.
• Follow tyre and rim manufacturers' recommended procedures for: o Mounting o Demounting o Inflating o Deflating	• Steel hammers may damage components and cause improper fit.
• Don't hammer on rims or components with steel hammers. • If necessary to tap uninflated components together, use mallets with faces of: o Rubber o Lead o Plastic o Brass	• The cable or chain may break. If it does it can lash out and cause serious injury. • Heat from welding will cause a sudden

• Stand clear when using a steel cable or chain sling. • Never weld on a tyre/rim assembly.	rise in pressure. This may result in a powerful explosion. • Deflated tyres also can catch fire inside the chamber. Pressure will build up. An explosion may occur.
	• Mismatched parts may appear to fit. When the tyre is inflated they can fly apart with explosive force.
• Mixing parts of one type rim with those of another is potentially dangerous. • Always check manufacturer for approval. • Never introduce a flammable substance into a tyre before, during or after mounting.	• This is unsafe and could result in: o Fire o Internal tyre damage o Rim damage o Potentially dangerous vapors. • Any of these conditions can cause death or serious personal injury during mounting and inflation.

9.3 OPERATION	
PRECAUTION	REASON FOR PRECAUTION
• Don't use undersized rims. • Use recommended rim for tyre. Check • The manufacturers catalog for proper tyre/rim matching.	• Excessive overload can cause damage to the tyre and rim assembly.
• Don't overload or overinflate tyre/rim assemblies. • Check with your tyre and rim manufacturer if special operating conditions are required.	• Excessive overload due to undersized rims can cause damage to the tyre and rim assembly.
• Never run a vehicle on one tyre of a dual assembly.	• This will exceed the carrying capacity of the single tyre and rim. Operating a vehicle in this manner can result in damage to rim and tyre.
• Never use a tube in a tubeless tyre where the rim assembly is suspected of leaking.	• Loss of air pressure warns you of a potential rim failure due to fatigue cracks or other fractures. This indicator is lost when tubes are used with leaking rims. Continued use may cause the rim to burst with explosive force.
• Always inspect rims and wheels for damage during tyre checks.	• Early detection of rim damage or wear may prevent an accident.
• Never modify a rim without approval from the manufacturer. • Never heat, weld or braze a rim. • Always remove the tyre from the rim before service.	• Modification or heating of the rim or one of its parts can weaken it. It may not withstand inflation or operation forces.
• If vehicle wheels have been designed to	• An explosion can occur when a tyre is

contain wheel coolant, never operate vehicle without coolant. • Always use the mix and amount of cool - ant recommended by the manufacturer. • Don't let the brakes become overheated. • Avoid abuses that can overheat brakes. • These include: o Dragging of brakes o Speeding o Poor brake adjustment o Overloading • Clear the area if excessive brake heat is suspected. Warnings include: o The smell of burning rubber o The smell of hot brakes • Carefully follow manufacturer's recommendations for: o Operating practices o Use of retarders o Brakes o Brake maintenance	exposed to extreme temperatures from an external source. This can cause death, serious injury or property damage. Wheel coolant helps keep operating temperatures down. It must be used where recommended. • An explosion can occur when a tyre is exposed to extreme temperatures from external sources. This can cause death, serious personal injury or property damage. • The risk of explosion is greatest soon after the vehicle is stopped.

9.4 SERVICING TYRE AND RIM ON MACHINE	
PRECAUTION	REASON FOR PRECAUTION
• Block tyre and wheel on opposite side of machine before placing jack in position.	• Machine may shift and slip off jack. This can cause death or serious injury.
• Put hardwood blocks under jack. • Use blocks regardless of how hard or firm ground appears to be. • Always crib up a vehicle with blocks or a jack stand	• Machine may shift and slip off jack. This can cause death or serious injury.
• Before loosening nuts or clamps, always secure a tyre/rim assembly with: o A sling o Tyre handler o Other support equipment • Consult vehicle manufacturer for detailed instructions on removal of tyre/rim assemblies.	• Unsecured assemblies may fall when fasteners are removed.
• Don't hammer to drive a tyre and rim assembly over a cast spoke wheel. • Deflate and examine to determine the reason for improper fit. Look for distortion or components not properly locked or seated.	• Failure to fit can indicate distorted or incorrectly assembled components. • In either case, the assembly could fly apart if hammered and cause death or serious injury.
• Do not, under any circumstances, use any type of heat source on an inflated tyre.	• Welding or other heating of an inflated tyre/rim assembly can cause an explosion. • This can cause death, serious injury or property damage.

	• Welding or brazing a rim with a deflated tyre can cause damage to the tyre. When re-inflated, the damaged tyre could also explode. • Welding or brazing a rim with no tyre is contrary to recommendations of rim manufacturers. • It can cause a structural weakness in the rim. This can also lead to failure under inflation or service conditions.

10 Tyre date calculator

To find the date of manufacture of a tyre, find the oval panel on the tyre sidewall, usually close to the edge of the wheel rim. This will have a 4-digit code, of which the first 2 digits are the week number; the 3rd and 4th digits are the year number.
The table below will give the date of manufacture of any tyre, any year, correct to within 4 days accuracy.

Example: **23 14** = week 23, year 14, = 7th June 2014.

Week #	Date	Month
01	4	January
02	11	
03	18	
04	25	
05	1	February
06	8	
07	15	
08	22	
09	1	March
10	8	
11	15	
12	22	
13	29	
14	5	April
15	12	
16	19	
17	26	
18	3	May
19	10	
20	17	
21	24	
22	31	
23	7	June
24	14	
25	21	
26	28	

Week #	Date	Month
27	5	July
28	12	
29	19	
30	26	
31	2	August
32	9	
33	16	
34	23	
35	30	
36	6	September
37	13	
38	20	
39	27	
40	4	October
41	11	
42	18	
43	25	
44	1	November
45	8	
46	15	
47	22	
48	29	
49	6	December
50	13	
51	20	
52	27	

11 Tyre load index codes

Every tyre is marked with a load index code on its sidewall. The load index code number is the first number to the right or below the tyre size, and directly before the speed letter. For light vehicles the code is typically between 70 and 120, and trucks are typically 120 to 160.
The load index is the maximum load (i.e. the combined weight of that proportion of the vehicle, plus the proportion of the load it is carrying) the tyre can safely carry without risk of bursting.
Note: the load index code is NOT the same as load range letter which is not universal.
Note: for a truck rear axle having 4 tyres, the load on the axle is assumed to be carried equally between those 4 tyres.
e.g. a small truck having a single rear axle with 4 tyres, has an unladen rear axle weight of 4 tonnes, and is carrying a load of 10 tonnes, = 14 tonnes axle weight, divided by 4 tyres = 3,500 kg per tyre, requires tyres each having a load index code of 152 or greater.

load index code	kg per tyre	load index code	kg per tyre	load index code	kg per tyre	load index code	kg per tyre	load index code	kg per tyre	load index code	kg per tyre
0	45										
1	46.2	51	195	101	825	151	3,450	201	14,500	251	61,500
2	47.5	52	200	102	850	152	3,550	202	15,000	252	63,000
3	48.7	53	206	103	875	153	3,650	203	15,500	253	65,000
4	50	54	212	104	900	154	3,750	204	16,000	254	67,000
5	51.5	55	218	105	925	155	3,875	205	16,500	255	69,000
6	53	56	224	106	950	156	4,000	206	17,000	256	71,000
7	54.5	57	230	107	975	157	4,125	207	17,500	257	73,000
8	56	58	236	108	1,000	158	4,250	208	18,000	258	75,000
9	58	59	243	109	1,030	159	4,375	209	18,500	259	77,500
10	60	60	250	110	1,060	160	4,500	210	19,000	260	80,000
11	61.5	61	257	111	1,090	161	4,625	211	19,500	261	82,500
12	63	62	265	112	1,120	162	4,750	212	20,000	262	85,000
13	65	63	272	113	1,150	163	4,875	213	20,600	263	87,500
14	67	64	280	114	1,180	164	5,000	214	21,200	264	90,000
15	69	65	290	115	1,215	165	5,150	215	21,800	265	92,500
16	71	66	295	116	1,250	166	5,300	216	22,400	266	95,000
17	73	67	305	117	1,285	167	5,450	217	23,000	267	97,500
18	75	68	315	118	1,320	168	5,600	218	23,600	268	100,000
19	77.5	69	325	119	1,360	169	5,800	219	24,300	269	103,000
20	80	70	335	120	1,400	170	6,000	220	25,000	270	106,000
21	82.5	71	345	121	1,450	171	6,150	221	25,750	271	109,000
22	85	72	355	122	1,500	172	6,300	222	26,500	272	112,000
23	87.5	73	365	123	1,550	173	6,500	223	27,250	273	115,000
24	90	74	375	124	1,600	174	6,700	224	28,000	274	118,000
25	92.5	75	387	125	1,650	175	6,900	225	29,000	275	121,000
26	95	76	400	126	1,700	176	7,100	226	30,000	276	125,000
27	97.5	77	412	127	1,750	177	7,300	227	30,750	277	128,500
28	100	78	425	128	1,800	178	7,500	228	31,500	278	132,000
29	103	79	437	129	1,850	179	7,750	229	32,500	279	136,000
30	106	80	450	130	1,900	180	8,000	230	33,500		
31	109	81	462	131	1,950	181	8,250	231	34,500		
32	112	82	475	132	2,000	182	8,500	232	35,500		
33	115	83	487	133	2,060	183	8,750	233	36,500		
34	118	84	500	134	2,120	184	9,000	234	37,500		
35	121	85	515	135	2,180	185	9,250	235	38,750		
36	124	86	530	136	2,240	186	9,500	236	40,000		
37	127	87	545	137	2,300	187	9,750	237	41,250		
38	130	88	560	138	2,360	188	10,000	238	42,500		
39	133	89	580	139	2,430	189	10,300	239	43,750		
40	140	90	600	140	2,500	190	10,600	240	45,000		
41	145	91	615	141	2,575	191	10,900	241	46,250		
42	150	92	625	142	2,650	192	11,200	242	47,500		
43	155	93	650	143	2,725	193	11,500	243	48,750		
44	160	94	670	144	2,800	194	11,800	244	50,000		
45	165	95	690	145	2,900	195	12,150	245	51,500		
46	170	96	710	146	3,000	196	12,500	246	53,000		
47	175	97	730	147	3,075	197	12,850	247	54,500		
48	180	98	750	148	3,150	198	13,200	248	56,000		
49	185	99	775	149	3,250	199	13,600	249	58,000		
50	190	100	800	150	3,350	200	14,000	250	60,000		

12 Tyre speed rating codes

Every tyre is marked with a speed rating code on its sidewall. The speed rating code is a capital letter, directly after the load index code, and both the load index and speed rating codes are after or below the tyre size code.

The speed rating code must equal or exceed the maximum possible speed of the vehicle.
In all cases, the tyres must be matched to the maximum possible speed of the vehicle without considering the legal sign posted speed limit, electronic speed limiter, or actual duty.

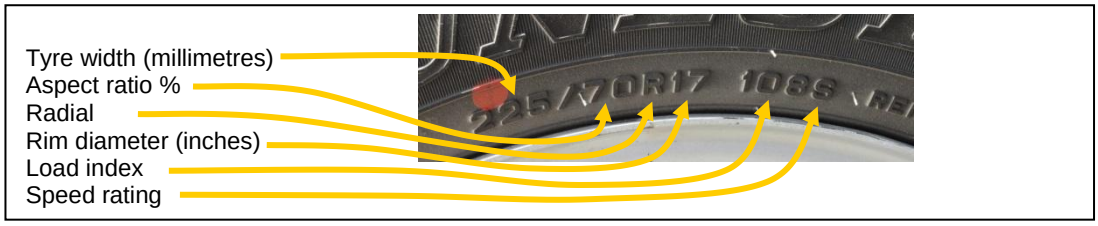
e.g. a Land cruiser may have a maximum speed of 185 km/h, therefore this vehicle must be fitted with tyres having the speed rating code T.

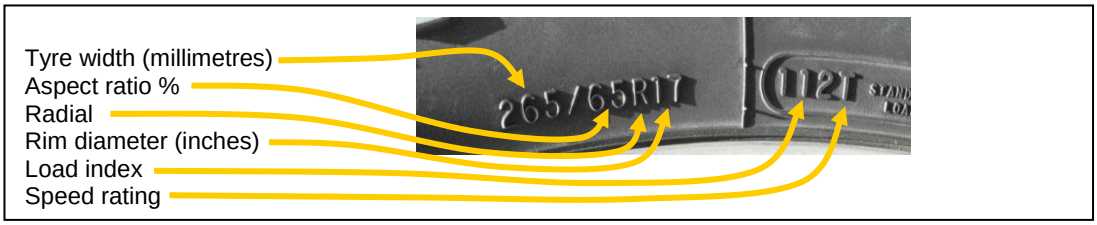
Note: code 'H' is out of sequence for historical reasons.

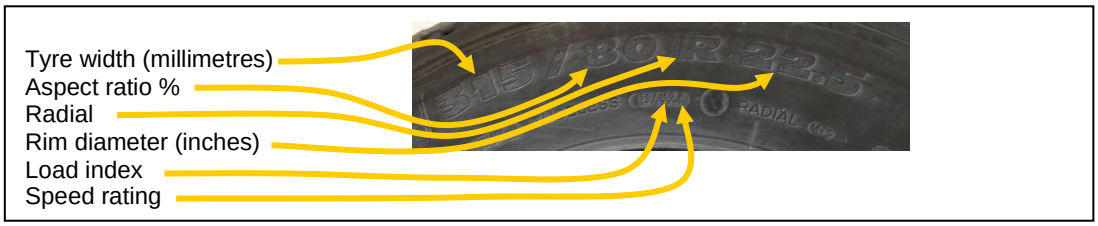
code	maximum km/h
A1	5
A2	10
A3	15
A4	20
A5	25
A6	30
A7	35
A8	40
B	50
C	60
D	65
E	70
F	80
G	90
J	100
K	110
L	120
M	130
N	140
P	150
Q	160
R	170
S	180
T	190
U	200
H	210
V	240
W	270
Y	300

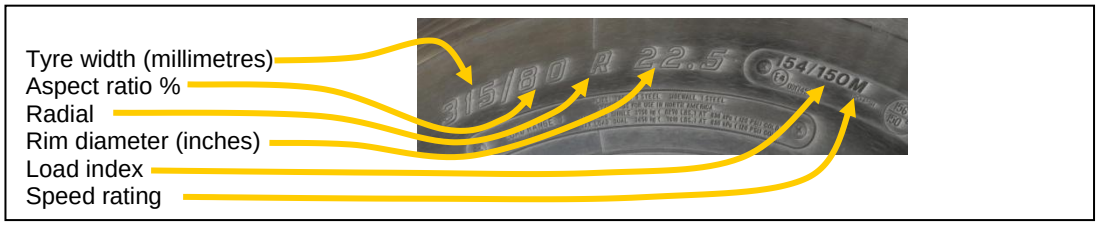
13 Tyre sidewall decodes

Tyre sidewalls are marked with numerous codes. Unfortunately, there are known to be more than 14 different formats of codes in use.
Care should be taken if attempting to use any decode found on the internet – it could be written for some foreign tyres not found in Oman.
Below are several decodes for tyres in Oman:









Annex B-4: Rollover protective structure (ROPS) requirements

1 General requirements

This Annex applies to all light vehicles used on graded roads, off-road. It applies to both 2-wheel-drive and 4-wheel-drive vehicles.
This Annex also applies to any heavy vehicle fitted with a crew-cab (double cab).
Mobile equipment must have an in-built ROPS system designed and fitted by the manufacturer.
The requirements of this Annex are mandatory. Any deviation in meeting these requirements must be authorized through Step–Out approval process.

2 Exemptions:

Some specialised light vehicles may be granted exemption from the requirement to have a rollover protective structure fitted, such as:

- A pickup mounted with various forms of Mobile Elevating Work Platform (MEWP),
- Small tipper,
- Delivery van,

each depending upon its physical sizes, structure, and layout.
Some heavy vehicles fitted with a crew-cab (double cab) may also be exempt depending upon fitment of any permanent equipment or load body.

For all exemption cases, written exemption for every such vehicle must be obtained from the Operators HSE Team who will review each specific case.

3 Derivation and definitions:

The rollover protective structure requirements in this document are derived in part from the Fédération Internationale de l'Automobile, (FIA), Article 253, and adapted from competitive to industrial use. For any details here which remain unspecified, refer to the Corporate Road Safety Section, and/or to:
http://www.fia.com/sites/default/files/regulation/file/253%20%2814-15%29_11.04.2014.pdf

Item	Definition
Longitudinal member	A horizontal longitudinal tube that joins the front and rear roll bar hoops.
Mounting foot	A plate welded to the end of a roll bar tube to permit its bolting to the body/chassis. This plate may be welded to the chassis in addition to the bolts.
Reinforcement plate	A metal plate fixed to the external side of the body/chassis under a roll bar mounting foot to better spread the load onto the body/chassis.
Roll bar hoop	A transverse and near-vertical (maximum angle ± 10° from vertical) single-piece tubular hoop located across the vehicle just behind each row of seats, internally or externally. The tube axis must be within one single plane.
ROPS	Rollover Protective Structure, a structural safety cage or roll bar hoop fitted to a vehicle or mobile equipment, to protect the occupants if the vehicle should turn over.
Safety cage	A multi-tubular structure installed inside the cabin and fitted closely around the cabin, principally two transverse roll bar hoops and longitudinal members, the function of which is to reduce the deformation of the bodyshell in case of an impact.

4 Specification for tubular members:

Material	Minimum tensile strength	Minimum dimensions (mm)	Use
Cold drawn seamless unalloyed carbon steel containing a maximum 0.3 % carbon	350 N/mm^2	45 mm x 2.5 mm (1.75" x 0.095") or 50 mm x 2.0 mm (2.0" x 0.083")	Roll bar hoop
		38 mm x 2.5 mm (1.5" x 0.095") or 40 mm x 2.0 mm (1.6" x 0.083")	other parts of the ROPS, excluding roll bar hoop

All tubular members used in one ROPS must be of the same material specification.
All tube must be of circular section.
Galvanised steel must not be used.

5 Plates

- Each mounting foot, reinforcement plate, and bracket must have a minimum thickness not less than 3 mm.
- Each mounting foot must have a surface area not less than 120 cm^2.
- Each mounting foot must be attached to the vehicle by not less than 3 bolts.
- Reinforcement plates must be fixed by welding to the chassis or substantial body members.
- Each reinforcement plate must have a minimum surface area of 120 cm^2.
- All holes for fixing bolts, in any mounting foot, reinforcement plate, and bracket, must be drilled no nearer to the edge of the full material then the diameter of the hole drilled.

6 Welding

- Welding is the preferred method of joining all tubes to another, and for all joints of tubes to plates and brackets.
- All welding must be continuous around the entire circumference of the tube(s).
- Where a bracket is welded to a tube, the length of the welded area shall be not less than three times the width of the bracket. e.g. a bracket measuring 150 mm x 30 mm x 3 mm is welded to a tube: the weld length shall be not less than 30 mm x 3 = 90 mm of weld.
- All welds must be of the highest possible quality with full penetration and preferably using a gas-shielded arc.
- When using heat-treated steel the special instructions of the manufacturer must be followed (special electrodes, gas protected welding).

7 Bolts

For fixing each individual mounting foot of each hoop to the vehicle, a minimum of three bolts must be used:

- Minimum diameter of these bolts must not be less than 8 mm,
- Minimum material specification: Grade 8-8,
- A washer must be used under the nut,

- Nuts must be of the locking type. As an alternative to locking nuts, locking washers may be used.
- If nuts are tag welded to either the mounting foot or the reinforcement plate, a locking washer must be used under the head of the fixing bolt.
- After assembly, there must be not less than two threads showing once the nut/bolt has been tightened fully.
- The instance of a bolt passing through the tubing for joining purposes should be avoided wherever possible, but if this cannot be avoided a tubular insert matching the diameter of the bolt must be welded into the tube to provide additional compressive strength to ensure the tube cannot deform whenever a nut and bolt is tightened.
- Bolts used for fixing the combined fixing point of the roll bar and seatbelt must be of the specific seatbelt type used by the vehicle manufacturer on the particular seatbelt anchorage point and must be fitted with a locking washer.

8 Finishing

- The ROPS must be painted with sufficient coats of suitable corrosion prevention paint.
- Where the occupants' bodies could come into contact with the safety cage, padding not less than 20 mm thick must be provided for protection.

9 Minimum Load Requirements

The rollover protective structure must be capable of withstanding the following forces combined as a single point load on either corner of the roll bar hoop:

- Three times vehicle`s operating weight vertically,
- Three times vehicle`s operating weight in front and behind,
- One and a half vehicle`s operating weight on each side.

10 Construction

The rollover protective structure must be fixed to the bottom of the vehicle as near as reasonably and technically possible to the chassis beams or any floor support/fixing brackets of the chassis.

- Each hoop must be formed from a single piece of tube.
- The tubing must be bent by a cold working process and the centreline bend radius must be not less than 3 times the tube diameter.
- Where a tube is bent, each bend must be without unevenness, cracking, wrinkling or flattening of the tube.

Brackets must be welded to the main hoops of the rollover protective structure at a location convenient to provide a combined fixing point of the hoop to the vehicle at the upper point of the 3-point fixing (inertia reel) seatbelt. The upper seatbelt end attachment must continue to be mounted to its original point and not to a separate bracket on the hoop.
The upper seatbelt end attachment must continue to be able to rotate freely around the fixing bolt.
In addition to fixing the feet of each hoop and seatbelt upper anchorage points, the rollover protective structure must be attached to the vehicle body using brackets welded to the hoop and bolted to the body, to provide additional rigidity to the structure.

Existing structural anchor points must be used. In this case, reinforcement plates may not be required but this must be confirmed by the vehicle manufacturer. If there are any wiring, fuel or brake lines within the area chosen for the installation of the reinforcement plates, then they must be re-routed to avoid the possibility of damage/severing in the event of a rollover.

11 Certificate or Proof of Compliance

A certificate, issued by the vehicle manufacturer or accredited agent, certifying that the rollover protective structure has been designed, fabricated and installed as per this Specification will be kept with the vehicle custodian (e.g. the vehicle owner). Liability for compliance rests with the vehicle manufacturer, accredited agent or vehicle owner with respect to the design, construction or installation of the rollover protective structure.

12 Rollover protective structure for single-cab pickup and similar type vehicles

The design, fabrication and installation of the rollover protective bar must comply with the above, and:

- There must be a single roll bar hoop fitted as close behind the cab as reasonably possible.
- The hoop must run from the floor area of the pickup bed, and the centre of the horizontal section must exceed the height of the cab by not less than 11 cm but not more than 15 cm.
- The hoop will have 2 principal bends, and optionally each vertical section may have a bend not exceeding 20° to reasonably follow the profile of the rear of the cab.
- Collectively, all bends of the hoop must be in a single plane.
- Each vertical section of the hoop must be clamped to the upper rail of the pickup body at the closest point of intersection using a saddle clamp and 2 bolts, nuts, and locking washers, at each fixing point.
- There must be two diagonal struts running from the outer ends of the horizontal section of the main hoop, rearwards to the convex area of each wheel arch. Diagonal struts must be straight.
- To provide sufficient resistance at impact, the reinforcement plate must have dimensions so it is located above structural members of the pickup bed. Optionally, the reinforcement plate can be extended below the full width of the pickup bed.
- In the case of the pickup bed being made from wood, fibreglass, or other material, sufficient additional structural steel support must be fabricated between each foot of the roll bar hoop to the vehicle chassis.
- As a further option, the roll bar hoop can be braced diagonally within the plane of the roll bar hoop from the ends of the horizontal section, to the pickup bed.
- The general arrangement of the roll bar and the diagonal struts must be as shown at Figure 1.

