sunrise energy
A subsidiary of MOGS Oil & Gas

LPG IMPORT TERMINAL – SALDANHA BAY

Document Title

ALLOCATION MECHANISM AND TERMINAL USE POLICY

Document No	SE-COM-DOC-016
Revision	03.1
Date	05 September 2023
Total Pages	52
Document Status	Approved for use
Document Classification	Generic

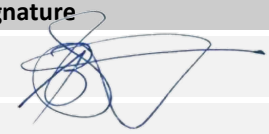
SECTION A - DOCUMENT INFORMATION

A.1 DOCUMENT HISTORY

Rev.	Date	Status	Changes	Revised By	Checked By	Approved By
00	31/08/2017	Issued to NERSA and approved for publication	First Issue	AM	SP	PC
01	20/08/2019	Updated and republished	Document Update	NM/KR	SP/AM	PC
02	15 June 2021	Approved and published	Incorporation of further Open Access provisions for multiple party use of Terminal	KR	SP	PC
02.1	22 June 2021	Correction	Correction to **Error! Reference source not found.**	KR	SP	PC
02.2	28 Sep 2022	Terminology Updates	Terminology Updates (Target Dispatch Rates, Available Loading Slots, Contracted Throughput Capacity)	KR		MT
03.1	05 Sept 2023	Revised to align with Industry Standards	Complete Revision based on new Operating Model	RS/NM/ SP	SP	RS

B.1 RELEASED FOR USE

This document is released for the intent as indicated in the Status above.

Name	Designation	Date	Signature
Rajen Singh	CEO	05/09/2023	

DEFINITIONS

Term	Definition
Act	The Petroleum Pipelines Act, No 60 of 2003 and (where consistent with the context) includes the Regulations made under the Act;
Allocation Mechanism	This document read with all schedules and annexures attached to it;
Applicable Law	All applicable South African statutes (including amendments to legislation existing which is promulgated or comes into force from time to time), statutory instruments, by-laws, regulations, ordinances, orders, rules and other secondary provincial or local legislation or government authority directives, codes of practice, common law (including changes to such law as a result of decisions of the courts) and international conventions which have been or shall be incorporated into South African law having force of law in South Africa or the province or locality within which the Terminal is conducted.
Applicant	A person who wishes to use Uncommitted Capacity at the Terminal and who may apply for access to such Uncommitted Capacity in accordance with provisions set out in this Allocation Mechanism;
Available Stock	Product available to the Client for dispatch, which must be both pumpable and equivalent to the current Book Stock value of the Client
Batched	The process of verifying the physical properties of the Product in a Bullet prior to dispatch from the Terminal.
Book Stock	Calculated value of Stock on hand which is owned by the Client.
Bullet	Pressurised vessel or tank used for the receipt and storage of the Products.
Business Day	means any day other than a Saturday, Sunday, or a public holiday in the Republic of South Africa
Carrier	Company or person undertaking the downstream transportation of the Product on behalf of the Terminal User or Customer.

DEFINITIONS

Term	Definition
Client	A third-party legal entity or company which contracts with Sunrise Energy to import and aggregate the Product, utilising the Sunrise Energy Terminal for the offloading and dispatch of final Product to its downstream Customers (the distributors of the LPG).
Contract Capacity	The volume of Capacity that a Client contracts to utilise at the Terminal
Capacity	The design volume of the bullets being 1100MT per bullet.
Customer	The downstream entity that purchases product from the Client who is contracting capacity at Sunrise Energy.
Daily Dispatch Rate	This is the rate that Product is evacuated from the Terminal per day via the Dispatch Points (in MT).
DCS	Distributed Control System, which manages the physical operations, controls, and emergency shutdown systems of the Terminal.
Discharge Advisor	The person from the third-party marine advisor and services company who is responsible for overseeing the safe berthing and offloading of the ship on behalf of Sunrise Energy.
Dispatch Order	An order from a Customer collecting allocated Product from the Terminal at the Dispatch Point.
Dispatch Point	Means either: (1) the outlet flange of a dispatch pipeline which is located at the battery limit of the Phase 2 Terminal; or (2) the Product transfer point into road tankers at the road loading gantries of the Terminal
eSunrise	eSunrise, a web-based portal and stock management and information system operated by Sunrise Energy, which communicates and processes order and stock information to/from TMS.
Import Pipeline	The subsea/overland pipeline running from the marine offloading facilities (PLEM at the MBM) to the onshore Terminal storage facilities.
Independent Surveyor	A Surveyor independently appointed to verify the quantity and quality of the Product offloaded from the ship and received into the Bullets.

DEFINITIONS

Term	Definition
Laycan	Laycan means the period calculated as the earliest date at which loading (Laytime) can commence and the latest date upon which the Vessel can arrive at its appointed loading place without being at risk of being cancelled.
Laytime	The period allowed by Sunrise Energy to carry out cargo discharge operations from a ship, which shall include the time required for the Independent Surveyor inspections, Product sampling and testing, Product discharge and the completion of mooring and unmooring operations. The standard Laytime provision is 36 hours for a 5,500 MT parcel (LPG at 531kg/m^3 at 15^{o}C).
Loading Header	The common header running from the Bullet discharge lines to the road loading gantries.
Loss/Gains	Loss