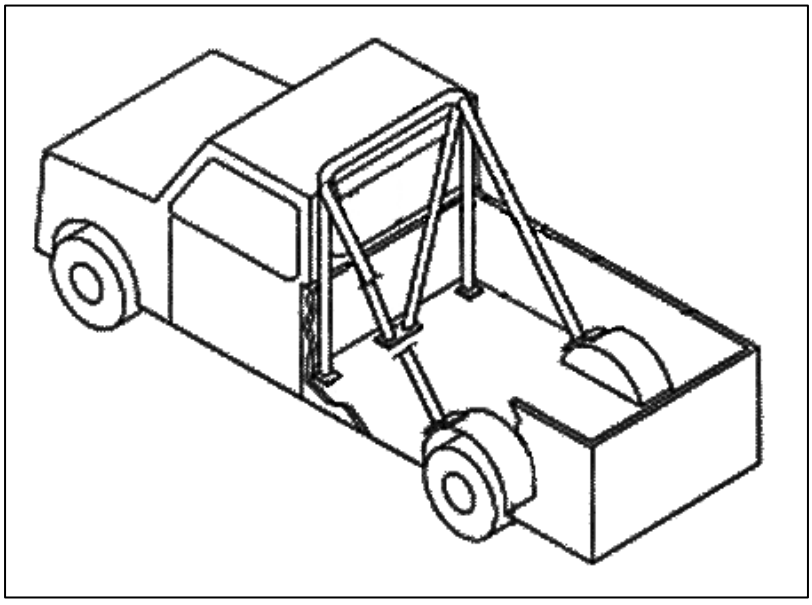


Figure 1: Rollover protective structure for single-cab pickup and similar type vehicles.

13 Rollover protective structure for crew-cab pickup and SUV type vehicles

- There must be a safety cage inside the vehicle cabin consisting of two roll bar hoops connected by at least two horizontal longitudinal struts at the top corner of each hoop.
- The first hoop must be situated directly behind the front seats, fastened to the floor and must follow the internal shape of the vehicle reasonably closely around the sides and roof, and must be joined to the vehicle at the upper seatbelt mountings, and by other brackets as frequently as is practical.
- The second hoop must be situated directly behind the rear seats, fastened to the lowest point in that area of the cabin, must follow the internal shape of the vehicle reasonably closely around the sides and roof, and must be joined to the vehicle at the upper seatbelt mountings and by other brackets as frequently as is practical.
- Between the two hoops there must be at least one horizontal strut at each side of the vehicle fitted as high as practically possible. The horizontal struts must follow the roof line as far as is practically possible and must be above the door line.
- All of the safety cage must be covered with foam padding not less than 20 mm thick.
- Hands or fingers must be prevented from being inserted between any part of the safety cage and the internal lining of the vehicle body, by fixing additional foam padding where required.
- The general arrangement of the roll bar hoops and the horizontal longitudinal struts must be as shown at Figure 2.

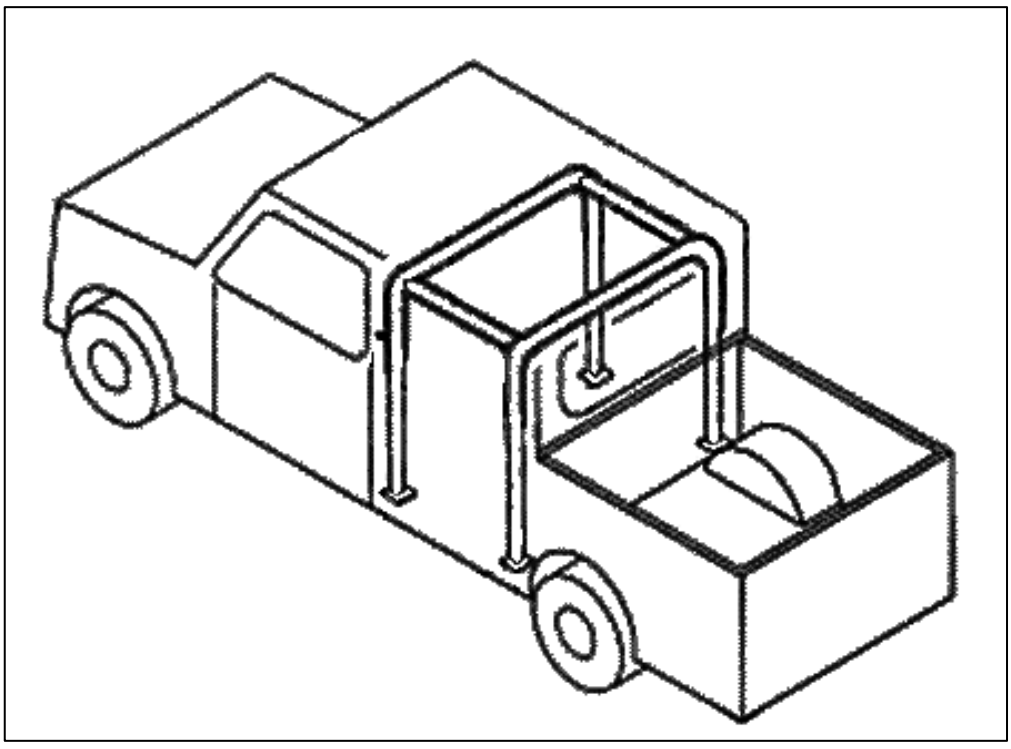


Figure 2: Rollover protective structure for crew-cab pickup and SUV type vehicles.

Annex B-5: Ambulance vehicle requirements

1 Chassis configuration

Wheelbase:	minimum 4,064 millimetres (160 inches),
Rear axle:	twin rear wheels,
Drive train:	4x4,
Transmission:	automatic gearbox,
Suspension:	air suspension is strongly recommended,
Alternators:	dual alternators, minimum 150 amps each, i.e. minimum 300 amps total,
Battery:	additional battery (12 volt / 90 AH) and twin / split charging system,
A/C:	dual A/C compressors, or, dual zone air conditioning,
Side mirrors:	extended reach mirrors – located wider than the box body – both left and right,
Side mirrors:	convex glass – both left and right,
Rear vision:	colour camera & display is strongly recommended, so the driver may see the road surface directly behind the vehicle whenever reverse gear is selected,
Tyres:	All Terrain,
Tyres:	2 spare wheels.

2 Box body dimensions

Bodywork should be in the style of a single cab, with a box-van rear.
Box dimensions:

Length:	3,400 mm minimum internal,
Width:	2,200 mm minimum internal,
Height:	1,800 mm minimum internal.

2.1.1 Box body construction

- The box body will be built on a sub-frame fixed to the vehicle chassis.
- The body structure will be constructed using aluminium box sections.
- The walls and roof of the casualty compartment will be of aluminium sheet inside and outside, having 50 mm thick insulation between inner and outer panels.
- The floor will be 18 mm marine grade plywood, covered with heavy-duty anti-slip, anti-static, and liquid-proof vinyl. The vinyl covering will have raised edges at the front, both sides, and at the rear, except at the doors, to ensure a complete seal of the floor.
- The rear door will be twin leaf, swing out type.
- There will be a side door at the forward end of the right side.
- All doors will be lockable, equipped with a stay to hold the door open, and windows.
- There will be an adequate step for the rear door, the step may be integrated with the rear bumper, and shall be surfaced with non-slip mineral granules.
- Windows shall have frost-effect translucent coating for privacy.
- There should be direct open passage for verbal and visual communication through the opening of the drivers' cab rear window to the front wall of the casualty compartment; this opening should be physically sealed from the external environment, and vibration resistant. This area can be closed by a sliding window of clear Plexiglas.
- Foam padding and upholstery will be used on corners and edges to reduce the risk of injury in case of collision.

3 Casualty compartment

The casualty compartment shall be constructed so it may safely transport 5 persons:
i.e. 1 casualty on a stretcher, plus 3 casualties seated, plus 1 paramedic.

The casualty compartment must securely and ergonomically contain:

- Paramedic seat: rear-facing, with padded base, backrest, and headrest, with easy-clean vinyl upholstery, and a robustly anchored 3-point inertia-reel seatbelt.
- Squad bench: mounted on right hand side of the vehicle, able to accommodate 3 persons, with padded base, backrest, and headrest, with easy-clean vinyl upholstery, each seat position shall be fitted with a robustly anchored3-point inertia-reel seatbelt, the seat base is also a liftable lid with gas-struts for access to under-bench storage for a scoop stretcher, 2 spinal boards, and other medical equipment.
- Medical cabinet, full length along the left side, and on the front bulkhead, made of InteCel, lower areas may be accessed by drawers, upper areas by sliding Plexiglas doors, all moving parts shall be secured when the vehicle is moving, and all shall incorporate anti-rattle mechanisms.
- Central oxygen system with 4 outlets, 2 on each side, and all connected together.
- Oxygen cylinders, 4 each, F-size (10 litres), with regulators.
- Suction aspirator, equivalent to Rico model RS4, minimum capacity 1 litre, connected to a 12 volt vacuum pump, mounted within a cabinet, with adequate storage for spare receptacles, with adequate length of suction hose.
- Location and latching points for a Locksley roll-on stretcher, located on the left side of the floor.
- Overhead safety grab-rails (2) full length, on the ceiling.
- IV Hooks suspended from the ceiling, 2 above the stretcher, 3 above the bench,
- Waste bin.
- Sharps disposal bin – small.
- First Aid kit – medium
- Fire extinguishers, 2 kg dry powder:
    - 1 located in the casualty compartment,
    - 1 located in drivers' cab.

4 Casualty compartment stowage

The casualty compartment must incorporate stowage for:

#	**Minimum medical equipment required in private ambulance by Ministry of Health, ROP & Operator/Company**	**private ambulance MoH**	**Operator/ Company**	**quantity**
1	Cardiac Monitor / transport type with accessories	✓	✓	1
2	Defibrillator / biphasic pulse with accessories	✓	✓	1
3	Resuscitation set with 3 bags (Adult , paediatric and neonatal) 5 masks, guidable airways, & O2 cylinder	✓	✓	1
4	O2 cylinder, F size (10 litres), with breathing apparatus, with therapy set, pin index regulator flow meter, humidifier tube and mask	✓	✓	2
5	Portable O2 cylinder with breathing apparatus		✓	1
6	Spare oxygen cylinder, F size (10 litres)	✓	✓	2
7	Locksley stretcher, roll-on type	✓	✓	1
8	Scoop stretcher for spinal fracture / folding type	✓	✓	1

#	Minimum medical equipment required in private ambulance by Ministry of Health, ROP & Operator/Company	private ambulance MoH	Operator/ Company	quantity
9	Spinal board		✓	1
10	Suction machine with regulator and accessories	✓	✓	1
11	Laryngoscope set with handle & battery	✓		1
12	Endotracheal tube set	✓		1
13	Tourniquet, adult /child	✓		1
14	Adult and paediatric stethoscope	✓		1 each
15	Blood pressure apparatus – Sphygmomanometer – mercury type	✓		1
16	Transport ventilator with standard accessories	✓		1
17	Splint package, including spine support, air splints, rigid splints for arms & legs, and traction kit	✓	✓	1 set
18	Urinal male & female, bed pan, kidney dish , vomit bowl, (plastic or stainless steel)	✓		1 each
19	Cervical collars, soft & hard collar	✓		1 each
20	Mouth gag, and tongue forceps set		✓	1
21	Emergency spotlight, portable, rechargeable	✓		1
22	Coleman flask with disposable cups		✓	1
23	Bandages / gauze / cotton wool / plasters / scissors		✓	some
24	Syringes set		✓	some
25	IV fluids as required		✓	some
26	Small plastic bags		✓	3

5 Electrical systems and services

Operating autonomously:

- Dual speed limiter
- IVMS
- Reversing alarm

Switched by the driver:

- Light bar – a strobe type multi light-bar on cabin roof, blue colour.
- Strobe lights – 6 strobe lights – 2 on each side and 2 on the rear in blue colour.
- Scene floodlights – 3 scene floodlights – 1 on each side, and 1 on the rear, white colour.
- High intensity rear lights, 2, rear facing, red colour, located at the top left and top right corners of the rear of the box body, wired from the headlight switch, but also with an override switch.
- PA system – 100 Watt electronic siren with PA amplifier and speaker.

6 Casualty area

- Casualty compartment – 8 internal roof lights, LED and halogen, 12 volt, with individual switches.
- Intercom between casualty compartment and drivers' cab,
- Reading / surgery, directional spotlight.
- A/C system & controls (powered by vehicle engine).
- Fans, 1 inlet, 1 outlet.
- DC socket outlets, 12 volts, 2 each.
- Shoreline – auto eject 240 volt / 50 Hz inlet shoreline wired to interior socket outlets.

- Socket outlets, 240 volt, (powered by shoreline / inverter with auto changeover), double socket outlets, 2 each, (type G square-pin BS1363), (1 double on the left side above the stretcher area, and 1 double on the right side above the casualty bench).
- Inverter, input 12 volt DC, output 240 volt / 5 amps, with status display.

7 Paint, decals, lettering

Body colour – white, with:

- A horizontal red stripe along the sides of the cab including the doors, approx150 mm high, and which may follow bodywork styling lines, at a height above the top of the front wheel arch and below the side of the bonnet.
- A horizontal red stripe along the sides and across the rear of the casualty compartment, 200 mm high, at a similar height to match the line on the cab.
- AMBULANCE written in large red letters across the rear.
- AMBULANCE written in large red letters mirror-image across the front edge of the bonnet, and across the front top of the casualty compartment box body.
- A red crescent symbol on left and right sides, and on the rear.
- No Smoking stickers, 2, on each side, inside the casualty compartment.
- Fasten seatbelts stickers, 2, inside the casualty compartment.
- Petrol (or diesel as appropriate) written in a contrasting colour on the fuel filler lid.
- Tyre pressure psi figure, written in black above each wheel-arch.

8 Previous standards

Any SUV type 4x4 (Land cruiser and similar) vehicles which have previously been modified to be able to convert into an ambulance will not continue to meet this specification, and must not be used beyond the end of any current contract. Those type of vehicles can be used as an Emergency Vehicles only, and their specifications are given in the table below.

Emergency Vehicle	One vehicle must be on Site at all times that can accommodate and properly secure a stretcher inside the vehicle. It shall comply with following specifications: • Long wheel base air conditioned 4-wheel drive vehicle • Able to carry one patient lying down on stretcher well secured to the vehicle and a nursing attendant able to sit beside the stretcher. • Oxygen cylinder stand fixed to the vehicle. • (x2) intravenous hooks fixed on the side safety bars. • Communication facility – radio or Thuraya phone. • Each vehicle shall be checked daily to ensure that is road worthy.	This vehicle shall only be used for emergency purposes.

In addition to that, please note that those vehicles must be signed (painted **in RED**on both sides – doors of the vehicle) as an **EMERGENCY EVACUATION VEHICLE** in both English and Arabic (**مركبة إخلاء حالات الطوارئ**).

Annex B-6: ROP procedures for issuing truck escorting permits

This annex describes the ROP procedures (Decision No. 158/2015).

For up-to date procedures refer to the ROP web site.

National Law states the maximum dimensions for a standard truck including its load as:

Width:	2.7 metres,
Length:	12.0 metres (rigid),
Length:	17.0 metres (articulated),
Height:	4.8 metres,
Weight:	46 tonnes total weight of the truck including load,
Axle-weight	13 tonnnes to 21 tonnes depending upon the spacing between axles,
Load front overhang:	1.0 metre,
Load rear overhang:	1.5 metre.

Royal Oman Police
Decision No. 158/2015
issuance of Traffic and Security Escorting Arrangements

Based on the Traffic Law issued by the Royal Decree No. 28/93,
And on the executive regulation of Traffic Law issued by the decision No. 23/98,
And the consent of the Ministry of Finance,
And for the public interest.

IT ID DECIDED

First Article

The Traffic and Security Escorting arrangements shall be in accordance with the provisions of the attached arrangements.

Second Article

This decision shall be published in the Official Gazette and shall take effect from the day following the date of its publication.

Issued on the fifth of Thil -qaida, 1436 H.
Corresponding to August 20, 2015

General / Hassan bin Mohsen Al Shiraiqhi
Inspector General of Police and Customs

The Traffic and Security Escorting Arrangements

Article 1

In implementation of the provisions of these arrangements, unless the context otherwise requires, the words and expressions set forth shall have the meanings assigned to them in the abovementioned Traffic Law and its executive regulation. The following words and expressions shall have the following meanings.

1- **The Arrangements**:
The arrangements of Traffic and Security Escorting.

2- The Directorate
The Directorate General of Traffic or its branches at Governorates' Police stations.

3- Competent Police Command
The Police Command for Oil and Gas Facilities Security or one of its Stations.

4- Oil Concession Area
The area which coordinates are designated in the oil concession agreement.

5- Exceptional Specifications
The standard exceptional specifications of a vehicle or equipment related to length, width, height, weight, and capacity that are contrary to what has been specified in the Traffic Law and its executive regulation.

6- Permit
The approval of the Director General of the Directorate on driving the vehicle, or equipment of exceptional specifications, on the roads.

7- Escorting
Escorting of vehicles and equipments of exceptional specifications by police vehicles while passing on the road.

8- Police vehicle
The escorting vehicle which belongs to the Royal Oman Police.

9- The party requesting escorting

Any company, establishment or individual benefiting from the service.

Article 2

Any vehicle or equipment with exceptional specifications may not pass on the road unless the permit is obtained and the fees are paid.

Article 3

If the the escorting is on a road at the Oil Concession Area, then application for permit shall be submitted to the competent police directorate of command on the prescribed form, with following attachments:

1. A copy of a valid license for the vehicle or equipment applied for its passing on the road.
2. A copy of a valid driving license authorized the driver to drive such type of vehicles or equipments.
3. A clear statement of the roads which the vehicle or equipment applied for shall pass and its exceptional specifications.

Article 4

There are two types of permits as follows:

A. Permit without escorting.
B. Permit with escorting.

Article 5

The permit must include the following details:

1. The name of the applying entity and details of the vehicle or equipment.
2. The name of the vehicle or equipment driver.
3. The roads which the vehicle or equipment applied for shall pass, the date and time of passing as well as its directions.
4. The period of permit validity.
5. The consent of the concerned governmental bodies.
6. Other details the directorate or the competent police command view as important to be mentioned in the permit.

Article 6

Without prejudice to the provisions of Article 2 of this Arrangement, the vehicle or equipment of exceptional specifications may pass on the road without escort in the following cases:

1. If the width of the vehicle or equipment ranges between 2.7 meters and 3.5 meters. If the width of the vehicle or equipment, with its load, exceeds that but not more than 4 meters and the applicant undertakes to escort it with another vehicle that belongs to him and equipped with the necessary alarm devices.
2. If the length of the vehicle or equipment, with its load, is more than 22 meters and not exceeding 24 meters, providing that the applicant undertakes to escort it with another vehicle that belongs to him and equipped with the necessary alarm devices. In all cases, the load may not be projecting out of the vehicle or equipment rear by more than 2 meters.
3. If the height of the vehicle or equipment, with its load, ranges between 4.8 meters and 5 meters from the road level.
4. If the weight of the vehicle or equipment, with its load, does not exceed 46 tons, and in the case it does exceed 46 tons, the permit needs the consent of the concerned governmental bodies.
5. If the vehicle or equipment’s load projects by less than one meter from both sides. In all cases, the vehicle or equipment with measurements set forth in item (1) of this Article, may not pass on one-way roads or feeder roads without the consent of the Directorate who would assess whether escorting is needed or not.

Article 7

Passing of vehicles or equipments of exceptional specifications on the roads with escorting shall be in the following cases:

1. If the width of the vehicle or equipment, with its load, ranges between 4 meters and 5 meters. In such case it shall pass on the road as follows:

    A. If the number of vehicles or equipments which require escort is not more than 4, the escort shall be with two vehicles, one belongs to the Royal Oman Police (ROP) and the other to the applicant, providing that the applicant's vehicle shall be equipped with the necessary alarm devices. 6 vehicles or equipments may be escorted by the same mechanism, if they pass on a road in the oil concession area.

    B. If the number of vehicles or equipments is more than 4, they shall be divided into groups. Two escorting vehicles shall be assigned for each group, one belongs to the ROP and the other belongs to the applicant, providing that the applicant's vehicle shall be equipped with the necessary alarm devices.

    In all cases, the distance between each group and the other, shall not be less than one kilometer. The Directorate or the competent police command, according to their discretion, has the right to increase the number of the escorting vehicles.

    C. If the passing of the applicant's vehicle is on a dual way (one way road), the police vehicle shall be at the rear and the vehicle of the applicant at the front, but if the escorting road is a two-way street of opposite directions, the escort shall be by 2 police vehicles, one at the front and the other at the rear.

2. If the width of the vehicle or equipment, with its load, is 5 meters and more, the escort shall be by 2 ROP vehicles, one in front of the vehicle or equipment and the other behind it, taking into account the controls of escorting as stipulated in item (1) of this Article.
3. If the length of the vehicle or equipment, with its load, is more than 24 meters.
4. If the height of the vehicle or equipment, with its load, is more than 5 meters.
5. If the vehicle or equipment load projects by more than 2 meter.

Article 8

The Directorate shall coordinate with the police formations – all within its competence – according to the escorted vehicle or equipment's passing line to take necessary procedures to ensure traffic safety to preserve lives and property of the road users.

Article 9

A. The escort applicant shall undertake to pay the prescribed fees electronically for the permit when he applies. The permit fees are determined as per the following table:

S.N.	Type of fees	Due Sum
1	Issuance of escort permit for 3 months	OMR 10 Ten Omani Riyals
2	Issuance of permit without escort for 3 months	OMR 5 Five Omani Riyals
3	Renewal of a permit with escort	OMR 10 Ten Omani Riyals
4	Renewal of a permit without escort	OMR 5 Five Omani Riyals
5	Security and traffic escort for each police vehicle	OMR 2 Tow Omani Riyals For each one kilometer Passed by the police vehicle From the starting point of the escort
6	Cancellation of security and traffic escort within 24 hours	OMR 50 Fifty Omani Riyals

B. A sum of OMR 65 shall be paid for the ranks of officers and OMR 40 for the other ranks, for one shift which last for 8 hours or less.

C. A sum of OMR 20 shall be paid for each hour of waiting for escort execution.

D. The security and traffic escort may be cancelled 24 hours before the time of its provision. Permit fees shall not be returned if the cancellation of escort service is caused by the requesting entity.

Annex B-7 Operator/Company Rig move, convoy driving, and oversize loads

This Section is written primarily for Rig Moves, but parts of this Section also apply to any oversize load, and parts can also apply whenever 2 or more vehicles are dispatched together for any journey.

1 Convoy planning

All convoy activities must be planned.

Whenever planning the convoy move the Company responsible for the move must refer to the most recent requirements for convoy moves from Royal Oman Police, detailed in Annex A-6 of this document.

A rig should (where possible) give at least 48 hours (72 hours if ROP required, not including weekends), notice of the intended release date and time, via a Rig Move Notification.

Pre Rig Move - Route / Site Survey must be conducted in order to identify minimum following:

- Overhead Power Lines
- Flow lines
- Road works
- Road surface conditions
- Gradients which could cause a problem

If the rig move has not started within 7 days of the initial route survey, then a new route survey must be carried out, to ensure that the route condition has not changed and it is still suitable.

The route and any hazards must be recorded on the Route Survey Form.

2 Convoy preparation

Rig Move Supervisor shall:

- Arrange to inspect vehicles/equipment to determine their suitability for the task and road worthiness at least 12 hours prior to journey start time.
- Ensure all vehicles/equipment comply with the relevant vehicle specifications.
- Check drivers' licences and shift start/finish times ensuring drivers have had sufficient rest between duty periods.
- Ensure that two escort vehicles are arranged, one for the front and one for the rear, and that each escort vehicle carries a red flag and radio prior to journey start time,
- Arrange ROP escort for convoys that are required to be escorted as per the ROP rules and regulations.
- Notify Senior Transport Supervisor of the Estimated Time of Departure (ETD) / Estimated Time of Arrival (ETA) of convoy move and total number of vehicles involved.
- Hold a toolbox talk with all drivers/helpers covering the following:
    - Route, rest places, food stops, convoy chain of command, vehicle order in convoy and dust code instructions,
    - Maximum speed and minimum spacing between vehicles.

3 Convoy move

Rig Move Supervisor shall ensure that:

- Vehicles have been despatched to arrive at nominated departure location at least 12 hours before nominated task time.
- Minimum spacing of 100 meters between the vehicles is maintained.
- Convoy speed is governed by slowest moving vehicle or, at the discretion of the Convoy Supervisor, based on load restrictions or previous experience.
- Any barriers removed to allow the convoy to use special or restricted roads are reinstated to its original condition immediately after the convoy has passed.
- Drivers comply with the rules of the road.
- The extremities of the load wider than the vehicle carrying it are marked with retroreflective red and white marker boards and illuminated at the extremity of the load. Such illumination must show white lights facing forwards, red lights facing rearwards, and amber lights at intervals along each side.

4 Twilight and night moves

A twilight rig move is commonly permitted to enable the rig to execute the rig activities timely. Any deviation from this has to be approved by the Operator responsible authority.

A twilight move shall be from 18:00 hours until 22:00 hours, if the move is to go on longer than this, then it shall be classed as a Night Move.

When the vehicles are on the Twilight and Night moves they must have the following as a minimum:

- Each vehicle must carry four traffic cones and portable flashing lights.
- Each driver and helper must wear a reflective jacket or high visibility vest.
- Operator/Company escort vehicles carry a minimum of 10 traffic cones and four extra beacons.
- Wide loads must have retro-reflective strips along the front and rear of the load out to the widest point of the load, and retro-reflective red and white marker boards displayed and securely fastened at the extremities of the load.
- Ensure that the extremities of the load wider than the vehicle carrying it are illuminated at the extremity of the load. Such illumination must show white lights facing forwards, red lights facing rearwards, and amber lights at intervals along each side.
- Prime mover rear deck-lights remain on adjusted to shine light on the load for oncoming vehicles, but should not cause dazzling hazard for other road users.
- The escort vehicles must use their hazard lights when other vehicles are approaching the convoy either from the front or the rear.

5 In case of breakdown

When there is a breakdown of any sort, all the people in convoy must comply with the following:

- All drivers / helpers must stay in their vehicles unless directed to assist by the Rig Move Supervisor, or if they need to move away from the hazard.
- The front escort vehicle should be directed to the side of the road away from the direction of blowing dust, if applicable.
- The front and rear escort vehicles of the convoy to act as traffic control and slow approaching vehicles.
- Movement of personnel must be kept to a minimum and restricted to key personnel only.

- Assess the situation and direct the minimum number of people to assist in the breakdown and ensure that :
    - the area 2 metres out from the widest extremity of the disabled vehicle and extending 50 metres to the front and rear is marked by traffic cones,
    - two portable beacons are placed at each end of the marked area,
    - no personnel are positioned outside this area.
- Once corrective action has been taken or a decision made to leave the vehicle, the convoy supervisor must :
    - inform his base and request vehicle/load recovery, and the convoy shall resume its journey; or
    - move all vehicles other than the disabled vehicle off the road if possible,
    - on graded roads in daylight ensure all headlights, side, tail, stop, hazard warning and rotating beacon lights are left on.
- If a repair cannot be done, then the convoy should proceed leaving the disabled vehicle as previously marked, and issuing its occupants with clear instructions regarding the ETA of the recovery team and any additional measures to ensure their personal safety.

6 Convoy arrival

Rig Move Supervisor shall ensure that:

- All the vehicles in convoy park at a nominated site.
- Drivers turn off the engine and remove ignition key and drivers' identification key from the vehicle when the vehicle is unattended.
- Drivers engage the handbrake before exiting the drivers' seat.
- Wheels are chocked safely.
- Report to the Senior Transport Supervisor confirming convoy arrival and reporting on areas of non-conformance experienced.

Annex B-8: Vehicle Maintenance and Compliance Monitoring Procedure

1 Purpose

This Annex describes requirements for managing the maintenance and inspection of vehicles for the purpose of compliance assurance that is over and above OPAL RAS inspection requirements.

2 Vehicle Inspections

As a pre-requisite before any vehicle can be RAS inspected, and re-inspected at annual intervals, the vehicle maintenance must be carried out in compliance with the vehicle manufacturers' recommended specifications and standards, i.e. it must be serviced in accordance with the manufacturers stated specifications and intervals.

Maintenance must be carried out by, or directly supervised by, trained and qualified vehicle mechanics.

2.1 Levels of Vehicle Inspection

There are five levels of vehicle inspection:

- ROP annual inspection
- Manufacturer recommended service and inspection
- RAS approved inspection & certification, initial and annual
- Company random roadside check
- Driver daily checks

All above five levels must be complied with, if any of the five is not performed, it cannot be used for a Operator/Company related work.

2.2 RAS Vehicle Inspection

This will be performed by a RAS approved company in the following cases:

- Prior to the vehicle commencing work, this includes a vehicle which is brand new to confirm it is complete with all necessary safety equipment to meet OPAL Road Safety Standard,
- Annual renewal inspection.

2.3 Random Checks of Vehicles

The Operator/Company regularly carries out random spot checks, either at the roadside or at a suitable time during an operation. Random checks are normally be carried out by the road safety/HSE inspectors on the Company's behalf.

The checklists provided within this document provide inspection guidance for inspectors performing random checks.

3 Random Checks of Maintenance Facilities/Systems

Operator's appointed representatives will also conduct random audits on workshops to ensure maintenance of standards and identify any deficiencies. Operator/Company representatives may request further inspections and audits of vehicle maintenance systems and facilities.

4 Monitoring of Contractor Fleets by Random Checking

Operator's appointed representatives may carry out random checks by inspecting Contractor's vehicles or equipment at their location or on roads in the concession area. The inspection may cover individual workshops if repairs and maintenance is run by the same Contractor.

Vehicle checks may discover defects. These will be classified as either Class A or Class B, as described below.

Where a driver is requested to stop by the appointed road safety inspector, he shall do so immediately. Failure to do so will be deemed a disciplinary offence.

Where a driver or passenger is abusive to a member of the roadside inspection team this will be treated as a disciplinary matter.

5 Defect Classifications

The following lists Class A defects

- ***Missing or defective seat belt,***
- ***A roll over cage not being fitted in a vehicle requiring one per OPAL Road Safety Standard.***
- ***Tyre conditions substandard so as to cause a risk to the vehicle and other road users.***
- ***Load security and restraint standards not compliant with applicable local and International standards.***
- ***Speeding, with a malfunctioning or missing speed limiter (if no IVMS fitted).***

Where any of the above defects are identified on a vehicle, the following action must be taken:

- The road safety inspector will have the authority to impound the vehicle where the inspection has taken place. It must be parked safely so as not to present a risk to other road users. The journey will not be allowed to continue until such time as the Class A defects have been rectified.
- The road safety inspector will contact the management of the company using or owning the vehicle and inform them of the identification of Class "A" defects on the vehicle. The inspector will ensure that the using company clearly understands the nature of the class A defects.
- The using company must accept responsibility for the defect and to arrange for mobile mechanics to conduct repairs to rectify the Class "A" defect(s) at the location where the vehicle has been impounded.
- Where it is not possible to complete the repairs or it would be unsafe to do so, then the owning company must arrange for the vehicle to be transported back to its base workshop. Vehicles will only be allowed to continue on to the company workshop with an escorting vehicle and with the permission of either the Company representative (i.e. contract holder or site representative) who will take responsibility for the journey.
- When needed, the arrangements should be made for the inspector to return to the vehicle once repairs have been completed.
- The user must make transport arrangements for the driver/helper should the vehicle need to be parked overnight and the vehicle is not suitable for staying in overnight or the driver has insufficient supplies.
- Unless the Operator/ Contract Representative has given specific approval, the user must not allow the vehicle to be driven until the inspector has formally confirmed that

the repairs have been conducted and released the vehicle. Failure to do so will be a breach of contract.

- Following the satisfactory completion of repairs the inspector will release the vehicle and the vehicle will be allowed to continue its journey.
- The inspector will formally provide the user and driver with a copy of the inspection form and keep a copy on file.
- The inspector will advise Operator/Company Representative and the HSE department of the results of their inspections through regular reports, at least monthly.
- The inspector will record all inspection findings for review each month.

Note: Only Operator authorised road safety or vehicle inspectors are allowed to impound vehicles. Should another party believe that a vehicle is unsafe and not fit to drive due to a class “A” defect then they should immediately contact the Operator/Company Representative and request them to conduct a formal inspection.

The following list classifies Class B defects:

- ***Speed limiter not working but not caught speeding,***
- ***Vehicle lights malfunctioning,***
- ***A driver unable to prove he is being journey managed,***
- ***A driver unable to prove he has a valid and relevant DDC driving permit,***
- ***Mobile equipment, e.g. a crane etc, with out of date safety inspection documentation,***
- ***High intensity rear lights missing or not functioning,***
- ***Air conditioning not available or not functioning,***
- ***Sufficient and suitable spare wheels not available on the vehicle,***
- ***Windscreen or mirrors cracked or missing so as to present a significant loss of vision,***
- ***Seats in a poor state of repair such that they could cause an accident.***

Where any of the above defects are identified on a vehicle, the following action must be taken:

- The road safety inspector will contact the management of the company using or owning the vehicle and inform them of the identification of Class “B” defects on the vehicle. The inspector will ensure that the user clearly understands the nature of the Class “B” defects.
- The user must accept responsibility for the defect and confirm that the defects will be repaired immediately the vehicle returns to the company workshop and that the vehicle will not be allowed to return to the road until such repairs have been completed.
- The road safety inspector and user will communicate with the driver and ensure that he understands that he is to take the vehicle to the nearest company workshop for repairs to be conducted. The inspector will provide his mobile telephone number to the user to be used in the event of the need for further clarification.
- The user must ensure that the vehicle is driven directly to the nearest company workshop and repairs on the Class “B” defects conducted before it is allowed to continue its journey.
- Where the vehicle is closer to its journey end point than the nearest company workshop, it will be allowed to complete its journey provided it is immediately taken

to the workshop after being off loaded. It is not allowed to load any other material until the Class “B” defects have been repaired.

- The road safety inspector will formally provide the user and driver with a copy of the inspection form and keep a copy of file.
- The road safety inspector will advise Contract Holders and the MSE department of the results of their inspections through regular reports, at least monthly.
- The road safety inspector will keep a copy of the inspection report on file.
- Where the user of the vehicle does not own a workshop in the interior, then he must make arrangements with a third party workshop to conduct the repairs.
- The user must formally notify the road safety inspector, both verbally and in writing, that the repairs have been successfully conducted.
- The users company must retain records of the repairs and make them available to the road safety inspector for inspection in the event that the vehicle is inspected at a later date and found to have the same fault.
- The road safety inspector will inform the Operator representative and HSE department of the inspection results and the date/time confirmation of repairs was received.
- Failure to inform the road safety inspector that repairs have been completed will be deemed to be a breach of Contract.
- The road safety inspector will record all inspection findings on the Operator web for review each month.

Comprehensive Vehicle Safety Daily Check & Defect Form
("POWER": Petrol, Oil, Water, Electrics, Rubber)

VEHICLE No:	**DRIVERS NAME**	ODOMETER (Kms) READING:	TRAILER No: (If relevant)

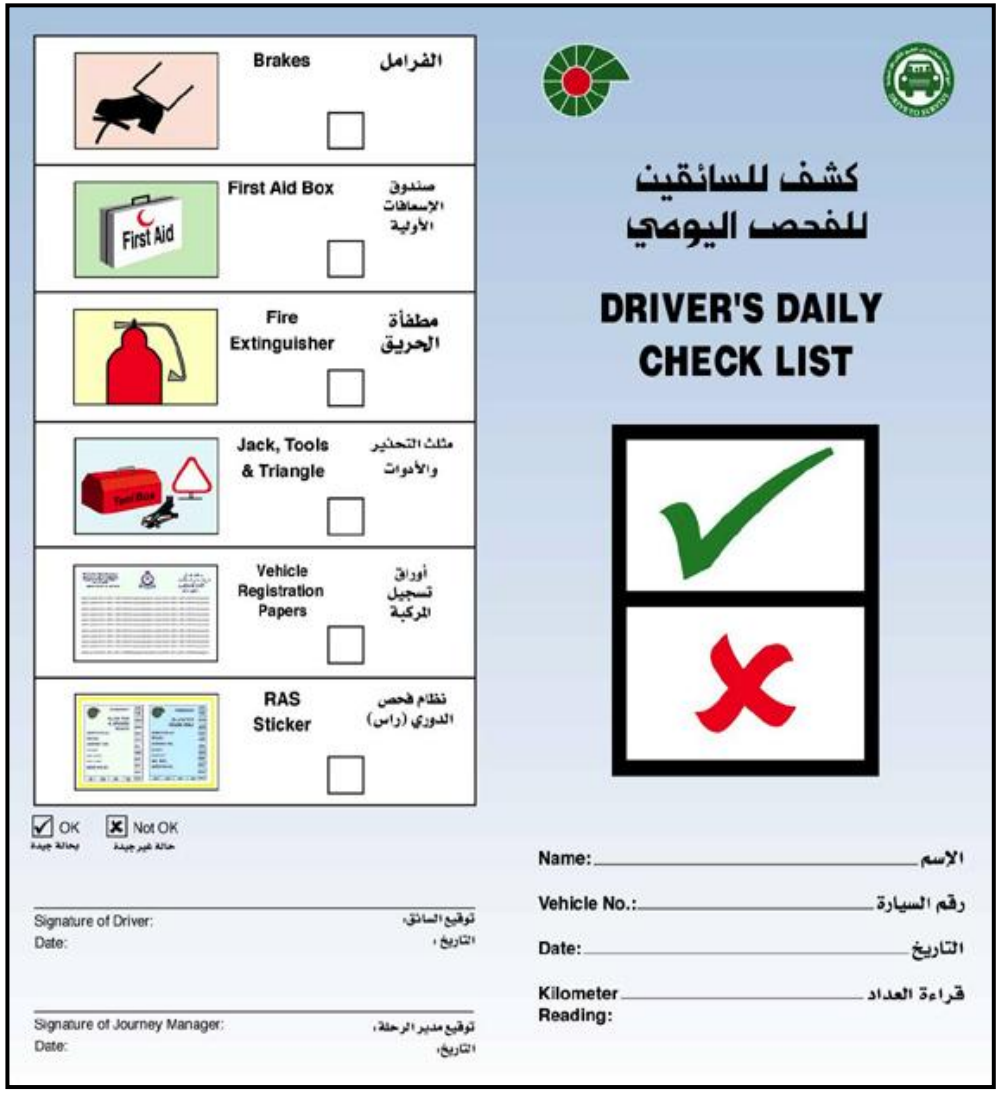
EXTERNAL		INTERNAL	
NO FUEL, OIL, WATER LEAKS **HOSES CORRECTLY STORED AND GANTRIES CLEAN (ON TANKERS)**		**INSTRUMENTS AND GAUGES** • Fuel level • Oil pressure • Air pressure (heavy vehicles) • No red warning lights remain on	
CHECK FLUID LEVELS OF: • Engine Oil • Brake Fluid • Clutch Fluid • Power Steering Fluid • Auto Transmission Fluid (if relevant)		**CONTROLS** • horn • brakes • windscreen wipers	
CHECK WATER LEVELS OF: • Radiator Header Tank and Coolant Levels • Check Radiator Cap is closed • Windscreen Wiper/Washer Reservoir Levels • Battery Fluid Level		**AC/RADIO CASSETTE:** • Air conditioning working • Music system working	
CHECK ELECTRICS: • Battery Terminals Clean • Battery Secure • Check location of fuses • Headlights Working • Brakelights Working • Indicators Working • Reverse Lights Working • High Intensity Rear Lights Working		**WINDSCREEN/WINDSCREEN WIPERS** • Windscreen wipers • Windscreen – clean and unobstructed **SEATS, SEAT BELTS AND MIRRORS** • Drivers seat position and seatbelt • Passenger seats and seatbelts • Mirrors	
CHECK RUBBER • Check Radiator Hoses are tight • Check fan belts • Check Windscreen wipers not worn • **Tyres –** check pressure correct • Tread depth minimum 1.6mm • Tread pattern matches • No deep cuts, lumps, bulges, tears, ply exposure		**EMERGENCY EQUIPMENT** • Jack and accessories • Fire extinguisher • First aid kit • Hazard warning triangle	
VEHICLE BODY • No Damage • Load Security • Lights and Reflectors – Clean		**TRAILER (if applicable)** • No Damage • Brake Hoses • Electrical Connections • Coupling Security • Tanker housekeeping and cleanliness	

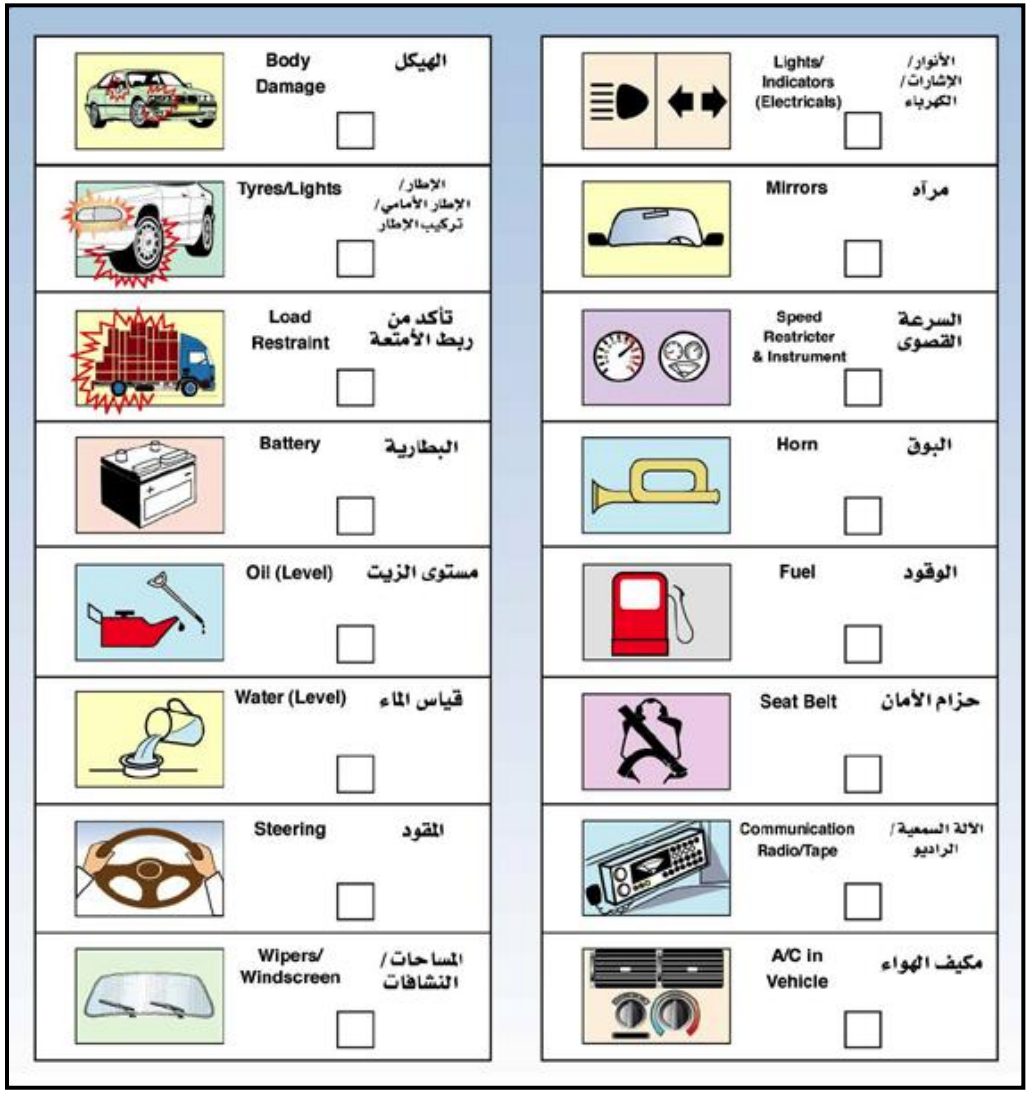
ANY OTHER DEFECTS NOTED:

WRITE **NIL** HERE IF NO DEFECTS FOUND	DRIVERS SIGNATURE:

REPORT ACCEPTED BY:..... **SIGNATURE:……**

Pictorial Daily Vehicle Checklist





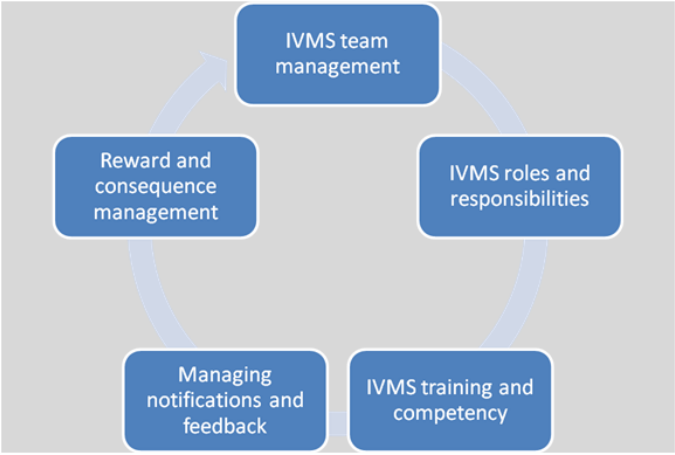
Air brakes checks

	Air Brakes Checks	فحص نظام فرامل الهواء	
1	Pre-checks – a. wheels chocked b. parking brake ON c. drain water from air tanks d. run engine at 1,000 revs e. raise air to maximum pressure	الفحص الاولي (الابتدائي)- a. ثبت الاطارات. b. ضع فرملة التوقف في وضعية التشغيل c. فرغ الماء من خزانات الهواء d. شغل المحرك علي سرعة دوران 1000 دورة في الدقيقة e. ارفع مؤشر الهواء الي الدرجة العليا	1
2	Low air warning check – a. STOP engine b. ignition key ON c. pump footbrake to consume air d. the alarm should operate at 5 bar or higher	فحص التحزيز عن الهواء المنخفض- a. أوقف دوران المحرك b. ضع المفتاح في وضعية التشغيل c. ضخ فرملة القدم لتفريغ الهواء d. يجب أن يعمل المنبه علي 5 درجات او اكثر	2
3	Compressor efficiency check – a. engine OFF b. pump footbrake, reduce air pressure to less than 2 bar c. start engine d. run engine at 1,000 revs e. watch air pressure rising f. when air at 6 bar start counting seconds g. when air at 7 bar stop counting seconds h. must be less than 60 seconds to rise from 6 to 7 bar i. if more than 60 seconds, do NOT drive, call a mechanic	فحص آلة ضغط الهواء- a. أوقف دوران المحرك b. ضخ فرملة القدم ، قلل ضغط الهواء أقل من درجتين c. شغل دوران المحرك d. دور المحرك علي 1000 دورة في الدقيقة e. تابع ارتفاع ضغط الهواء f. عند ما يصل الهواء الي 6 درجات ابدء في حساب الثواني g. عند ما يصل الهواء الي 7 درجات أوقف حساب الثواني h. في أقل من 60 ثانية يجب ان ترتفع الدرجة 6 الي 7 i. اذا استغرق أكثر من 60 ثانية لا تقد السيارة اسندعي الميكانيكي	3
4	System leak test – a. raise air to maximum pressure b. STOP engine c. ignition key ON d. parking brake OFF (wheels chocked at 1 above) e. trailer brake OFF f. footbrake OFF g. note EXACT air pressure h. start counting 60 seconds i. after 60 seconds there must be no air loss more than the thickness of the gauge needle j. if there is pressure loss more than gauge needle thickness, call a mechanic, do NOT drive	اختبار نظام التسريب- a. أرفع مؤشر ضغط الهواء لدرجة الضغط العليا b. أوقف دوران المحرك c. ضع المفتاح في وضعية التشغيل d. أنزل فرملة التوقف e. أنزل فرملة المقطورة f. أرفع القدم عن الفرملة g. أعرف ضغط الهواء الفعلي h. ابدء في حساب الثواني i. بعد 60 ثانية يجب أن لا يكون هنالك أي فقدان للهواء اكثر من عرض ابرة المؤشر j. اذا كان فقدان ضغط الهواء أكثر من عرض ابرة المؤشر استدعي الميكانيكي ولا تقد السيارة	4
5	Footbrake leak test – a. raise air to maximum pressure b. STOP engine c. ignition key ON d. parking brake OFF e. trailer brake OFF f. footbrake ON – maximum footbrake pressure continuous for 60 seconds g. note EXACT air pressure h. start counting 60 seconds i. after 60 seconds there must be no air loss more than the thickness of the gauge needle j. if there is pressure loss more than gauge needle thickness, call a mechanic, do NOT drive	اختبار تسريب فرملة القدم- a. أرفع مؤشر الهواء الي درجة الضغط العليا b. أوقف دوران المحرك c. ضع المفتاح في وضعية التشغيل d. أنزل فرملة التوقف e. أنزل فرملة المقطورة f. شغل فرملة القدم، ضغط كامل على فرملة القدم بستمرار حتي 60 ثانية g. أعرف ضغط الهواء الفعلي في الوشر h. ابدء في حساب ال 60 ثانية i. بعد 60 ثانية يجب أن لا يكون هنالك تسرب للهواء أكثر من عرض ابرة المؤشر j. اذا كان فقدان الضغط اكثر من ابرة المؤشر استدعي الميكانيكي و لا تقد السيارة	5
6	Handbrake operation test – a. handbrake ON b. start engine c. raise air to maximum pressure d. pick up wheel chocks & stow e. select 1st gear f. tug gently against handbrake g. the vehicle should not move h. if the vehicle moves the handbrake is faulty, call a mechanic, do NOT drive	اختبار عمل فرملة اليد- a. شغل فرملة اليد b. شغل دوران المحرك c. ارفع مؤشر ضغط الهواء الي الدرجة العليا d. ازل مثبتات الاطارات e. اختار الغيار الاول f. اسحب بقوة في اتجاه فرملة اليد g. يجب ان لأ تتحرك المركبة h. اذا تحركة المركبة فأن فرملة اليد لا تعمل استدعي الميكانيكي لا تقد المركبة	6
7	Footbrake operation test – a. select 1st gear b. check all around c. handbrake OFF d. drive forwards a few metres e. operate the footbrake f. the vehicle should stop correctly, if anything does not feel correct, call a mechanic, do NOT drive	اختبار عمل فرملة اليد- a. اختار الغيار الاول b. أفحص من حولك c. أنزل فرملة اليد d. قود الي أمتار قليلة e. شغل فرملة القدم (اضغط على دواسة فرملة القدم) f. يجب ان تتوقف المركبة بصورة صحيحة اذا شعرت بأي خطأ استدعي الميكانيكي و لا تقد المركبة	7

Annex C-1: IVMS Management System

1 Overview

IVMS Management System:



2 Roles and Responsibilities

2.1 Responsible Person: Operation Manager/ Project Manager/ Contract Holder

Responsible Person shall ensure that their contractor is in compliance with the IVMS requirements of the latest version of OPAL RSS V2 (OPAL-HSE-STD-01) document, or the version that was valid at the time the contract was signed, if the contract stipulates the exact version of the document.

Responsible Person must also ensure that the contractor submits to him a monthly IVMS report for review and approval.

Responsible Person must provide monthly IVMS information relating to their contractor to the Responsible Person and copy HSE Department by the 5th day of each month for the previous month.

Where the contractor does not submit the IVMS report, a default for contract non-compliance can be issued, until such time as the report is provided and is to the standard agreed as acceptable.

The Responsible Person can request that the contractor link their IVMS system with the Operator Insight Browser or equivalent, in order for the Responsible Person to have immediate visibility of the contractor IVMS drivers and fleet.

2.2 IVMS Responsible Person

Responsible Person to oversee the contract with its IVMS supplier is responsible for managing the performance of the supplier and the IVMS reporting and equipment. User department on any issues with regard to the quality of service delivery should directe to the HSE/IVMS focal point. The supplier will also provide information on changes to IVMS installations, IVMS keys, allocation of teams, lost keys etc., to provide Operator with an overall view on the health of IVMS. Responsible Person will also have visibility over the whole IVMS performance via Insight Browser or its equivalent.

2.3 IVMS Focal Point

Directorates or large departments should nominate an IVMS focal point who will be responsible for supporting supervisors in IVMS management. They will:

a) Receive the monthly IVMS feedback reports from supervisors by the 3rd day of the month,

b) Communicate evidenced trends to the directorate leadership team,

c) Collate all management IVMS reports to produce a directorate management report and provide to the HSE and management director by the 6th day of the month,

d) Consult the HSE/IVMS focal point or the Corporate Road Safety Adviser and for help in the event there is any issues with the service received from IVMS helpdesk.

2.4 Line Supervisor

The Line Supervisor must be trained in the use of IVMS web based software and IVMS feedback training course.

Direct Line Supervisor is responsible to:

a) Ensure new employees to the team obtain an IVMS key and employees who leave the company hand back their IVMS key to the line Supervisor to pass to the IVMS helpdesk,

b) Notify the IVMS helpdesk via email of the driver's new department, if a driver transfers from his team to a new department,

c) Report any complaints or issues from employees regarding the IVMS system to the IVMS helpdesk and IVMS focal point,

d) Analyse periodically (weekly and/or monthly) IVMS reports, and provide feedback to the drivers regarding their driving performance if required,

e) Ensure recognition and reward is given for drivers showing the best improvement and top performance as defined by any suitable mechanism such as the IVMS Reward and Consequence Management matrix,

f) Send the IVMS review report to the IVMS focal point on a monthly basis.

2.5 IVMS Helpdesk

Operator/Company shall have an IVMS helpdesk or an equivalent as part of its contract to support its IVMS operation or request it from their IVMS vendor. The list below sets out the role of IVMS helpdesk, as a guidance to follow with reasons given below:

a) Obtaining an IVMS key (IVMS Helpdesk will check against the driver master list if the person has already an IVMS key before issuing the key),

b) Informing of a change in management role,

c) To request IVMS feedback training,

d) To request IVMS Web based software training,

e) Informing of a change in personnel in the team,

f) To report a fault in an IVMS unit,

g) To report a problem with an IVMS report,

h) To report a new vehicle requiring IVMS,

i) To report a decommissioned vehicle,

j) To request a non-standard IVMS report,

k) To request help and support on using IVMS,

l) To request support on using the IVMS Web based software,

m) To send back a disused IVMS key,

n) To report a lost IVMS key,

o) To request an IVMS download following a road accident,

p) Any other queries or support for IVMS.

2.6 Contractors

Contractors who have installed IVMS as part of the contract requirement must manage the IVMS system in a way that assures the compliance with the minimal requirements stipulated in OPAL Road Safety Standard.

Contractors may use this IVMS procedure as a guidance to fulfil this obligation and create their own procedure to comply with minimum requirements.

Contractors must also submit monthly IVMS reports before 5th day of the month for the previous month to their Operators IVMS focal point and/or HSE dept. with the required data presented in Appendix 1of this document.

The reports should constitute the following, but not limited to**:**

a) Monthly RAG report on driver behaviour,

b) Harsh braking monthly report,

c) Over speeding monthly report,

d) IVMS lost keys report,

e) Reports on any reward or disciplinary action taken as a result of the driver behaviour identified by the use of IVMS system.

2.7 Drivers

Drivers, in order to accomplish the required level of safety and compliance must:

a) Request the IVMS key from IVMS helpdesk by providing the following information:

- First Name
- Second Name
- Family Name
- Employee Number
- ROP Driving License Number
- Defensive Driving Permit Number
- Defensive Driving Permit Expiry Date
- Department
- Name of the Direct Line Manager
- E-mail of the Direct Line Manager
- Name of the IVMS Focal Point
- E-mail of the IVMS Focal Point

b) Attend feedback sessions when invited. If the driver fails to attend the feedback session without an acceptable reason it can be considered as a disciplinary offence and the appropriate disciplinary action taken in accordance with the Consequence Matrix.

c) Ensure the IVMS is working prior to each journey and report faults immediately to their direct line supervisor.

2.8 Authorised installation technician

Operator authorised Installation Technicians shall be responsible for the installation and removal of IVMS units and any calibration necessary.

2.9 Road Safety Team / HSE role and responsibility

The Road Safety Team / HSE is responsible to:

a) Receive and collate all IVMS data from directorates

b) Send reminders for any missing reports

c) Analyse Company IVMS data for trends

d) Prepare and submit monthly report to Management by the 10thday of the month

e) Upload the analysis in the IVMS web page

f) Keep a record of Life Saving Rule speed violations raised from IVMS

2.10 Vehicle maintenance staff

Vehicle Maintenance staff are responsible for the service, maintenance and or repair of the Operator or Contractor fleet.

In the event any IVMS malfunctioning is noticed they should report to the IVMS Focal Point.

3 IVMS key management

3.1 The driver IVMS key

The driver IVMS key is unique to an individual driver and contains the following information:

a) Driver's name

b) Drivers' company number

c) ROP driving licence number

d) Defensive driving permit number

e) Driver's direct line supervisor details

Operator / Contractor vehicle's engine is immobilised until an IVMS key is used to log on to the vehicle, except for an emergency vehicle in which the engine is not immobilised, but the driver must record his use with his key in the same manner.

The driver IVMS key shall be issued personally to each driver who becomes responsible for its safety and security.

3.2 Drivers IVMS key issuing for staff

New employees who have passed their driving assessment and require an IVMS key must contact the IVMS helpdesk and IVMS Focal Point after obtaining permission from their direct line supervisor.

Any employee who drives a Company pool car for less than one day per month does not qualify for a personal IVMS key and should instead use the pool car IVMS key which will be provided with the car ignition key.

3.3 Lost or stolen keys

In case the Driver IVMS key is lost or stolen, the direct line supervisor should request a replacement from the IVMS Focal Point.

Each case of a lost/stolen key should be investigated by the IVMS Focal Point /Line Manager of the Driver.

The replacement IVMS key can only be issued once the investigation is completed.

The Driver can be charged for the full cost of the replacement key.

The repetitive loss of IVMS keys can lead to disciplinary action.

3.4 Return of a Driver IVMS Key

The driver must hand back their IVMS key to management prior to leaving employment. The direct line supervisor shall immediately notify the IVMS Helpdesk that the driver has left and return the key to them for reprogramming.

3.5 Unauthorised use of a Drivers IVMS key

The following actions are considered as the unauthorised use of the IVMS key, therefore prohibited, and can lead to disciplinary measures:

a) Use of another persons' IVMS key to drive a vehicle,

b) Use of your IVMS key to start a vehicle for another person,

c) Leave your IVMS key in the vehicle when it is not in use or is unattended,

d) Leave your IVMS key with the vehicle key when the vehicle is not in use or is unattended,

e) Leave your IVMS key in any unsecured place where it could be taken by others,

f) Abuse or tamper with the IVMS key.

Note, your IVMS key should be considered as personal and as important as your home door key, and should be kept as secure and preferably with other such keys.

3.6 Vehicle maintenance staff keys

Vehicle Maintenance staff are to be issued with their own Driver IVMS key for the purpose of driving vehicles only during maintenance. These IVMS keys shall be recorded into the IVMS data base as a numbered maintenance key identified to a location, separate to the location for other drivers in that site. This site is not to be included in general reporting, but shall be checked on a weekly basis to ensure that maintenance staff do not use their IVMS key for general driving.

If maintenance staff need to drive as a general part of their duty then they must be issued and use their operational Driver IVMS key.

Failure to comply with this is deemed a disciplinary offence.

4 Motor Vehicle Incident (MVI) investigation

IVMS records information that is useful for the investigation and identification of the immediate and root causes of MVIs.

The IVMS system in use should have the ability to provide second-by-second data for the date that accident has happened.

The data provided should be in the following form:

Reg No.	Driver	Date	Time	Latitude	Longitude	Speed	Heading	Acceleration / Deceleration

Information must be downloaded, recorded and analysed as soon as practicable by authorised personnel and the results of the analysis communicated to the investigation team.

5 Confidentiality

IVMS information collected for the use of MVI investigation is classified as confidential. This information including standard reports is for the restricted use during an incident investigation.

Information shall only be disclosed to the Investigation Team or IVMS Focal Point during incident investigations.

All persons who have access to IVMS information shall observe the required level of confidentiality. Copying or handing-over of information to unauthorized personnel during an accident investigation is prohibited.

Conversely, the IVMS RAG results are to be published on notice boards, to enable any driver to compare his personal rating against that of colleagues.

6 Training

Every driver issued with a driver IVMS key shall have an IVMS-induction, and sign-off a briefing and commitment form. The briefing forms can be found on the HSE IVMS web page.

All line supervisors of employees who drive on company business in company vehicles shall attend the IVMS training and the IVMS feedback training course.

IVMS focal points shall also attend the above training.

Defensive Driving training shall include a module on IVMS that must cover as a minimum:

a) IVMS system requirements for drivers,
b) Benefits of using the IVMS key,
c) Driver responsibility,
d) IVMS settings,
e) Driver induced events that will exceed the settings, cause and prevention,
f) RAG reports,
g) Disciplinary actions.

7 Performance Standards, Monitoring, and Reporting

7.1 Performance Standards

This document presents the minimum requirements that must be complied with OPAL Road Ssafety Standard V2 (OPAL-HSE-STD-01) in terms of the capabilities of the IVMS systems.

7.2 Performance Monitoring Requirements

The IVMS system automatically monitors the driving quality of a driver from insertion of an IVMS key in the process of starting the vehicles' engine.

IVMS system must automatically notify driver's line supervisor and Line Manager of any infringements of safe driving rules by the driver via email.

The following are the minimum required events monitored and which will be reported to management for feedback to drivers.

- Harsh Braking Event
- Harsh Acceleration Event
- Over-speeding Event
- Life Saving Rules Over Speeding Event
- Unauthorised Night Driving Event
- Seatbelt Event (Note: only where the vehicle has a seatbelt sensor fitted)

7.3 RAG Reporting

IVMS Red/Amber/Green (RAG) reports will be emailed to the line supervisors to enable them to review and provide feedback to drivers on a regular basis, which can be weekly or minimum monthly. The reports are used as the basis for the feedback and coaching sessions with drivers.

The Driver monthly performance RAG reports shall be displayed on noticeboards by the direct line supervisors for the last two months so that all drivers can see their own driving results compared to their colleagues, and the progress they make.

Critical events reported by IVMS via email shall be addressed with the driver at the earliest possible time by the driver's direct line supervisor.

IVMS focal point managing contracts which have IVMS installed shall ensure that they receive a completed monthly IVMS reporting template from their contractor and review it to ensure it is being used effectively by the contractor.

Consolidated monthly reports on each of these will also be sent to the direct line management.

The IVMS Focal Point will receive weekly and monthly RAG reports and a trending report of the overall performance on drivers under him.

7.4 Feedback and coaching

Feedback sessions by the line supervisor shall take place as early as possible after the IVMS reports have been emailed and displayed.

Drivers in Green should be coached as a group.

Drivers in Amber may be coached initially as a group, but individual coaching may be necessary in subsequent months.

Drivers in Red should be coached individually to counter the individual characteristics of these red band drivers.

Emails advising on infringements should be acted upon depending on the severity of the infringements.

7.5 Driver feedback process

Driver feedback can be given to a group of drivers together through toolbox talks, driver's forums, HSE meetings or any other appropriate sessions. Drivers with exemplary performance proved by the IVMS data should be acknowledged.

The drivers whom have significantly improved their driving over a period should also be commended.

Drivers with poor or significantly declining performance need to receive feedback in a 'one to one' session. These sessions should consist of:

- an explanation of the report findings,
- an opportunity for the driver to explain his performance,
- a discussion on how the driver can improve and any help needed,
- the use of training material to help improve the drivers attitude if necessary,
- agree action to improve the performance,
- agree a reasonable and measurable target and timeframe for the target to be achieved,
- confirmation to the driver of the escalation process for corrective action and disciplinary measures if no improvement is seen.

All feedback sessions shall be summarised and reported via the IVMS Monthly report to the Directorate IVMS Focal Point.

7.6 Driver IVMS Reward and Consequence management

A basic premise of any driver improvement program is an acknowledgement that if excellent performance is expected from drivers it must be recognised and rewarded. Corrective measures also need to be applied to those who haven't reached the required expectations of driving as measured by the system.
This is most successfully achieved if parameters for recognition and corrective action are transparent and consistently applied.

7.7 Measuring for IVMS reward and consequence management

A driver's performance shall be analysed through the monthly RAG report.

The driver performance shall be constantly monitored and appropriate reward actions should be taken towards the drivers that have shown exemplary performance.

The drivers who qualify for the rewards shall be ranked based on the RAG reports.

The Road safety consequence matrix applies to the offences identified by the IVMS system.

7.8 Understanding the IVMS reward and consequence management

7.8.1 Drivers Performance – Corrective Actions

a) Each month Red

Drivers whose score reads in the Red band should be counselled individually to discern their bad habits, and necessary improvement measures. Those whose score is just below the limit should be given encouragement. Those whose monthly score is worsening must be given advice on improving their driving habits.

b) Three consecutive months Red

The drivers' direct line supervisor is to organise an in-depth review of the drivers' performance. This review can be conducted by the direct line supervisor. The review shall include looking at the detail of the report for the driver, including days of the week, times, locations, and types of events. The review shall produce a plan with actions and targets set to be achieved by an appropriate close out date. The directorate IVMS focal point can be requested to support if required.

The driver should be given specialist practical training in how to change his driving style, so he may match that of his peers in Green. He must be warned of the consequences including disciplinary action if he does not change his driving style.

c) Six consecutive months Red

The driver performance must be analysed in-depth by the Line Supervisor with the formal report to the Line Manager. Disciplinary action must be considered, including the possibility of removal from driving duties.

7.8.2 Drivers Performance – Improvement Actions

a) Each month Amber

Drivers whose score reads in the amber band should be counselled individually to discern their bad habits, and necessary improvement measures. Those whose score is improving towards Green should be given encouragement. Those whose score is static or trending towards Red should be given advice on improving their driving habits.

7.8.3 Drivers Performance – Positive Actions

a) Three consecutive months Green

Drivers who have three consecutive months in the green band shall be recognized in front of their work peers by line management. This should be done at safety meetings, driver forums or toolbox meetings. They should be encouraged to strive to maintain their good results and improve on them.

b) Six consecutive months Green

A driver shall receive a written acknowledgement from the head of department recognizing the driver's continual good driving record. The letter or certificate should record the dates that this was achieved and if possible some of the details like kilometres driven during the period and overall result from the reports.

c) Twelve consecutive months Green

A driver who achieves 12 consecutive months in the green band should receive a tangible reward from the director of the department, presented by the Director or the highest officer from the department on behalf of the Director. This should be done in front of the drivers peers and the result publicised throughout the directorate.

All such drivers shall also be nominated for a Corporate Safe Driver Award.The Corporate Safe Driver Award shall be presented to minimum of 10 drivers each year.

8 IVMS reporting requirements

The IVMS system will have the possibility of providing the following reports:

- Event reports
- RAG report
- Harsh braking Monthly report
- Over-speeding Monthly report
- IVMS Lost keys report
- Monthly reports by IVMS vendor

8.1 Event Reports

Event reports should be delivered to the IVMS Focal Points and Direct Line Managers through the established e-mail system. The information required for these notificationsshall be in .xlsx format, and shall consist of the following as a minimum:

Vehicle Identification : Event Identification

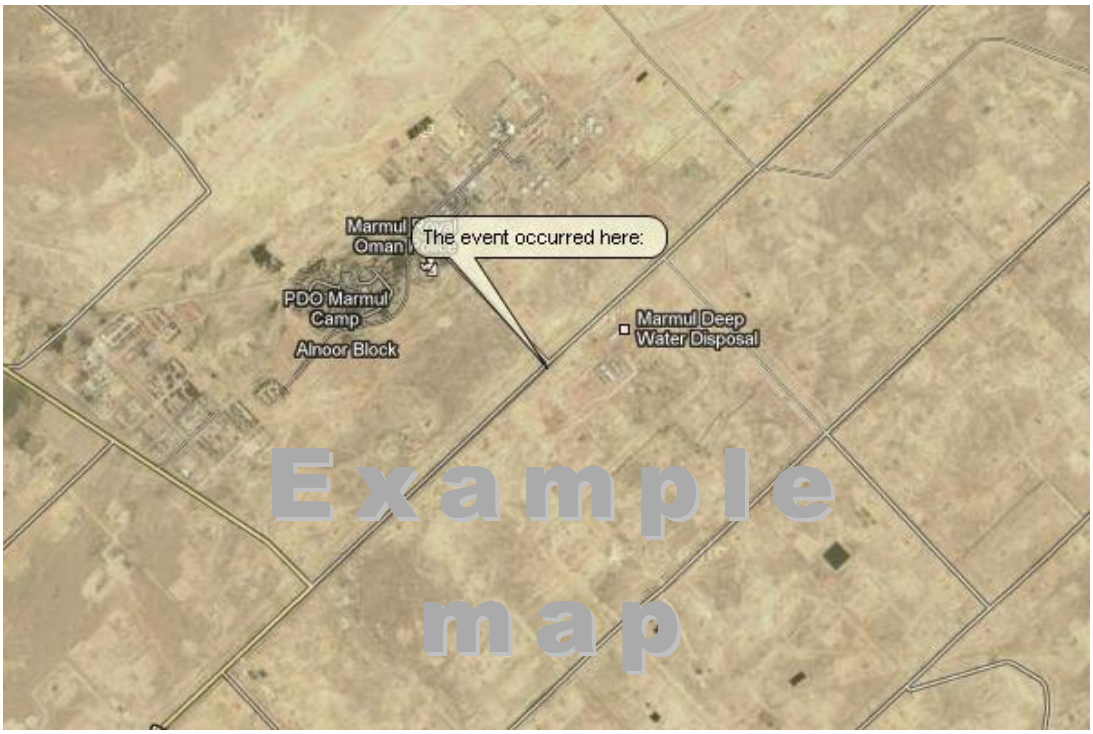
Dear Sir/Madam

The driver of the above vehicle, identified by our system as: **Driver Name** has just had an event of: **event description**. Please take action as per the IVMS management system to rectify the inappropriate driving behaviour and support **Company** in saving lives on the road.

Please contact the IVMS helpdesk on ***ivmshelpdesk e-mail and number*** for further support.
Best Regards from your IVMS Team.

- LSR event:
- Driver ID:
- Vehicle Registration:
- Vehicle IVMS ID:
- Date and Time Stamp:
- Latitude:
- Longitude:
- Speed:
- Heading:
- Event ID:
- Event Description:
- Event Value:
- Event Value Type:

Event location on the map



8.2 RAG Report Event Reports (Template)

RAG report must include the following information:

driver name	total distance km	total acceleration counts	accelerations per 100 km	total deceleration counts	decelerations per 100 km	highest speed km/h	total over-speeding time	speed for each 10 sec per km	Score

The scoring system applied should be:

Speed score = ((Speeding Time*/10)/Trip Distance)*1000
Acceleration score = (Number of harsh accelerations/Trip Distance)*100
Deceleration Score = (Number of harsh braking/Trip Distance)*100
Seal belt Score = ((Time without seatbelt*/10)/Trip Distance)*1000
Total score = Speed Score + Acceleration Score + Deceleration Score + Seat belt score

*Time is measured in Seconds.

The Total Score values that fall into the Red-Amber-Green are:

Colour code	Total Score Value
Green	Less or equal to 1
Amber	Greater than 1 and less or equal to 3
Red	Greater than 3

8.3 Harsh Braking Monthly Report

Harsh braking monthly report is used to identify the trend in the driver behaviour regarding the harsh braking and potentially identify the locations that influence the drivers to apply harsh brakes.

This report can be used to form a harsh braking heat maps in Google Earth with the help of Operator/companyGeomatix Department.

The report should present the following data:

date	time	longitude	latitude	description	reg. no.	site	deceleration (km/h/s)	speed (km/h)

8.4 Over-Speeding Monthly Report

Over-speeding monthly report is used to identify the trend in the driver behaviour regarding the over-speeding and potentially identify the locations where the drivers usually do not comply with the speed.This report can be used to form over-speeding heat maps in Google Earth with the help of Operator/companyGeomatix Department.

The report should present the following data:

start date	reg no.	driver	site name	event description	start time	end time	highest speed	total duration (hh:mm:ss)	longitude	latitude	speed limit

8.5 The IVMS Lost Key Report

The IVMS lost keys report should provide the following data:

date	driver name	location	lost ivms key id	newly provided ivms key id	previous instances of lost keys

8.6 Monthly Report of the IVMS Vendor

Monthly reports of the IVMS vendor shall be in .xlsx format, and must include, but are not limited to the following:

IVMS Road Safety Monthly Report		
Company Name:	Location / Site:	
Year	Month	
Total IVMS units installed		
Violations per 100km		
Total violations, year to date (ytd)		
km's driven / month		
Total km, ytd		
RAG kilometres % driven		
Green km driven		
Amber km driven		
Red km driven		
Green km driven %		
Amber km driven %		
Red km driven %		
Driver safety performance percentage		
Green drivers		
Amber drivers		
Red drivers		
Total driver numbers		
Green drivers %		
Amber drivers %		
Red drivers %		
Speed related events		
Over speeding event		
Over speeding events of installation/ geo-fencing		
Braking events		
Acceleration events		
Acceleration events of installation test		
Unauthorised night driving events		
Seatbelt violations		
Seatbelt events		
Seatbelt events of installation/ sensor damage		

Panic alerts	
Panic alerts - activated	
Panic alerts -true	

The IVMS Vendor is also obligated to provide other reports that could be requested by User, Operator or Contractor, based on the data that IVMS produces.

Annex C-2: Requirements for IVMS Vendors

1 Server Availability

The vendor shall commit to 99% sever availability recorded and reported monthly in a Company approved format to the Company.

Percentage time of sever availability shall be calculated as: Availability (%) = (Total possible operating time (minutes) minus Total downtime (minutes), divided by (Total possible operating time (minutes) X 100%.

Should the vendors sever availability fall below 99% in a calendar month (with the exception of Force Majeure) the monthly fees for data communication for all vehicles will be deducted from the invoice for that calendar month.

Scheduled sever maintenance shall be conducted between 18:00 and 06:00 Oman time (GMT + 4 hours) unless with written permission from the IVMS Contract Holder.

The server must be located in Oman in order to comply with the TRA rules, i.e. to comply with Omani Law.

2 Recordable Data Availability

The vendor shall commit to 100% of the recordable data from the OBC made available via GPRS and internet to the Company within 15 minutes whilst the vehicle is in GPRS coverage, with the following exceptions:

- A fault or condition within the vehicle, external to the OBC and its associated hardware and connections, which prevents it from recording data.
- The OBC or associated hardware is disconnected from the vehicle for work as part of an annual Planned Preventative Maintenance schedule.
- The unit is not functioning properly due to being unduly influenced or tampered with by an unauthorised person.

All events and thresholds exceeded whilst the vehicle is not in a GPRS coverage area are to be recorded in the OBC, and delivered to the defined contacts immediately when GPRS coverage is re-established.

For the purpose of defining the location, hence the route of a vehicle, the locations of a vehicle whilst moving shall be recorded in the OBC at intervals not exceeding 1 second, for onwards transmission in packages as above.

The vendor will record instances of any OBC unit not recording data and will report the results to the Operators' Authorized persons monthly. For each unit that does not make 100% of the recordable data available to the Company within 15 minutes of the vehicle being in GPRS coverage, a deduction will be made from the invoice for the unit affected for that month set against the penalties described in a contract.

3 Reportable Data Clarity

- The vendor shall audit weekly, 10% of the scheduled email reports on a rotational basis through all the schedule reports. All instances of corrupt or erroneous data shall be investigated for cause and reported to the Company/Operator including what is planned to resolve the issue of the corrupt data.
- Notifications from the Companies/Operator on any noconformances shall be investigated and rectified within 24 hours by the vendor.
- Notification will immediately be sent to all intended recipients of reports that show any irregularities, corrupt or erroneous data by the vendor.

4 Data Backup

The vendor shall backup the entire database every 24 hours and provide storage of the database in a secure facility. The vendor will reinstate the database with the latest information available immediately should the server fail.

5 Updating map:

IVMS provider shall ensure that all maps are up to dated every quarterly.

6 Server Maintenance Notifications

The vendor will notify all Operator/Company via mail the impending scheduled sever maintenance downtime, inclusive of the date, start and end times of the maintenance, 48 hours prior to the scheduled maintenance commencing.

7 Installation

The installations are to be done to a standard ensuring the system will work effectively and consistently.

- The OBC casing shall be certified IP56 or greater, and shall be designed to be tamperproof.
- Only auhorised providers shall install, maintain, replace, or remove any IVMS system including OBC, and/or any associated hardware and interfaces.
- Installation time of IVMS in a vehicle is to be a maximum of 2.5 hours duration with exceptions reported and justified to the Operator/Company.
- The vendor shall record and report to the Company /Operator monthly the installation details of each unit identifying the wiring configuration used for each vehicle, confirmation of settings and functionality test to ensure that the system has been installed and operating correctly, who the installation was performed by, and how long the installation took.
- The vendor shall maintain a running sheet of activities undertaken by all staff identifying vehicles installed and work performed, reported to the Operator/Company weekly during the initial installations and monthly thereafter.
- The vendor shall make all efforts to minimise the footprint left on the vehicle by the installation, especially the installation and placement of the panic button and Driver Identification Key tag receptacle. Any damage to the vehicle during installation will be rectified by the vendor at their expense.
- Installation of the hardware on a vehicle shall be adequately secured into position with all power connections (constant battery positive, ignition) soldered and insulated. Earth connections are to be soldered or secured with a commercial grade connecting terminal. All other connections made including connections to existing vehicle wiring shall be soldered and insulated or made with a commercial grade connector. Splicing or twisting wires together will not be accepted by the Operator/Company.
- Installation of the hardware shall not interfere with the normal operation of the vehicles electrical system outside of the starter interrupter circuit. All such instances shall be rectified by the vendor at their expense.
- The OBC and associated hardware shall be secured in an appropriate place, out of normal sight, as high as reasonable between the bulkhead and dashboard, to ensure the IVMS is fully functional during all modes of the vehicles normal operations. Installations shall not interfere with, or will not be interfered with by any additional electronic or other equipment fitted to the vehicle at the time of installation.

- The panic button shall be installed in a position in the dashboard, accessible by the driver and front passenger, but shielded to prevent accidental activation by normal movements in the cabin of the driver or front passenger.
- The panic button shall be labelled “Panic Button” in English and Arabic on the button or the surrounding of the switch. The following translation shall be used for Panic Button in Arabic:

زرالطوارئ

- The panic button shall be a single action type switch that visually or audibly indicates when the switch has been activated.
- The panic button activation shall be configured to send instant Notification by an email and/or SMS message to defined email addresses and phone numbers.
- The vendor shall install a vehicle immobiliser that requires positive driver identification from a programmed IVMS Driver Identification Key before the vehicle can start for all vehicle configurations.
- The OBC shall give audible feedback when the IVMS Driver Identification Key has successfully initiated the system.
- The OBC shall give immediate audible feedback to the driver whenever a predefined event threshold is exceeded, e.g. harsh braking, harsh accelerating, and exceeding a speed limit; to make the driver aware of his driving mistake at that moment.
- The vendor shall at the completion of installation, place a OPAL approved sticker indicating the vehicle has been fitted with IVMS, on the rear of the vehicle. On vehicles that also have a speed limiter, the IVMS sticker will be placed adjacent to the speed limiter speed limit indicator marking.
- An IVMS certification sticker shall also be placed on the inside of the drivers’ door pillar, in a position easily seen. No other markings or stickers will be placed on the vehicle by the vendor unless approved by the OPAL/ Operator.

Installation and removal of IVMS units from vehicles shall be authorised by the IVMS Focal point / HSE in writing.

Installation and removal shall only be carried out by an authorised contractor installation technician. Upon completion of the installation the technician shall complete a Post Installation Checklist and all records shall be provided to the IVMS Focal point.

Any IVMS scheduled maintenance will be communicated to all stakeholders in sufficient time and planned and conducted taking into account the operational needs.

Any unscheduled maintenance or repair shall be organised by directly contacting the IVMS service desk.

Any unauthorised installation, removal, and/or repair will be subject to disciplinary measures.

8 Application Programming Interface

The vendor shall supply the Application Programming Interface (API) for the full IVMS data including location data to be integrated into the Company’s choice of interface program.

8.1 Requirements

The vendor will supply all necessary data and information in the required format as follows, including but not limited to:

8.2 Non-functional

For web service interfaces the following requirements apply:

- The web service must be available around the clock (24/7).
- The web service must have adequate security measures.
- Transport should be done over an encrypted connection HTTPS (Hypertext Transfer Protocol Secure) format.
- Access should be authenticated by username and password or IP filtering.

8.3 Data format

Data must be rendered in basic XML (Extensible Mark-up Language) version 1.0.
Dates must be formatted according to the ISO 8601 standard: **yyyy-MM-dd HH:mm:ss** (time in 24-hour format),for example: **2009-08-27 13:12:45**

- Distances must be expressed in kilometres.
- Speed must be expressed in kilometres per hour.
- Duration must be expressed in HH:mm:ss.

8.4 Web Service Interface

The following methods are required:
- Load vehicles
- Load drivers
- Load trips

8.5 Method for loading vehicles

This method should return all vehicles for the specified organisation.

Input parameters:
- Organisation ID

Output:
- Unique vehicle ID
- Site ID
- Company ID
- License plate
- Default driver ID
- Make / model of the vehicle
- First trip date and time ever
- Last trip date and time ever
- Static speed limit

8.6 Method for loading drivers

This method should return all drivers for the specified organisation.

Input parameters:
- Organisation ID

Output:
- Unique driver ID
- Site ID
- Company name
- Driver name
- Mobile phone number
- Email address of supervisor / IVMS Contract Holder
- Driving permit expiration

8.7 Method for loading trips

This method should return all trips for the specified vehicle in the specified date range.

Input parameters:

- Organisation ID
- Vehicle ID
- Start date and time
- End date and time

Output:

- Unique vehicle ID
- Unique driver ID
- Start date and time
- Duration (seconds)
- Distance driven (km)
- Time driven over speed limit (seconds)
- Number of occurrences of harsh braking
- Number of occurrences of harsh acceleration
- Optional: Number of occurrences of over revving
- Optional: Idle time (seconds)
- Optional: Fuel consumption (litres)

9 Customer Support Facility

The vendor shall provide customer support defined by the following:

- Customer support shall be available from 06:00–12:00 and 13:00–18:00, 365 days per year by phone.
- The call must be answered within 10 rings and a customer code for the support recorded and provided to the caller. The vendor shall return the call within 1 hour if the initial reason for the call cannot be attended to immediately.
- A record identifying the caller and contact details, the vehicle, the date and time and the issues shall be logged against the code for the call.
- The vendor will respond, unless it is out of office hours, within 6 hours to the caller with the actions that will be taken by the vendor to address the customers support request including logging these actions against the call reference code.
- All customer support problems shall be rectified and closed-out within the following 72 hours to the satisfaction of the customer and notification given to the initiator of the customer support request of the closure. If the resolution of the issue does not satisfy the customer it shall be arbitrated by the IVMS **Focal point**.
- The vendor will supply monthly reports on all service requests including the issues received, action taken and average time to close out of an issue and trend analysis of the issues.

For general updating of the Operator's/Company's information on the database the vendor shall make all new data entries or update changes to the information with 24 hours of the request being received by the customer support facility.

10 Key Personnel

10.1 General

The vendor must ensure that all employees can be legally employed within the Sultanate of Oman and can remain so for duration of the contract.

All provided personnel should have good all-round health and mobility and not suffer any physical or mental conditions, or disease which would be likely to incapacitate either temporarily or permanently from their duties.

10.2 Contract Manager/IVMS focal point

- The Contract Manager must have previous experience in managing contracts, managing a team of people, and managing IVMS.
- The Contract Manager must have a sound knowledge of IVMS and DMS and its application into a vehicle fleet.

10.3 Senior Technician

The Senior Technician shall have a sound background in vehicle electrics or electronics, IVMS installations in different vehicles, programming and configuration of events and the units and extensive knowledge of the Fleet Management Program.
The Senior Technician must have previous experience in managing a team.

10.4 Installation Technicians

Installation Technicians shall have a sound background in vehicle electrics or electronics, IVMS installations in different vehicles, programming and configuration of events and the units and extensive knowledge of the Fleet Management Program. Installation Technicians will be assessed and deemed competent by the Senior Technician.

10.5 Customer Support Personnel

- Customer Support Personnel shall have a sound knowledge of IVMS including installations in different vehicles and have extensive knowledge of the Fleet Management Program.
- Customer Support Personnel shall have a sound knowledge of the IVMS and Fleet Management Program as applied to Operator/Company Oil and Gas operations, including the types of vehicles used, a general overview of locations of concession operations, IVMS Focal Points.
- Customer Support Personnel shall be able to speak fluently in Arabic and English with a minimum English, verbal and written of IELT 6.

10.6 IVMS Focal Point Trainers

Trainers for the IVMS Focal Point course shall have an industry recognised training qualification, Driver Training qualification and a minimum of 1 year experience training Defensive Driver Training Courses for the Oil and Gas Industry within the last 3 years and have been trained in IVMS.

IVMS Focal Point Trainers shall have a sound knowledge of the IVMS, defensive driving training courses and also gain an understanding of the implementation of this within O&G operations.

11 IVMS Installed Sticker

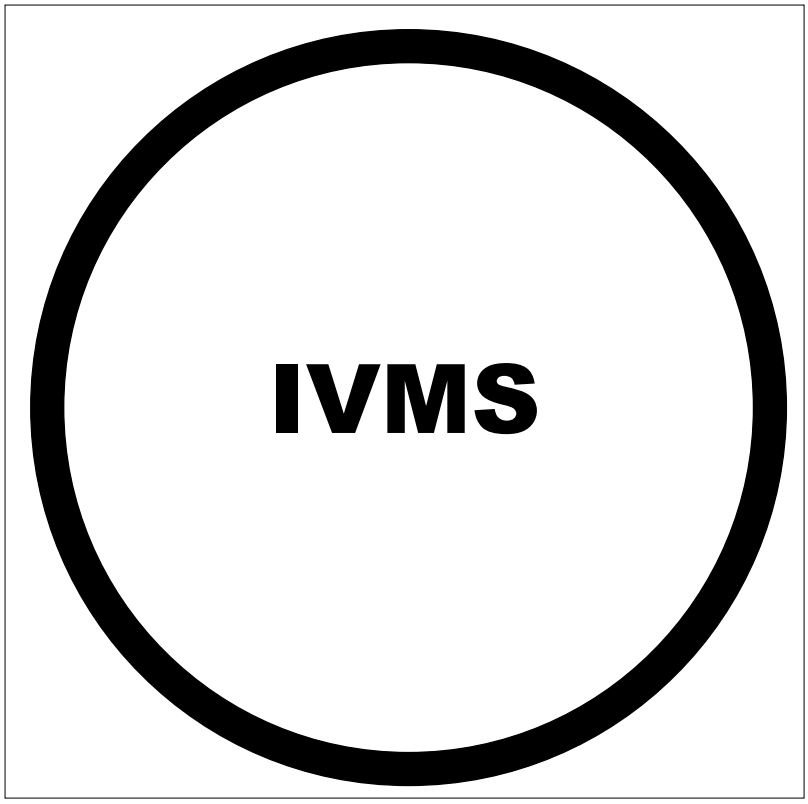
The vendor shall at the completion of installation, place an approved OPAL IVMS Installed sticker indicating the vehicle has been fitted with IVMS, on the rear of the vehicle.

- It shall be fitted in an appropriate place on the rear of the vehicle ensuring visibility by a driver of a following vehicle.

- It shall not be placed anywhere that will impede the driver's rear vision or any other information on the rear or the vehicle.
- On vehicles that also have a speed limiter, the IVMS Installed sticker will be placed adjacent to the speed limiter speed limit indicator marking.
- No other markings or stickers will be placed on the vehicle by the vendor unless approved by the Company.
- The sticker must be made from a material that will not significantly degrade when exposed to typical environmental conditions including regular cleaning of the vehicle bodywork, and should be expected to have a service life not less than 6 years, or shall be replaced by the vendor at no cost if it has degraded before that time.

The sticker specifications are as follows:

Sticker size:	11 cm X 11 cm square, or, optionally 11 cm diameter.
Circle outer diameter:	10 cm
Circle thickness	5 mm
Background colour:	White
Circle and letter colour:	Black
Letter height:	25 mm
Letter thickness	> 5 mm



12 IVMS Certification Sticker

An OPAL approved sticker shall be used as visual evidence that the IVMS unit installed is compliant with OPAL Road Safety Standard. The sticker must include, as a minimum:

- OPAL and Operator logo
- IVMS vendors company name
- IVMS Model
- Contract number
- Name of vehicle owner

- Vehicle registration number
- Installation date
- Installers name (printed)
- Installers signature

Stickers must be filled in and fixed to the vehicle at the successful completion of installation by the installation technician.
The IVMS certification sticker shall also be placed on the inside drivers' door pillar, in a position easily seen, but not impeding any other information on the same pillar. No other markings or stickers will be placed on the vehicle by the vendor unless approved by the Company. Blank stickers must be kept in a secure location prior to use

The IVMS vendors Name can be in the same font and colours used by the vendor as the vendor's logo if it doesn't change the size of the sticker or information on the sticker.
The sticker size will be 9 cm X 6 cm with a white background with black font clearly legible in an appropriate size. The Operator's logo will be placed on the bottom corners as illustrated. These logos shall not be used for any other purpose unless authorised by the Operator.

IVMS VENDOR NAME

IVMS Model:

Contract Number:

Owner:

Vehicle Reg No:

Installation Date:

Installers Name:

Signed:

Annex C-3: PDO Journey Management Procedure

1 Scope

This procedure applies to all work related journeys longer than 20 km undertaken by Companies staff, except:

- Journeys within the Muscat Capital Area,
- Journeys within towns, up to 20 km from the centre of the town,
- Journeys between the camps and the work sites for exploration seismic and topographical operations,
- Journeys between rigs and their assigned camps (24/7 operations) where the radius between the 2 locations does not exceed 30 kilometres,
- Convoy operations, which are managed in accordance with Convoy Move Procedure,
- Journeys under the control of Local or Corporate Emergency Base Controller (CECC, LEBC).

All journeys need to be planned, but some journeys require formal management according to this Procedure.

2 Journey Management Process

In order for the Journey Managers to perform his duties in accordance with the requirements of this document, they must be provided with the following:

- Adequate and valid Journey Management training
- A dedicated full-time office
- Local telephone, capable of calling mobile numbers
- A personal computer with internet access
- Access to In-Vehicle Monitoring System (IVMS)
- Printer with scanning functionality
- White Board / LCD screen to monitor and track live journeys
- Adequate stock of Journey Plans and daily vehicle checklist forms
- Listing of Authorised Persons
- Copy of the company's latest Safe Journey Management Procedure and latest version of OPAL Road Safety Standard
- Current editions of the Safe Journey Management Maps for both Heavy and Light vehicle, which can be obtained from Operator through the Contract Holder
- Drivers reporting log book (hazards, road or vehicle related issues, complaints suggestions from the drivers)
- Road Safety Standards Team (RSST) contact numbers
- Operator Road Safety contact e-mail and/or number
- Email addresses of the asset focal points for reporting hazardous roads
- Filing capacity for closed out Journey Plans with 3 months' retention.
- List of Drivers data that provides the following:

Driver Name	DD Permit Number	DD Permit Expiry Date	Contact Number

A fax machine can be used as an alternative for sending and receiving Journey Plans at remote locations where there is no or limited internet access.

2.1 Journey Management Process – Before issuing the Journey Plan

The Journey Manager is responsible for monitoring the driver compliance and providing help for the driver in case of emergency.

Any Journey Manager who fails to follow Journey Management procedures may be subject to disciplinary action.

Before issuing a Journey Plan, the Journey Manager must do the following:

- Ensure that the journey is authorised when required, such as the following:
    - Beyond 200 kilometres in one direction,
    - If crossing the Sultanate of Oman border during a journey,
    - If the vehicle used is temporary non-compliant with OPAL Road Safety Standard but the emergency or/and operational reasons require the use of this vehicle (once off),
    - Bad weather condition
    - Night-time driving.
- Ensure that the driver has valid ROP driving license and Defensive Driving Permit.
- Ensure that the driver is fit to drive.
- Ensure the driver has successfully completed all daily vehicle checks, and any defects:
    - have been documented,
    - have been notified to the Vehicle Maintenance Supervisor for correction,
    - have been corrected.
- Ensure the driver has a means of communication during the journey, and that it is functioning and will not be limited by insufficient funding.
- Check if there are passengers and document all their names.
- Ensure the vehicle is carrying sufficient water for the driver and the number of passengers.
- Ensurer the driver's working hours must comply with the requirements of Sultanate of Oman Labour Law.

    - **Light vehicle**: Effective maximum driving is 10 hours per day, with resting frequency of 15 minutes after every 2 hours of continuous driving. Drivers shall not work beyond 12 hours per day that is inclusive non-driving time. Minimum hours of uninterrupted rest is 8 hours between shifts.

    - **Light bus, Heavy bus and Heavy vehicle**: Effective maximum driving is 10 hours per day, with resting frequency of 1 hour after every 4 hours of continuous driving. However, there is an option for the journey manager to schedule resting for 30 minutes after 2 hours of continous driving. Drivers shall not work beyond 12 hours per day that is inclusive non-driving time. Minimum hours of uninterrupted rest is 8 hours between shifts.

- Plan the journey so that the driver can have rest in accordance with the following working hours:
- Plan the journey in accordance with the provided Journey Management maps.
    - Any journey may have single or multiple destinations during one day, but if multiple it must include all the necessary stops and re-start times for that journey, and should be on a single Journey Management Plan, however all journeys must be closed before sunset.
    - Any journey plan may include the return journey on the same day. In this case the return must be within the daily limit for combined driving hours and before sunset, and should be on a single Journey Management Plan.
    - Any long journey may include the need for an overnight rest in an approved camp or hotel; in such cases this 2-day journey will be documented as a single journey on a single Journey Management Plan.
- Fill in the Journey Management plan and warn the driver about the possible hazards on the road.
- Remind the driver about his responsibilities while driving.
- Remind the driver what to do in case of emergency.
- Issue the Journey Management plan, signed by both the Journey Manager and the driver. In cases where the Journey Management plan is issued as electronic copy, it must be issued through the journey management software.

- Log in the journey in either a centralised system or on a white board providing the minimum following data:

Driver Name and contact number	Fleet or Vehicle number	Vehicle Type	Route	Start Time	The times driver is required to report	The times driver reported	Is the journey finished / Time

2.2 Journey Management Process – Monitoring the Journey

The Journey Manager can authorise and actively manage maximum 35 journeys per day. The Journey Manager must monitor the driver to confirm the driver is complying with the Journey Plan.
To do this a Journey Manager must take the following actions:

- Fax or scan / email a copy of the Journey Plan to the destination Journey Manager.
- Monitor that the driver is calling to report at times designated on the Journey Plan issued.
- If the driver did not call on time, call the driver to confirm if he reached the check point, this call must be made within 30 minutes from the time the driver was planned to call.
- If the driver does not respond to the call, check through the IVMS system the location of the vehicle.
- Continue calling the driver every 10 minutes,
- If the driver does not respond within one hour (60 minutes) then contact Operator-specific or Company specific Emergency number .
- If the driver does not respond within two hours (120 minutes) from the planned reporting time, initiate a “MAN LOST” procedure. For short journeys, the journey manager may find it appropriate to start his investigations earlier.
    - Identify the last known location of the vehicle/driver,
    - Contact the Direct Line Supervisor and HSE Manager and inform about the possible “MAN LOST” incident,
    - When contacting try to provide the following data, if available:
        - Vehicle details (vehicle number / fleet number, type and colour),
        - Driver contact number or passenger contact numbers if known,
        - Journey destination,
        - Last known position,
        - Was the driver familiar with the area,
        - Did the driver have a Safe Journey management map,
        - Did the driver have navigation aids, GPS / compass.
    - Remain on duty until the driver is found or the Journey Manager is relieved by another Journey Manager,
    - If relieved, inform the relieving Journey Manager about all the details regarding the incident, and provide the contact number, to be reached in need of further information.

2.3 Journey Management Process – In case of an accident

- When the Journey Manager has been notified about any accident he must notify emergency services with no delays (Operator-specific or Company specific emergency number or hotline and /or Government 9999).
- The Journey Manager must inform his HSE Advisor and senior management.
- The Journey Manager must also report the accident to the Road Safety Standards Team, PDO Local Emergency Base Controller and, if not differently instructed by his senior management, ROP.
- After notifying previously mentioned parties, the Journey Manager must save the Journey Plan in separate file for accident investigation purposes.

- The Journey Manager must also ensure the driver data and the Journey Log is kept for sufficient time for investigation purposes.

2.4 Journey Management Process – Closing the Journey Plan

The Journey Plan is closed in the following manner:

- The driver checks-in at the office of the destination Journey Manager,
- The driver calls the Journey Manager at the point of departure to close the Journey Plan,
- In the case of there not being a Journey Manager at the destination, the Journey Manager at the point of departure closes the Journey Plan after he has received the final confirmation from the driver that he has reached the destination safely. The Journey manager can verify journey status through the IVMS.
- The Journey Manager at the point of departure checks if the ATA (actual time of arrival) is within the normal window of ETA (estimated time of arrival). He should question the driver regarding any discrepancy, and report all discrepancies including the drivers' comments to the company's HSE Team.
- The Journey Manager asks the driver if he has something to report regarding the journey, vehicle, load or the road and logs it into the Driver reporting Log book.
- If there are issues regarding the road layout or road condition the Journey Manager notifies their HSE Team. HSE Team further escalates findings to PDO Road Safety Standards Team.
- If there are issues regarding the load, driver or vehicle, Journey Manager reports this to the respective parties.
- The Journey Manager signs that the Journey Plan is closed and files his copy of the Journey Plan for safe keeping for at least three months
- In the case of electronic journey management plan issued Journey Manager closes the Journey Plan through the journey management software.

3 Journey Management Process – Journey Management Software

The Journey Management software can be used for issuing and monitoring the journeys, and in this case electronic copies of the Journey Management plan are considered as valid Journey Management Plans.
Journey Management Software must have the following features:

- Asset database with all the up-to-date vehicle's details stored,
- Driver database with all the up-to-date driver's details stored,
- Road database with all the up to date road data stored for both blacktop and graded roads on the whole territory of the Sultanate of Oman,
- Road hazard database with all the up-to-date details on the road hazards mapped and described,
- Risk profiling in terms of driver, vehicle, road and weather for each journey,
- Constant vehicle tracking, through the direct connection with IVMS,
- Driving hours monitoring. and
- Reporting and analysis.

4 Journey Management System Reporting Requirements

- The monthly reports that the Journey Management System shall include, but not be limited to:
    - The number of Journey Plans issued,
    - The number of Journey Plans which required permission from the Authorising Person,
    - The number of times that drivers failed to report in as per the Journey Plan or other non-compliances identified e.g. early / late arrival, and action taken,
    - Checking weekly by test-driving 2 random vehicles, by either the Journey Manager or Transport Supervisor, to confirm their speed limiters are working correctly, if mandated by the Company/Operator and documenting this.

5 Journey Management Roles and Responsibilities

Safe Journey Management responsibilities are summarised below:

Authorising Person	The Manager or Department Head who guarantees the integrity of the journey management system of the company or department. This responsibility extends to all journeys under their Safe Journey Management System, including journeys that they do not individually and specifically authorise. He is responsible for subordinates' compliance with the journey management procedure. He is responsible for authorising emergency night journeys and journeys crossing the Oman border.
Journey Manager	The person who plans, monitors and closes out the journey using the Journey Plan. He is responsible for ensuring the journey is necessary, the driver is competent for the vehicle to be driven and that the vehicle and load are checked as safe and secure. He escalates any accident involving the vehicle and initiates the man-lost procedure should the vehicle be overdue and uncontactable. He is responsible for the vehicle and driver until the journey is completed. He must be able to effectively communicate with the driver being managed.
Location Journey Manager	The Journey Manager who is based at a drivers destination or overnight rest who is responsible for checking the safety of the driver, vehicle and load and liaising with the driver's Journey Manager.
Central IVMS Journey Manager	The person who is responsible for monitoring the compliance by the driver to the Journey Plan where the company operates a centralised GPS IVMS/DMS management system to monitor journeys.
Driver	Responsible for the safety of himself, the vehicle, load and passengers and for driving safely in accordance with the Journey Plan.

ACTION	RESPONSIBILITY
• Appoint subordinate managers as Authorising Persons for the purpose of Journey Management, and maintain an up to date list. • Circulate the list to all Managers and Supervisors in the Asset Team. • Ensure that the identity of all Authorised Persons is communicated in the department/company and their identity and function is understood by all supervisors and Journey Managers.	Senior Manager e.g. Discipline Coordinator or Department Head or General/Contract Manager
• Ensure that any locally developed work instructions considered necessary to implement Journey Management are consistent with OPAL Road Safety Standard and Journey Management Procedure.	Discipline Coordinator
• Appoint persons as Journey Managers who: – are themselves drivers who hold a valid and a Defensive Driving Permit relevant for the type of vehicles they are journey managing, or hold a management position and have attended a Defensive Driving course for a LV. – have attended and passed the "Safe Journey Management Course . – demonstrate a clear understanding of the responsibilities and duties of a Journey Manager by passing a 3 month closely supervised probationary period, signed off by the Authorising Person following the passing of a journey management audit and test. – are able to effectively communicate with the driver. Note there is no minimum management grading to be a Journey Manager, however the Authorising Person must sign off the Journey Manager as being responsible and mature enough to manage such journeys in the appropriate manner in compliance with the procedures. Locations which primarily receive vehicles under journey management (such as rigs and hoists) are allowed to use radio operators as Journey Managers without having the DDC training.	Authorising Person
• Identify and record the home base for each driver.	Authorising Person
• Ensure that each Journey Management point is sited in a suitable location and clearly marked with a Journey Management symbol. • Arrange all necessary provisions for Journey Managers as listed in this document.	Authorising Person
• Provide all supervisors, Journey Managers and drivers with a personal briefing on the importance of proper Journey Management at least every six months and record such briefings and attendees.	Authorising Person
• Include Journey Management requirements in Contract terms and conditions.	Contract Holder
• Audit the Journey Management system on an annual basis.	Authorising Person

5.1 Special journeys requring authorisation • The Authorising Person must provide written permission for single journeys: – crossing the Oman border, – where the vehicle is being used despite a temporary non-compliance with latest OPAL Standard, – at night for such journeys requiring night authorisation (per Night Driving Policy), • In granting such permission, be satisfied that actions have been taken by the Journey Manager and the driver to reduce the risks to levels that are As Low As Reasonably Practicable, and that the Journey Manager and driver are competent and authorised.	Authorising Person
Pre Journey Plan actions	Journey Manager
5.2 Writing a Journey Plan • The Journey Plan must always end either at the point of origin or at another Journey Management Point where a further Journey Plan can be made by another Journey Manager. • Complete the Journey Plan timings utilising the travel times from the appropriate Journey Management Map (Light or Heavy). • Ensure that the proposed Journey Plan will not violate the maximum hours of work or driving or result in unauthorised night driving. • Ensure that the appropriate points where the driver must phone the Journey Manager are included in the Journey Plan and pointed out to the driver. • Ensure the Journey Manager's phone number is clearly written on the Journey Plan. • Ensure the drivers mobile number is recorded on the Journey Plan • The Journey Manager must discuss all points on the Journey Plan with the driver. • The Journey Manager must provide a copy of the Journey Plan to the driver. Where the final destination on the Journey Plan on each day is another Journey Management Point, the Journey Manager at the destination must be emaileed / faxed a copy of the Journey Plan so he can double check adherence to the Journey Plan timings by the driver on arrival including early arrival.	Journey Manager
5.3 Journeys under multiple Journey Management Systems • If the journey is subject to more than one journey management system, the two Journey Managers must confer and agree as to which journey management system will apply. • Only one Journey Management System must apply to any journey. • This must be communicated to the driver by the Journey Manager who it is decided will be responsible for managing the journey.	Journey Manager
5.4 Journeys covering multiple days • Where the original Journey Plan involves an overnight stop at a camp, the Journey Manager must email / fax a copy of the Journey Plan to the Journey Manager/radio operator at the camp to enable him to manage any non-arrival of the driver at the camp. • Where the overnight stay is at a Journey Management Point, the Journey Manager based at this point must check the safe condition	Journey Manager

of the driver, vehicle and load and only release the vehicle if acceptable and after communicating with the Journey Manager responsible for the trip.	Location Journey Manager
• The driver must additionally contact the Journey Manager before he departs for the return trip to confirm departure time.	Driver
• Where the departure time signficantly differs from that planned originally, the Journey Manager should check that the journey remains safe to travel with the new timings and both the Journey Manager and driver should agree on and record new times for rests etc.	Journey Manager
• The Journey Manager must record the release of the vehicle and time of departure on the Journey Plan.	Journey Manager
5.5 Issuing an additional Journey Plan when the driver is in a different location	
• Where the driver has completed his journey at another Journey Management Point the Journey Manager at that location must check the safe condition of the driver, vehicle and load and contact the driver's Journey Manager to authorise any further Journey Plan to be created.	Location Journey Manager
• Where the driver has stayed elsewhere, other than a Journey Management Point, the driver must phone the Journey Manager to confirm the daily vehicle check has been conducted and passed and request the Journey Plan start before departing the overnight location.	Driver
• On receiving the mandatory telephone call from the driver the Journey Manager must complete the Journey Plan and email / fax it to management at the driver's location.	Journey Manager

5.6 The driver's Journey Plan role
 	
• The driver must ensure:
  • his vehicle, load and himself are safe to travel and he holds a valid licence and permit to drive the vehicle and for the load being carried.
  • his speedlimiter where fitted is functioning correctly
  • he receives a Journey Plan briefing from the Journey Manager and understands the risks, route and journey timings.
  • he has received a copy of the Journey Plan, has checked it is filled out correctly and he clearly understands the information on the plan
  • he has the required manifest and any relevant TREM Card (if the load is hazardous)
  • his mobile phone is charged and contactable.
  • he understands the requirements of the journey management procedures
  • he contacts the Journey Manager by telephone upon:
  – arriving at the destination
  – stopping driving at the end of the day
  – as agreed on the Journey Plan
  – encountering any problems en-route
  – returning to base
  • He keeps his own copy of the Journey Plan
  • He informs the Journey Manager of any road defects, missing road signs etc which he has identified on his journey.
	Driver

5.7 Do not issue a Journey Plan if: • The journey is deemed unnecessary or there are better alternative methods of travel. • Authorisation from the Authorising person is refused • The weather reports indicate it is unsafe to travel. • The driver does not attend the Journey Management Point to see the Journey Manager in person. • The person requesting the Journey Plan is not the driver of the vehicle • The driver has not completed and provided a daily vehicle safety check which confirms the vehicle is safe to drive and the speedlimiter (if fitted) is working • The driver does not have a valid ROP licence and Defensive Driving Permit for the type of vehicle to be driven on the journey • The driver is not wearing appropriate clothing or Personal Protective Equipment • The journey will breach the night driving rules or driving hours requirements in OPAL Road Safety Standard • The vehicle or load, on checking the vehicle, is unsafe to drive • There is no relevant TREM Card (if the load is hazardous) • The vehicle RAS is out of date • The vehicle speedlimiter when tested does not operate correctly. • The driver or vehicle is not ready to depart. If the driver is a third party driver who is required to drive a company vehicle on a journey the next day, do not provide the keys to the vehicle until the day of travel.	Journey Manager

5.8 Third Party drivers of Company vehicles Where there is a requirement for a Company or Contractor vehicle to be used by a third party driver then the keys to the vehicle must not be provided until the day of travel as per the Journey Plan.	Contractor management
5.9 During the journey • The driver should always follow the timings and route on the Journey Plan. • Unless there is a valid reason (e.g. GSM black spot after an accident or breakdown) any deviation from the Journey Plan which was not reported or requested to the Journey Manager at the time of deviation, should be reported to the driver's supervisor by the Journey Manager for consideration of disciplinary action. • The Journey Manager should ensure he keeps track of the time in relation to the times that the driver is required to call as per the Journey Plan. • Monitor that the driver is calling to report at times designated on the Journey Plan issued. • If the driver did not call on time, call the driver to confirm if he reached the check point, this call must be made within 30 minutes from the time the driver was planned to call. • If the driver does not respond to the call, check through the IVMS system the location of the vehicle. • Continue calling the driver every 10 minutes, • If the driver does not respond within one hour (60 minutes) then contact Local Emergency Base Controller (LEBC) by calling the number 5555 (internally) or 24675555 (externally). • If the driver does not respond within two hours (120 minutes) from the planned reporting time, initiate a "MAN LOST" procedure. For short journeys, the journey manager may find it appropriate to start his investigations earlier. • The Journey Manager and senior management must remain 'on duty' to assist with emergency procedures as requested until the driver is found. • Drivers who have failed to call the Journey Manager as required by their Journey Plan and themselves have failed to answer phone calls from the Journey Manager or others without good justification should face disciplinary action. The degree of this action should be greater if this has resulted in an escalation to a "Man Lost Emergency event" with its associated manpower and cost implications. • Journey Managers who fail to follow the procedure above are putting drivers lives at risk and should be disciplined.	Driver Journey Manager Supervisor Journey Manager Senior local management Senior local management LEBC Journey Manager/Senior management Operational management Operational management

5.10 Journey Manager changes • Where a Journey Manager is unable to continue managing the journey for any reason he must formally arrange for another Journey Manager to take over responsibility for managing the journey. • When handing responsibility to the other Journey Manager he must inform him of all outstanding journeys and provide the Journey Plans. • The outgoing Journey Manager must inform the driver of the change before handing over the responsibility except in the event he is unable due to sickness where responsibility then passes to the new Journey Manager.	Journey Manager
5.11 Staying effective • In case of an emergency the Journey Manager must remain in a fit state to work whilst managing a journey even if telephone calls are re-directed to a mobile phone, pager or residence telephone at the weekend.	Journey Manager
5.12 Releasing the vehicle from a Journey Plan • The Journey Manager is responsible for the safety of the driver on the journey until the Journey Plan is closed out. • The Journey Manager should record any issues regarding dangerous roads, missing signs etc on a log and then email this information to the relevant Operator asset within 24 hours for them to investigate. • The Journey Manager should follow up on such communications with the asset to ensure that remedial work has been conducted within one week and then weekly thereafter until satisfactorily resolved. • If the vehicle and driver are retained by another location for other work, the Journey Manager must hand over responsibility to the Journey Manager at that other location.	Journey Manager Journey Manager Journey Manager Journey Manager

6 Verifying Journey Management Practices

ACTION	RESPONSIBILITY
• Check records at least once per month to verify that journeys are being managed effectively by Journey Managers and drivers	Authorising Person
• Inspect Journey management practices at least once every six months using the Journey Management Checklist.	Authorising Person
• Ensure that the Journey Management system is audited every year, which may include independent auditors. • The audit may include Journey Management Systems of more than one operation. • Journey Management audits must test the system against the acceptance criteria in the Journey Management Checklist. Journey Managers and drivers must be questioned, and a representative sample of journey records must be inspected. • Any failures must be resolved through actionable remedial actions with dates and persons responsible for action formalised. • A record of the audit must be maintained for a minimum of three years	Authorising Person
• Verification that contractors are monitoring performance and auditing their journey management systems. • Conduct an annual Journey Management audit on each Contractor.	Contract Holders
• Audit the Journey Management System annually to include an analysis of the monthly reports from the Authorised Person, audits conducted by the Authorising Person and confirmation of close outs of remedial actions.	Discipline Coordinator

7 Journey Management Audits – Competency Test

SAFE JOURNEY MANAGER COMPETENCY TEST

COMPANY NAME	
COMPANY BASE MANAGER	
COMPANY CONTACT NUMBERS	
COMPANY LOCATION	
CONTRACT NUMBER	
CONTRACT HOLDER	
DATE OF SYSTEM TEST	
TESTER'S NAME (S)	
AUTHORISING PERSONS	
JOURNEY MANAGER TO BE TESTED	

	REQUIREMENT	COMPETENT YES	COMPETENT NO	RESPONSE /AUDITORS COMMENTS	REVIEW DATE IF REQUIRED/ IMMEDIATE ACTION
1.0	**JOURNEY MANAGERS**				
1.1	**Purpose:** Describe the purpose of the Journey Plan.				
1.2	**Scope:** Describe the scope of the Journey Management System.				
1.3	**Role Overview:** Describe what the role & responsibilities consist of for Journey Managers				
1.4	**Functions of JM:** What is your function as a Journey Manager?				
1.5	**Appropriate Training:** Have you attended a Safe Journey Management course? Please provide date & competency certificate.				
1.6	**Refresher:** Do you feel confident in your role, or do you deem it necessary to take a refresher course?				
1.7	**Journey Map:** Do you have access to the latest journey map for both types of vehicle?				

REQUIREMENT		COMPETENT		RESPONSE /AUDITORS COMMENTS	REVIEW DATE IF REQUIRED/ IMMEDIATE ACTION
		YES	NO		
1.8	**Verification:** Before a journey commences, do you ensure that the journey is necessary and obtain permission from the Authorising Person?				
1.9	**Tool Box Talks:** Do you discuss the route with your driver and make it clear that the Journey Plan must be adhered to and no deviations are to be made without consent from the Journey Manager?				
1.10	**Working Hours:** What is the permitted number of hours a driver can work in one shift? Do you plan journeys for more than this number of hours?				
1.11	**Planned breaks:** Breaks must be incorporated into journeys, how often do you plan a break for drivers of LVs and drivers of Heavy vehicles				
1.12	**Correct Documentation:** When planning a journey, do you remind drivers that they need to carry ROP licence and DD permit?				
1.13	**Traveling without a Plan:** Is it acceptable to travel without a Journey Plan?				
1.14	**Vehicle Checks:** Please provide a copy of the vehicle checklist that is used within your company				
1.15	**Vehicle Checks:** How often to you conduct a vehicle check with your nominated driver?				
1.16	**RAS Certification:** How do you keep a record to verify the validity of RAS Inspection dates?				
1.17	**RAS Certification:** Are your drivers aware that a vehicle has to have a RAS sticker?				

REQUIREMENT		COMPETENT		RESPONSE /AUDITORS COMMENTS	REVIEW DATE IF REQUIRED/ IMMEDIATE ACTION
		YES	NO		
1.18	**Provisions for drivers**: Does the company ensure that the driver does not leave his home base without adequate money for accommodation, food, telephone call etc?				
1.19	**Provisions for drivers:** If the answer to the above question is no, what are the company procedures in the event of an emergency?				
1.20	**Accommodation:** Who takes responsibility for arranging accommodation for the driver?				
1.21	**Responsibility for the driver:** Do you take full responsibility for the diver until his return to home base?				
1.22	**Emergency Response:** Who is responsible for raising the "Man Lost Procedures"?				
1.23.	**Emergency Response:** Give a brief account of what actions you would take in the event of an emergency				
1.24.	**Call in time:** Do you attempt to contact your driver if they do not call you when arranged?				
1.25	**Driver Notification:** Your driver is due to reach his destination at 3pm. At 3.30pm he has not arrived. What would you do?				
1.26	**Reporting:** Who would you inform?				
1.27	**Handovers**: For some reason you are unable to continue in your role as Journey Manager. What action would you take?				
1.28.	**Handover information:** What information would you provide to your relief?				
1.29	**Informing the driver:** Do you see it as necessary to inform the driver?				
1.30	**Arrival at Destination:** What do you instruct your driver to do when he reaches his location?				

REQUIREMENT		COMPETENT		RESPONSE /AUDITORS COMMENTS	REVIEW DATE IF REQUIRED/ IMMEDIATE ACTION
		YES	NO		
1.31	**Close out:** What procedures do you follow to close out a Journey Plan?				
1.32	**Keeping records:** How long do Operator require you to keep a Journey Plan after it has been closed out? Does your company state otherwise?				
1.33	**Preparing Reports:** Do you prepare a written report on a monthly basis? If yes what is included in it?				
2.0	**AUTHORISING PERSONS**				
2.1	**Purpose:** Describe the purpose of the Authorising Person.				
2.2	**Scope:** Describe the scope of the Authorising Person				
2.3	**Role Overview:** Describe the roles and responsibilities of the Authorising Person				
2.4	**Functions of AP:** What is your function as an Authorising Person				
2.5	**Appropriate Training:** Do you ensure that all Journey Managers have been provided with appropriate training?				
2.6	**Information:** Do you ensure that the Journey Managers have access to all relevant information regarding Journey Management?				
2.7	**Appointed Personnel:** Do you keep a list of all appointed and trained Journey Managers?				
2.8	**New Appointments:** Are new Journey Managers given support in the first three months of their new role to ensure complete compliance?				
2.9	**Home Base:** Do you appoint a home base for each driver?				

REQUIREMENT		COMPETENT		RESPONSE /AUDITORS COMMENTS	REVIEW DATE IF REQUIRED/ IMMEDIATE ACTION
		YES	NO		
2.10	**Written Permission:** Do you provide written permission as and when it is required? How often have you given written approval?				
2.11	**Understanding your role:** Do you feel confident in the role you perform as an Authorising Person?				
2.12	**Focal Point:** Is the focal point equipped with correct facilities? Is this responsibility delegated out? And if so is it conducted to a certain standard?				
2.13	**Reporting:** Do you prepare a written summary on a monthly basis for CH/CSR/Discipline Coordinator?				
2.14	**Reporting:** Do you check records at least once every six months?				
2.15	**Annual Audits:** Do you arrange yearly audits of Journey Managers?				
2.16	**Vehicle Checks:** Are spot checks ever carried out on drivers when completing vehicle checks?				
2.17	**Vehicle Checks:** If a vehicle problem/fault arises, do you ensure that it is fixed before it is used for a planned journey?				
2.18	**Journey Map:** Is the Journey Manager supplied with an up-to-date journey map?				
3.0	**THE DRIVER**				
3.1	**Planning:** Does the Journey Manager ensure that the route is discussed with you prior to departure?				
3.2	**Departure:** Do you depart only after you have received your Journey Plan and it is understood?				
3.3	**Licences:** You must never travel without which licences?				

REQUIREMENT		COMPETENT		RESPONSE /AUDITORS COMMENTS	REVIEW DATE IF REQUIRED/ IMMEDIATE ACTION
		YES	NO		
3.4	**Vehicle Checks:** Vehicle checks are conducted when and by who?				
3.5	**Faulty Vehicles:** If you discover a fault on your vehicle whilst undertaking the vehicle checks, what action would you take?				
3.6	**Breakdowns:** If your vehicle breaks down, what would you do?				
3.7	**Planned Breaks:** How often do you stop for a rest when travelling?				
3.8	**Journey Plans:** Are there any instances when you would travel without a Journey Plan?				
3.9	**Phone Calls: When do you** call your Journey Manager? □ Arrival at Destination? □ Stopping at the end of the day? □ As agreed on Journey Plan? □ Encountering a problem? □ To close out the Journey Plan at home base?				
3.10	**Daily working hours:** How many hours do you work on a long shift? How many hours are you permitted to drive in one shift?				
3.11	**Responsibilities:** Are you confident with Journey Management procedures & responsibilities?				
3.12	**Journey Manager:** Are you happy with the role that your Journey Manager has – does he support you enough?				
3.13	**Last Movements:** Give a general overview of a toolbox talk between you and your Journey Manager				

	REQUIREMENT	COMPETENT YES	COMPETENT NO	RESPONSE /AUDITORS COMMENTS	REVIEW DATE IF REQUIRED/ IMMEDIATE ACTION
4.0	**JOURNEY PLAN INSPECTIONS**				
4.1	**Timings:** Do the timings on the Journey Plan correspond with the distances and the speed limits of the company vehicle?				
4.2	**Planned Breaks:** Are the planned breaks incorporated in the journey at sufficient intervals?				
4.3	**Reporting:** Are the requests for calling via the driver and the Journey Manager adequate?				
4.4	**Night Driving:** Are there visible instances when the Journey Plan has been made to include night driving, without permission?				
4.5	**Record Keeping:** Requirement is for plans to be kept for 3 months. Contractors may keep for longer. Is the minimum of 3 months adhered to?				
4.6	**Non-Compliance:** Are there any non-compliances that are visible on the Journey Plans?				
4.7	**Non-Compliance:** If the answer is yes, is it a one off instances, or are regulations not understood?				
5.0	**GENERAL FINDINGS OF JOURNEY MANAGEMENT SYSTEM**				
5.1	**Accommodation:** Who is responsible for arranging accommodation?				
5.2	**Telephones:** Are drivers traveling with some kind of communication i.e GSM/Radio? If no what provision are they given i.e phone card/cash				
5.3	**Records of training:** Are there records of training, handouts, discussions, toolbox meeting?				
5.4	**General Keeping:** Are Journey Plans written and maintained in a reasonable manner?				

REQUIREMENT		COMPETENT		RESPONSE /AUDITORS COMMENTS	REVIEW DATE IF REQUIRED/ IMMEDIATE ACTION
		YES	NO		
5.5	**Knowledge:** Does there appear to be a general understanding of Safe Journey Management within the company?				
5.6	Is there a system to report hazardous roads?				

8 Journey Management Prompt Card

Safe Journey Manager's Prompt Card

JOURNEY
- Is the Journey necessary?
- What is the travel route?
- What is the road condition?
- Where are the resting Places?
- Emergency Numbers? Check in Times?
- Distance of Journey? Time allowed?
- Weather condition discussed?
- Any Special Hazards on route?

VEHICLE
- Vehicle details, number, type, colour?
- Is the RAS Sticker valid?
- Is the Vehicle suitable for the task?
- Has the driver checked the vehicle?

DRIVER
- Had he sufficient rest before this Journey?
- Is the R.O.P. licence valid?
- Is the driver's PDO permit valid?
- Is the driver aware about the road?
- Route? Resting place(s)? Check in times?
- Is accommodation required? Booked?
- Does he have a GSM? Contact numbers? Tested?
- Is there sufficient water for the journey?

LOAD
- What is the load being carried?
- Is it correctly secured? Not overloaded?
- Is the vehicle type suitable for the load?

DURING THE JOURNEY
- Stay on duty / contactable
- Ensure you receive the check-in calls
- On completion a safe journey, close out the plan
- Raise the alarm if you can not contact the Driver

مدراء الرحلات الآمنة
بطاقة الفحص السريع

الرحلة
- هل الرحلة ضرورية؟
- ما هو مسار الرحلة؟
- ما هي حالة الطريق؟
- أين تقع محطات الاستراحة؟
- أرقام هواتف الحالات الاضطرارية؟ أوقات الاتصال؟
- مسافة الرحلة؟ الوقت المسموح لقطع مسافة الرحلة؟
- هل ناقشت حالة الطقس؟
- هل هناك مخاطر معينة على الطريق؟

المركبة
- تفاصيل المركبة، الرقم، النوع، اللون؟
- هل لاصقة RAS نافذة المفعول؟
- هل المركبة مناسبة لأداء هذا الواجب؟
- هل قام السائق بفحص المركبة؟

السائق
- هل أخذ قسطاً كافياً من الراحة قبل بدء الرحلة؟
- هل رخصة القيادة الصادرة عن شرطة عمان السلطانية سارية المفعول؟
- هل تصريح القيادة الخاص بشركة نفط عمان نافذ المفعول؟
- هل السائق على دراية بحالة الطرق؟ و المسار؟
- محطات الاستراحة؟ أوقات الاتصال؟
- هل تم توفير أو حجز مكان لإقامة السائق؟
- هل لديه هاتف نقال؟ أرقام الهواتف اللازمة لتوفير الاتصال به؟
- هل تم التأكد من صلاحية الهاتف؟
- هل هناك ماء كاف للرحلة؟

الحمل
- ما هي التي تحملها المركبة؟
- هل هي مؤمنة بصورة صحيحة؟ و حجمها مناسب لحجم المركبة؟
- هل نوع المركبة ملائم لحمل مثل هذة البضاعة؟

أثناء القيام بالرحلة
- أبق في عملك؟ كن دائماً على اتصال.
- تأكد من استلامك لمكالمات السائق.
- انهي خطة الرحلة حال إكمالها.
- أصدر الإنذار في حال عدم تمكنك من الاتصال بالسائق.

Annex C-4: Jouney Management Plan

Contract No:

Journey Plan خُطـة الـرحلـة

JP No.: **Company:** اسم الشركة:

Journey Manager's Details	تفاصيل مدير الرحلة
• Is the journey necessary?	• هل الرحلة ضرورية؟
• Can it be combined with another journey? If not, why?	• هل يمكن دمجها مع رحلة أخرى؟ إذا لم يكن ممكناً، لماذا؟
• Will the driver reach his destination before dark?	• هل سيصل السائق إلى وجهته قبل حلول الليل؟
Name:	الاسم:
Signature: التوقيع:	Date: التاريخ:
Responsible for driver and vehicle!	المسؤول عن السائق والمركبة
TREM Card(s) must be attached if load includes hazardous materials	يجب إرفاق بطاقة (بطاقات) ترم إذا كانت الحمولة تحتوي على مواد خطرة

عدد الركاب Number of Passengers

اسم الركاب Names of Passengers	
1.	١–
2.	٢–
3.	٣–
4.	٤–
5.	٥–

(For light vehicles only) (للسيارات الخفيفة فقط)

تاريخ المغادرة Departure Date	رقم السيارة Vehicle Number	اسم السائق/الرقم الوظيفي Driver Name/Company Number

ضع علامة صح في المكان الصحيح لتحديد متى يتعين على السائق الإتصال هاتفيا مع مدير الرحلة
Tick correct box to indicate driver should ring Journey Manager

مسار الرحلة – اسم المكان Route Place Names	وقت المغادرة – وقت الوصول Time Arrive - Time Depart	الاستراحة Rest - Tick	اسم الموتيل/في السيارة/مكان آخر (اذكره) Sleep - Motel Name, Cab, Other Specify
	–		
	–		
	–		
	–		

الاتصال مع مدير الرحلة
Ring Journey Manager

Reason for Night Driving الأسباب الداعية للسفر ليلاً	Journey Manager's Remarks: ملاحظات مدير الرحلة:	ملاحظات السائق Comments for Driver
	١– الكشف اليومي على السيارة ☐ 1. Vehicle Daily Check	
	٢– إرشادات للسائق ☐ 2. Counselling for Driver	
Attach copy of permission (graded roads only) إرفق نسخة من التصريح (الطرق الممهدة فقط)	If you speed, death may overtake you. Ensure that seatbelts are worn by all before starting the vehicle. Road signs must be obeyed. لاتسرع الموت أسرع يرجى التأكد ان الجميع قد ربطوا احزمة الامان قبل تشغيل السيارة اتبع اشارات المرور.	Driver's Signature توقيع السائق

Journey Manager's Copy نسخة مدير الرحلة

Annex C-5: Commuting Procedure

1 General requirements

Operators and Companies must organise the Commuting of their personnel in the following manner:

- For commuting from the identified commuting hub to the primary work location, Operators and Companies must arrange the transport by flight or OPAL compliant heavy bus, however an OPAL compliant light bus can be used if the travelling distance is less than 200 KM one-way.

- Companies must maintain the list of its employees with the following details:

First Name	Second Name	Family Name	Place of residence	Commuting Hub and distance from the place of residence	Primary work location	Means of commuting	Date when attended DDC 01

The matrix showing employees places of residence and work locations, commuting route, hubs and mode of transportation must be provided by the Companies to their respective Contract Holders every 6 months.

- Companies can arrange the use of their own OPAL compliant bus or arrange a contract with any transport company if they wish to use providing that the following requirements are met:
    - An IVMS system which is compliant with the OPAL Road Safety Standard, and they provide the IVMS reports to Operator Road Safety / relevant HSE department, and the vehicles used for commuting are monitored by this IVMS system,
    - Using buses that are compliant with the OPAL Road Safety Standard,
    - Bus drivers must comply with the requirements for bus drivers stipulated in OPAL Road Safety Standard,
    - Providing a 24 hour a day Journey Management as per the Journey Management requirements stipulated in OPAL Road Safety Standard for the buses used.
- Operators and Companies must actively encourage their workforce to use the OPAL compliant transportation provided. Commuting employees must be allocated either:
    - A seat on a Company's own compliant bus,
    - A pre-paid ticket/seat for a contracted compliant bus.
- Money must not be paid for travel which may allow employees to use cheaper but less safe third party transport services. The presentation of bus tickets for non approved companies shall result in the employee being counselled and no re-imbursement of any cost incurred.
- Operators and Companies will not be responsible for the safety of employees who do not use OPAL compliant commuting transport. Such personaly arranged commuting is deemed non-work related.
- Companies must have suitable arrangements in place to ensure that the buses and drivers used remain within the OPAL Road Safety Standard. This can be achieved by using documented employee feedback, provision of weekly checks, monthly inspections and annual audits as a minimum.
- Companies can collaborate to improve the efficiency of this process.

- Operators and Companies shall ensure there are processes in place to monitor the use of OPAL compliant commuting transport by their staff.
- Operators and Companies will not be responsible for the travel arrangements and safety of employees travelling between their place of residence and the Commuting Hub; however it is the responsibility of Operators and Companies to ensure the distance between the place of residence and the hub is not greater than 20 kilometres. This is deemed non work related.
- Operators and Companies can allow employees whose place of residence is within one hour's driving time of their primary interior work location to use their private vehicles for commuting to and from work provided the whole journey can be completed in daylight. Such travel is deemed non work related.
- Note that one hour driving time is to be determined by the Company and agreed with the Contract Holder and must take account of the speed limits on the roads in question.
- Where Companies allow their staff to use private cars to travel to work within the one hour restriction, they must allocate appropriate car parking to accommodate such vehicles.
- Appropriate car parking is defined as an area which does not involve parking on the roadway or within an operational area where vehicle movement occurs. There must also be adequate space for the number of vehicles.
- Operators and Companies should not allocate any designated parking for private vehicles for employees who live over one hour's drive from their primary interior work location.
- Companies are encouraged to provide additional transportation (e.g. door to door).

2 Commuting Hubs

- Operators and Companies are required to establish Commuting Hubs (formal "pick up" and "drop off" points) for employees who reside more than one hour's drive from their primary interior work location. Examples are restaurants, shops, bus stations, coffee shops.
- Operators and Companies will be responsible for analysing the places of residence of their employees and keeping a record of this analysis up to date when employees join or leave. From this analysis, Operators and Companies will identify which employees are deemed to live within the one hour commuting distance and also determine suitable locations for placement of the Commuting Hubs.
- Minimum requirements for Commuting Hubs are:
    - Situated in cities, towns or villages, within 20 kilometres from the employee's place of residence.
    - Not situated in Operators interior operating locations.
    - Having basic facilities including shelter, telephone, taxi/bus service and restrooms.
- All proposed Commuting Hubs must be advised to the Contract Holder and be formally authorized as suitable for such use. A listing of bus/transport schedules must also be provided so that they can be cross referenced.
- A listing of Operators approved Commuting Hubs is given below:
    - Muscat
    - Salalah
    - Nizwa
    - Thumrait
    - Izki
    - Haima
    - Adam
    - Rustaq
    - Ibri
    - Duqum

- Ibra
- Al-Jazir
- Sur

- Requests for Commuting Hubs in addition to those above must be submitted to the Contract Holder (copy to Operator Road Safety department) for authorization with evidence demonstrating that they comply with the minimum requirements for a Commuting Hub as mentioned above.

3 Commuting within the Muscat Capital Area:

Travel in a private vehicle in the Muscat Capital Area or on the coast between the place of residence and the normal place of work is considered “non-work related”. OPAL Road Safety Standard requirements do not apply. It is strongly advised however that all Company and Contractor staff implement the requirements of OPAL with specific emphasis on drivers undergoing defensive driver training and receiving a defensive driving permit and also the minimum vehicle and vehicle maintenance specifications.

4 Organisation of travel for Commuting purposes

The organisation of travelling for commuting purposes should be such to allow and cater for the following:

- All the journeys must be journey managed.
- All of the journeys must be monitored through IVMS.
- The journeys can be travelled during night-time providing that the journey is travelled on blacktop road only and is constantly journey managed and monitored through IVMS online.
- Whenever visibility is limited by sand storm, fog, or heavy rain, the journey should not start or suspended at such inevitable situations during the journey. The circumstances must be communicated to Journey Manager/ Responsible line manager; and journey resumed on recovery of the road /climate condition must also be informed with details such as restart time, any route diversion and present condition. All defensive driving practices must be followed during such occasions.
- The transport provider must have a passenger list, with all the names of the passengers on it.
- In cases when there are unannounced passengers, and the seats are available the driver has the obligation to accept these passengers, by adding them to the list with the following data:
  - Name,
  - Company,
  - Travelling from,
  - Travelling to,
  - Boarding time.
- When the driver accepts the passengers he must notify his Journey Manager about it and provide the above data in order for Journey Manager to update the list.
- The passenger lists should be kept by the transport provider for one year.
- Companies must obtain the passenger list and send it to the Operator Commuting Project Manager or suitable responsible authority such as HSE.
- Companies are obligated to audit their transport providers and provide report to Operator Road Safety Department and Operator Commuting Project Manager.
- Companies should audit their transport providers on the following:
  - Journey Management
  - IVMS
  - RAS

- Drivers
- Vehicles

The Audit template for Seven Pillar assessment is provided as Annex C-6 to this document and the elements of this audit template can be used for the Audi

5 Organisation of travel for emergency purposes

The transport for emergency purposes shall be organised as soon as possible so that it caters for the actual emergency.
For a medical emergency, the transport shall be organised with the ambulance vehicle.
The first choice for other (non-medical) emergency cases[1] should be the first available flight.
If the flight is not available or cannot be organised in timely manner then transport with an assigned Operator's compliant light vehicle, organised either by the employee's contractor or Operator's area management team, after obtaining the necessary approvals, can be used.

To cater for the needs of safety for travel for emergency purposes, following minimum requirements must be met:

- The travel for emergency purposes must be organised with the vehicle compliant to the requirements of OPAL Road Safety Standard,
- The journey must be Journey Managed until the vehicle is returned back,
- The driver driving the vehicle must have been well rested and fit to drive,
- The company must provide food and accommodation for the driver,
- The journey will be treated as work related and the time the driver spent on this journey considered as working hours.

6 Organisation of travel for operational purposes

All operational / work related journeys shall be organised with vehicles compliant to OPAL Road Safety Standard; however the distance travelled for a single journey in a light vehicle shall not exceed 200 kilometres.

[1] Acceptable emergency cases as per Omani Labour Law are:

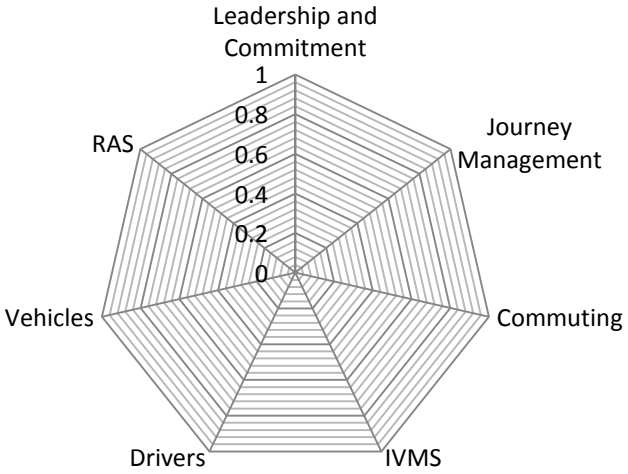
- Case of the death of a son, daughter, mother, father, wife, grandfather, grandmother, brother or sister.
- Case of the death of an uncle, or an aunt.
- Emergency leave in case of sickness of a first family member.
- Any other emergency approved by the management (cases of domestic emergencies like fire, theft and alike).

Annex 7: Seven Pillars of road safety audit

Based on the Seven Pillars haulier assessment tool developed by Shell, the tool for determining the level of compliance and areas for improvement has been developed. The presented questions are a minimum; any Operator / Company can add the questions that they would be interested to audit their system on.
The main areas defined for the scope of the audit are:

- Leadership and commitment,
- Journey Management,
- Commuting,
- In Vehicle Monitoring System (IVMS),
- Driver requirements,
- Vehicle Requirements,
- Roadworthiness assurance standard (RAS)

The results are usually presented on a spider-web chart, similar to the one presented below:



The results are measured by confirming the compliance with the questions related to each pillar, rating and ranking them against the information gathered during the audit.

Ranking is done through the descriptive and cumulative scoring system, with the following criteria:

Description	Score range
There is no system (only documents, or not even documents)	0-25%
There is a system but no implementation (people drive) of the system	26-55%
The system is implemented (has people drive) and recognized to some extent	56-75%
The system is sustained and supported (by the people) with ongoing improvement	75+%

When auditing, the answer is weighted against the previous criteria, and ranked accordingly.
There is no system (only documents, or not even documents) =1
There is a system but no implementation (people drive) of the system =2
The system is implemented (has people drive) and recognized to some extent =3
The system is sustained and supported (by the people) with ongoing improvement =4
All the marks are summarised and divided by the product of number of questions and 4 to get the percentage (i.e.: if the sum of the marked answers is 32, and the number of questions is 13, the percentage would be (32/(4*13) = 0.615 = 61.5 %.

Sample questions that can be used for auditing and compliance verification purposes are given in following tables:

1 Leadership and Commitment

LC1	Senior management is involved in the promotion of road safety initiatives?
LC2	The company holds regular toolbox talks, driver forums and other events as a way of promoting road safety?
LC3	The company has a complete set of presentations for road safety initiatives?
LC4	The company has a driver complaint or feedback mechanism, where a driver can formerly report to corporate safety?
LC5	The personnel authorized in the company to permit journeys are well known and listed in the JM offices?
LC6	A commuting policy is established in line with OPAL Road Safety Standard V2 (analysis of employee residences and primary work locations, hubs, mode of transportation, etc.)?
LC7	The Life Saving Rules related to driving is embedded in the company?
LC8	All vehicle occupants wearing seat belts (sample 5)?
LC9	A process for night driving approval is in place and followed?
LC10	Roads within the project area are substantially completed, well maintained and have the correct road signs and markings, and there is a recognized system for reporting the problems on roads to Operator?
LC11	There is a record of monthly journey management reports providing numbers of managed journeys?
LC12	There is a list of all current vehicles for the project/location? (breakdown on light /heavy /coastal based /interior based /km driven)
LC13	Road safety HSE stats data are managed and available (Road Safety Spot Checks on A,B,C,D defects, Life Saving Rules Non Compliances, MVIs)?
LC14	A process for subcontractor management including audits is in place and followed?
LC15	Management review of logistics activities such as exposure, cost, tonnage, and penalties/safety defaults is taking place regularly?

2 Journey Management

JM1	There is sufficient number of qualified and currently competent Journey Managers within the audited area (max 35 journeys per day per JM)?
JM2	There are JM records for the last 3-months and record of internal audit of Journey Management system within the last 6-months?
JM3	There is a record of the daily checks from the drivers before a Journey Management is authorized?
JM4	There is a monitoring process for drivers to book in and out and there is control of vehicle keys at the end of the shift?
JM5	The Journey Management form contains all critical information?
JM6	The Journey Manager checks on the licensing of each driver before the journey commences and also presents advice on "what to do in case of an accident"?
JM7	The Journey Manager is fully aware of what action to take in the event of an emergency?
JM8	The Journey Management system is available during the night working hours?
JM9	There is a monthly report to management presenting details of the number of journeys managed (No. of Journey Plans issued, No. of Journey Plans which required permission from the authorizing person, The number of times that drivers failed to report in as per the Journey Plan or other non-compliances identified and action taken)
JM10	There is a system for handing over journey management between Journey Managers?
JM11	Journey Manager has an access to IVMS and the system for online tracking of the vehicles is available?
JM12	Journey Management maps are up-to-date?
JM13	Journey Management system has the procedure for emergency notification (i.e. road traffic accidents, vehicle breakdowns etc.)?
JM14	Journey Manager office is properly equipped, and emergency numbers are available?

3 Commuting

CO1	Company has developed a commuting procedure?
CO2	Only OPAL compliant buses and flights are used for commuting?
CO3	The company maintain a current list of employees with their residences, primary work locations, hubs and mode of transportation for commuting?
CO4	The company has a list of employees who use their own vehicles for commuting?
CO5	There is a system in place where transportation allowances are not paid in cash for commuting?
CO6	Heavy buses used for commuting by land are compliant with OPAL Road Safety Standard V2 / approved and transport provider is regularly audited for compliance?
CO7	Evidence that management daily remind bus drivers in their toolbox talks that they are responsible to check that all seatbelts are working and that passengers wear them before the bus is driven?
CO8	Contractor or transport company has an IVMS system which is compliant with the requirements OPAL Road Safety Standard V2, and they provide the reports stipulated to Road Safety / HSE Team, and the vehicles used for commuting are monitored by this IVMS system?
CO9	The bus drivers comply with the requirements for bus drivers stipulated in OPAL Road Safety Standard V2?
CO10	Contractor or transport company is providing a 24 hour a day Journey Management as per the Journey Management requirements stipulated in OPAL Road Safety Standard V2 for the buses used for commuting?
CO11	Company is providing transport at the end of the shift, and there is no requirement for the employees to stay longer than needed in the field for commuting reasons?
CO12	The transport provider has a passenger list, and provides report to the company on regular basis regarding the bus usage?
CO13	The company has a procedure for emergency related commuting?
CO14	The emergency related commuting procedure is cascaded to the employees and they are aware of the procedure?
CO15	There is a list of drivers and vehicles that can be used for emergency related commuting, and the journey management system recognizes and caters for emergency related commuting?

4 In Vehicle Monitoring System (IVMS)

IV1	An IVMS system settings and capabilities are compliant with OPAL Road Safety Standard V2 and the service provider is registered / licensed with the Telecommunications Regulatory Authority (TRA)?
IV2	There is a formal and regular review of the IVMS data and reporting to the company and client?
IV3	There is regular formal feedback to drivers on their driving habits? (How frequently?)
IV4	The IVMS system / units are regularly checked for accuracy / calibrated and functional and report is provided to the senior management?
IV5	The maintenance manager has a record of IVMS checks for the last three months?
IV6	The IVMS report form part of a driver incentive / penalty (consequence management) scheme?
IV7	The IVMS data is used in regular toolbox talk with the drivers?
IV8	There is an effective system in place which prevents unauthorized use of the vehicle access keys?
IV9	Management has reviewed the reports with a review to limit driving exposure?
IV10	The vehicles are randomly tested on the road to check the function of the speed limiters?
IV11	There is a person in the company formally designated to manage the IVMS reports i.e. responsibility in the company HSE plan?
IV12	The HSE plan incorporates the regular monitoring of the IVMS data?
IV13	The analysis of the events identified by the IVMS system is done regularly?
IV14	The IVMS system provides a second-by-second data in case of accident?
IV15	The IVMS system data storage is protected and the servers are located in Sultanate of Oman as per the regulations of the Sultanate of Oman?

5 Driver Requirements

DR1	All drivers are over the age of 21 and have been certified fit by medical examination including an eyesight test? (Random sample 10 drivers from each company)
DR2	A training matrix records that all drivers have an approved driving licence and defensive driving permit to drive (random 5 drivers)
DR3	All drivers (minimum 5 samples) are able to complete a daily check sheet?
DR4	All drivers have completed a defensive driving course and their permits are up to date (minimum 5 samples)
DR5	All drivers are wearing suitable sturdy shoes to drive? (from minimum 5 samples)
DR6	Drivers are regularly engaged in driver meetings or toolbox talks? Records?
DR7	All drivers can explain the Life Saving Rules related to driving? (Sample at least 10 drivers)
DR8	All drivers are aware of the IVMS reports and understand the function and report data?
DR9	All bus drivers are over the age of 30 and have relevant experience?
DR10	All drivers know the duties stated in the JM forms? (minimum 5 samples)
DR11	Compliance with Omani law for maximum working hours/days is achieved?
DR12	Compliance with the driver hour rules for light and heavy vehicles is assured?

6 Vehicle Requirements

VH1	All vehicles receive a daily check and this is recorded?
VH2	All vehicles are recorded in a site log fleet number?
VH3	All vehicles have functioning seatbelts and lights (sample 5 vehicles)?
VH4	The company perform planned and random checks on vehicles beyond the Operator's Road Safety / HSE Team inspections?
VH5	Tyres are regularly checked by a competent transport mechanic and the tyre pressure and tread depth across 75% of the tyre width are minimum: • 1.6 mm for light vehicles (sample 5 vehicles) • 2.4 mm for heavy vehicles (sample 5 vehicles)
VH6	Tyres are not used beyond 4 years from date of manufacture (sample 5 vehicles)?
VH7	All vehicles have the necessary safety equipment in working order; extinguisher, first-aid kit, etc. (sample 5 vehicles)?
VH8	Vehicles used on blacktop and graded roads are fitted with 'all terrain' tyres, unless the vehicle supplier has formally confirmed in writing that all terrain tyres are not required for vehicles using blacktop and graded (sample 5 vehicles)?
VH9	Vehicles have a sticker confirming the correct tyre pressures (sample 5 vehicles)?
VH10	Each vehicle has a high visibility jacket/vest? (sample 5 vehicles of each type)?
VH11	Vehicles carrying hazardous loads have the appropriate licence, marking and TREM cards available? (sample 3 vehicles)
VH12	Heavy vehicles carry sand-boards to help if stuck in sand (sample 3 HGVs)
VH13	Heavy vehicles have under-ride protection? (rear mandatory, side optional) (sample 5 vehicles)?
VH14	All applicable vehicles have roll bars fitted (sample 5 vehicles)?
VH15	All vehicles have functioning reverse alarms where required (sample 5 vehicles)?
VH16	All trailers have a non slip ladder with lowest step no more than 90cm from the ground (sample 5 trailers)?

7 Roadworthiness Assurance Standard

RAS1	All vehicles have an up to date RAS sticker (sample 5 vehicles)?
RAS2	The RAS sticker is issued by a qualified and recognised OPAL RAS workshop?
RAS3	The RAS sticker validity is up to the date of validity of ROP registration (sample 5 vehicles)?
RAS4	There is a random check of vehicle conditions with records?
RAS5	The contractor has complete maintenance records for its fleet of vehicles?
RAS6	The company works closely with the Operator's Road Safety / HSE Team to develop improvement measures?
RAS7	There is a responsible person (focal point) for monitoring RAS?
RAS8	There is a record of RAS campaigns with the drivers?
RAS9	The RAS stickers are inspected monthly?
RAS10	There is a vehicle defect reporting system for drivers?
RAS11	The RAS stickers are not issued for vehicles which do not have IVMS, but are required to have one according to the current version of OPAL Road Safety Standard?
RAS12	The company is confirming that all sub-contractors have up-to-date RAS stickers on their vehicles?
RAS13	The company confirms that any hired vehicles are RAS inspected and not used if do not have valid RAS sticker?

Annex C-7: PDO Step-Out Request Form

Purpose

This Annex shows the form to be used for requesting Step-Out approval from any otherwise mandatory requirement stipulated in OPAL Road Safety Standard V2.

	8.1.1 Procedure/Specification **8.1.2 Step-Out Request (LB)**	**Form Ref: CP-122-1**

Procedure: / Specification Name	**OPAL Road Safety Standard**	**Nº**	**V2**
Requested by: (Name & Designation)	**–**	**Date**	
Procedure/Specification Requirement:			
Step-Out Requirement:			
Step-Out Justification: 1.			
Validity Period of this Step-Out request: From: dd/mm/yyyy. To: dd/mm/yyyy.			
Approved Document Authority Comments:			

Request	
Signature –	
Date	

Approval	Signature, Reference Indicator and Date
Approved Document Authority (Head Corporate Road Safety)	
Date	

Annex 8: Road safety monitoring forms

This Annex shows the forms to be used by Road Safety Teams or relevant HSE Department in the conduct of road safety monitoring. All noted details should be recorded.

1 Speed monitoring report form

Location		**Date**	
		Time	
Posted speed limit			
The vehicle stopped as per the road safety /HSE team request (circle the correct box)			
Vehicle Type			
Light Truck Articulated Tanker Light Bus Heavy bus Ambulance Fire truck Mobile Equipment Hazardous load Motorcycle			
Vehicle Make and Model			
Vehicle Registration No:			
Measured Top speed			
Driver Name			
PDO Permit No or Staff Number			
Company and contract Number			
Pictures of the offence			
Top speed (offence)		**With registration number visible**	

2 Driver & vehicle monitoring report form

Date:		Time:	
Area:		Road Safety / HSE Team:	

Details of the vehicle and the driver inspected:

Registration Number:		Contract Number:	
Vehicle type: (*circle the proper type)*	Light Truck Articulated Tanker Light Bus Heavy bus Ambulance Fire truck Mobile Equipment Hazardous load Motorcycle		
Vehicle make		Trailer Reg. No:	
Owner:			
Driver name:			
PDO permit No:		ROP License No:	

Compliance checklist:

1	Vehicle not RAS inspected or RAS expired? RAS expiry date:..... , issued by:…… No:……..		Possible penalty for contractor
2	Vehicle registration expired? expiry date:….....		Possible penalty for contractor
3	IVMS is not installed or not working?		Possible penalty for contractor
4	Speed limiter not installed or not working?		Possible penalty for contractor
5	Seatbelts not working but used by vehicle occupants?		Possible penalty for contractor
6	Tyres in such condition that can cause accident?		Possible penalty for contractor
7	JP not compliant with rest period requirements? (Driving more than 2 hours, short rest periods etc.)		Possible penalty for contractor
8	Driver does not have license/defensive driving permit or it is expired?		Possible penalty for contractor
9	Driver does not have appropriate defensive driving permit for the type of vehicle he is driving?		Possible penalty for contractor

Lifesaving rules violation

	Driver driving under the influence of drugs or alcohol		Driver not complying with the journey plan
	Driver using the mobile phone while driving or over speeding more than 10 km/h above the speed limit		Driver or passenger not using the seatbelt while the vehicle is in motion Passenger name……..

Other driver's non-compliance
(circle the non-compliance items)

Failure to give way	Failure to keep the safe distance
Overtaking where not allowed	Not using lights appropriately
Not stopping on a STOP sign	Lose items inside the cabin
Wrong parking	Not indicating on turns
Not using appropriate PPE	Other……

Other vehicle's defects or non-compliances
(circle the non-compliance items)

Lights and signals malfunctioning	A/C Malfunctioning	Spare tyres missing	Wheel nuts loose	Health certificate missing (for water tankers)
Rollover cage not installed	Tyres worn out	Emergency equipment missing	Radio not working	SHOCK card / placard / missing (for hazardous load)
PSI not painted	MAX load not painted	Engine or brakes leaking	Load not properly restrained	No under-ride protection

Remarks

RSST Inspector signature..... phone number:.....

3 Road Safety Spot Check Form

Road Safety: VEHICLE SPOT CHECK LIST			NO:
DATE / TIME / LOCATION :			**VEHICLE OWNER :**
RSST INSPECTOR :			**CONTRACTOR :**
CHECKED DURING: VSC / Patrolling / F.I.			**CONTRACT HOLDER :**
REG NO :	**FLEET NO :**		**CONTRACT NUMBER :**
VEHICLE MAKE :	**MODEL :**		**SUB CONTRACTOR**
VEHICLE CLASS (CIRCLE)			**RAS INSPECTION DATE :**
LIGHT / HEAVY / SELF MOVING EQUIPMENT			**RAS INSPECTED BY :**
SUB CLASS (CIRCLE)			**DRIVER NAME :**
PM (single) /PM (with trailer) /PM (with tanker) /Tanker (single) /BUS			**DRIVER `S GSM NO:**
Goods / Goods (with crane) / Cement mixer / Mobile Crane / Other			**PDO PERMIT NUMBER:**
TRAILER DETAILS (WHERE APPLICABLE)			**REMARKS:**
TYPE (CIRCLE): Flatbed T./ Lowbed T./ Oilfield T./ Tanker T./ RIG T.			
Banana T./ Refrigerated T./ Curtain sided T./ Skeleton T./ Other			
REG NO :	RAS INSPECTION DATE :		
FLEET NO :	RAS INSPECTED BY :		

CLASS - A (VEHICLE NOT TO BE USED UNTIL PROBLEMS ARE RECTIFIED)			
NO	**DESCRIPTION**	**STATUS**	**DEFECTS FOUND**
1	SEAT BELTS, MISSING, DEFECTIVE		
2	ROLLOVER CAGE NOT FITTED WHERE REQUIRED		
3	TYRE CONDITION CAUSING A RISK		
4	SPEED LIMITER/IVMS MISSING OR FAILED & SPEEDING		
5	LOAD SECURITY AND RESTRAINT NOT AS SP2001		
CLASS - B (TO BE RECTIFIED IMMEDIATELY ON RETURN TO WORKSHOP)			
6	SPEED LIMITER/IVMS NOT WORKING BUT NOT CAUGHT SPEEDING		
7	VEHICLE LIGHTS MALFUNCTIONING		
8	A DRIVER CAN NOT PROVE HE IS JOURNEY MANAGED		
9	A DRIVER CAN NOT PROVE HE HAS A VALID AND RELEVANT DEFENSIVE DRIVING PERMIT		
10	CRANES AND MATERIAL HANDLING EQUIPMENT HAVE OUT OF DATE SAFETY INSPECTION RECORDS		
11	HIGH INTENSITY REAR LIGHTS ARE NOT AVAILABLE OR FUNCTIONING		
12	AIR CONDITIONING NOT FUNCTIONING OR AVAILABLE		
13	SUITABLE AND SUFFICIENT SPARE TYRES ON THE VEHICLE		
14	WINDSCREEN OR MIRRORS CRACKED SO AS TO PRESENT SIGNIFICANT LOSS OF VISION		
15	SEATS ARE IN A POOR STATE OF REPAIR		
16	OTHER DEFECTS		
BLOCK - C - (DRIVER PERFORMANCE NON - COMPLIANCE)			
17	DANGEROUS DRIVING		
17a	HAVE YOU BEEN TRAINED ON HOW IVMS SYSTEM WORKS?		
17b	DO YOU RECEIVE FEEDBACK FROM YOUR SUPERVISOR ON YOUR IVMS DRIVING PERFORMANCE?		
BLOCK - D - (PROCEDURAL NON COMPLIANCES)			
18	HEALTH CERT.(WATER) SHOC CARD (CHEMICALS)		
19	RAS INSPECTION STICKER		
20	CENTRE OF GRAVITY CERT. (TANKERS)		

The Vehicle has been impuonded due to Class A Defect?			Yes	No
21	NAME OF PERSON INFORMED AND TIME?			
22	PHONE No. OF THE PERSON INFORMED:			
23	JOURNEY MANAGER (NAME / PHONE)			
24	VEHICLE IMPOUNDED ON THE SPOT OR ESCORTED TO WHICH COMPANY WORKSHOP?			
25	SIGNATURE OF DRIVER OR WORKSHOP SUPERVISOR			
26	A DEFECTS RECTIFIED AND VEHICLE RELEASED BY RSST INSPECTOR (DATE / TIME)			

Vehicle Workshop :

On completion of the above defective items, sign and date below, **and retain this form in a file in workshop**

I certify that the work required as detailed above is completed :

Signed by : Date :

Driver`s Signature

Road Safety Inspector Signature

Annex C-9: Road Safety Key Performance Indicators (KPIs)

1 Objectives

Road safety KPIs shall be established and consistently reviewed and monitored by all operating companies. Road Safety KPIs shall be an integral part of the monthly reporting structure to OPAL.

Major objectives of the road safety KPIs are to:

- Prevent Motor Vehicle Incidents (MVIs).
- Improve reliability of the transport and logistics operations - direct impact on financial performance.
- Communicate performance through definition of measurable parameters.
- Provide for benchmarking and comparison.
- Ensure consistent and standardised reporting across the OPAL community.

2 Scope and Definitions

The following definitions shall apply.

2.1 Motor Vehicle Incidents (MVIs)

An incident involving a company or contractor vehicle in motion whether on or off the road, that has resulted in injury or damage to assets, the environment or the company's reputation, irrespective of the cost of repair or responsibility for the cause.

A vehicle is defined as a car, van, light vehicle, heavy goods vehicle, road tanker, bus or motorcycle any unit under tow, e.g. trailers, rigs, caravans, mobile generators. It also includes plant or mobile cranes (if licensed to travel on the roadways and with RAS) if the vehicle is driving on the roadway at the time of the incident.

This definition does not include:

- Incidents involving vehicles operating on aprons of public airfields;
- Damage as a result of normal wear and tear, e.g. minor paint scratches, stone chips, and mechanical wear and tear;
- Incidents which occur when the vehicle was unattended, e.g. vandalism or other damage whilst the vehicle was parked.
- Incidents where the plant or crane is operating on a worksite.

2.2 MVI Severity Categories

- **Severe Motor Vehicle Incident (SMVI)** - comprising sum of:
    - Fatal MVIs: incidents resulting in company, contractor or third party fatality.
    - Major MVIs: incidents resulting in lost time injury (LTI) or vehicle rollover.
    - Serious MVIs: incidents resulting in medical treatment (MTC) or restricted work case RWC).

- **Minor Motor Vehicle Incident (MMVI)**
    - Incident resulting in first aid case (FAC) or property damage (excluding rollover)

2.3 Injury Severity Categories

MVI First Aid Case (FAC)

- Any MVI related injury that does not involve lost workdays, restricted workdays or medical treatment but which receives first aid treatment.

MVI Medical Treatment Case (MTC)

- Any MVI related injury that does not involve lost workdays or restricted workdays, but which receives medical treatment.

MVI Restricted Work Case (RWC)

- Any MVI related injury or illness that keeps the employee from performing one or more of the routine functions associated with their job or a medical physician recommends that the employee not perform one or more of their job's routine duties.

MVI Lost Work Case (LWC)

- Any MVI related injury that renders the injured person temporarily unable to perform their normal work or restricted work on any day after the day on which the injury occurred. Any day includes rest day, weekend day, scheduled holiday, public holiday or subsequent day after ceasing employment. This excludes lost time where the person is kept under precautionary observation and where such observation shows there is no cause for concern.

MVI Fatal Injuries (FIC)

- Any MVI related injury that resutls in loss of human life.

MVI Lost Time Injuries (LTI)

- The sum of injuries resulting in fatalities, permanent total disabilities and lost workday cases, but excluding restricted work cases and medical treatment cases.

2.4 Work Related MVIs

A work related MVI results only from a work related activity i.e. journey which has/should have management controls in place.

The following activities should be considered as work related until proven otherwise:

- All work by Company personnel on shift,
- All work by the contractor on Company premises or on non-Company premises for which it can reasonably be concluded, based on risk assessment that Company and contractor management controls are required.

“Contractor” includes all sub-contracted activities.

For Company personnel, work includes overtime, attending courses, conferences, company organised events, business travel, field visits or any other activity where the employee's presence is expected by the employer.

- Participation in voluntary programs is not considered work related.
- Incidents off shift whilst away from home are not considered work related.

For contractor personnel, the same activities are included when they are executed under a contract on behalf of a Company.

Where it is impossible or inappropriate for the Company to seek to apply management controls on a contractor, exceptions may be justifiable. Examples may be found in areas where contractor services are not dedicated to the company, for example:

- Manufacturing of components in a factory together with the manufacture of components for other customers,
- Construction at a contractor's fabrication site shared by other customers,
- Delivery of goods or products to company locations by a contractor who is also employed to deliver goods or products to other companies during the same journey,
- Customer collection of company products, where the vehicle and drivers are controlled by customer.

3 KPIs and Performance Management Monitoring

Road safety KPIs are classified as lagging (reactive) and leading (proactive) indicators and they can be broken down further to qualitative and quantitative indicators.

3.1 Risk Exposure

Lagging KPIs like the number of vehicles, distance travelled, hours of driving, etc. are describing the exposure to road safety. On its own they are reactive and quantitative but when taken as a denominator against road safety events (i.e. MVIs or Fatalities) they provide a meaningful and comparable performance indication. The following formula is used to calculate Lagging KPIs.

$$\frac{\text{Accidents/Incidents/Breakdowns/Demurrages/Cost}}{\textbf{(Million KM Driven); (HH: MM Driving): (Net Ton} - \textbf{Kilometers)}}$$

Bellow KPIs are defining exposure that shall be monitored by each Company, including Contractors (with contracts awarded under the Corporate Procurement Manual).

- Number of Light Vehicles (LV)
- Light Vehicle Kilometres Driven (LVKM)
- Number of Heavy Vehicles (HV)
- Heavy Vehicles Kilometres Driven (HVKM)
- Total Number of Vehicles (NV) = LV + HV
- Total Number of Kilometres Driven (E) = LVKM + HVKM

Performance indicators shall be consolidated monthly and should include all business related journeys for both light and heavy vehicles.

Transport / logistics departments may monitor other operational KPIs that can help business optimisation and cost reduction:

- Driver turnover

- Hours of driving
- Number of trips
- Fuel consumption (litres) per kilometre
- Freight turnover (ton-kilometres)
- Number of passengers transported
- Passenger – kilometres
- Available seat-kilometres
- Passenger load factor, etc.

4 OPAL Road Safety KPIs (Minimum Mandatory KPIs Monitoring and Reporting Requirements)

Road safety lagging KPIs are output oriented, easy to measure but hard to improve or influence. The following lagging KPI shall be monitored by each Company.

4.1 Severe Motor Vehicle Incident Frequency Rate (SMVIFR)

$$SMVIFR = \frac{SMVIs}{E}\left(\frac{Severe\_MVIs}{Million\_Kilometres\_Driven}\right)$$

In order to monitor and report Severe MVIFR it is necessary to monitor and report:

- Total number of recordable Severe MVIs (Fatal, Major and Serious) that sums up all head-on collisions, rear-end collisions, side collisions and single vehicle incidents (road departures and roll overs).

4.2 Drivers Behavior (DB)

$$DB = \frac{Number\_of\_Drivers\_with\_IVMS\_Score \le 3}{Total\_Number\_of\_Drivers\_with\_IVMSKey} \cdot 100\%$$

In order to monitor and report Drivers Behaviour (DB) it is necessary to monitor and report:

- IVMS score that is less or equal to 3 consider drivers that scored “Green” and “Yellow” on the RAG report.

Road Safety KPIs Summary Table

	OPAL Road Safety KPIs	Jan	Feb	March	Q1	……..	Year
INJURIES	**MVI Fatalities (Work Related + 3rd Party + Commuting)**						
	Company/ Contractor work related MVI fatality (Reportable + Recordable)						
	3rd Party fatality from work related MVI (Reportable)						
	Commuting MVI fatality (Reportable)						
	MVI Lost Time Injuries (LTIs = WRFs + LWCs)						
	MVI Work Related Fatalities (WRFs)						
	MVI Lost Work Case (LWCs)						
	MVI Restricted Work Cases (RWCs)						
	MVI Medical Treatment Cases (MTCs)						
	MVI First Aid Cases (FACs)						
INCIDENTS	**Motor Vehicle Incidents (MVIs = Severe MVIs + Minor MVIs)**						
	Severe MVIs (Fatal MVIs + Major MVIs + Serious MVIs)						
	Fatal MVIs (incident resulting in fatalities)						
	Major MVIs (incidents resulting in an LTI or vehicle rollover)						
	Serious MVIs (incident resulting in MTC or RWC)						
	Minor MVI (incident resulting in FAC or vehicle damage, excluding roll overs)						
ROLLOVERS	**Rollover MVIs (Fatal + Major + Serious + Minor)**						
	Fatal Rollover MVIs (rollovers resulting in fatalities)						
	Major Rollover MVIs (rollovers resulting in LTIs)						
	Serious Rollover MVIs (rollovers resulting in MTC or RWC)						
	Minor Rollover MVIs (rollovers resulting in FAC or material damage)						
EXPOSURE	**Million KM driven (LV KM driven + HV KM driven)**						
	Total Vehicles (TV)						
	Light Vehicles (LV)						
	LV KM driven						
	Heavy Vehicles (HV)						
	HV KM driven						
FREQUENCY RATE	**MVI Frequency Rate (MVI rate per million KM)**						
	Severe MVIFR (LTI, rollover, MTC,RWC)*						
	Minor MVIFR **(FAC, damage only)**						
IVMS	**Driver Behaviour***						
	"Green + Amber" Drivers						
	Drivers with IVMS Keys						

*Severe MVI Frequency Rate and Driver Behaviour shall be monitored and reported as minimum mandatory road safety KPI requirements.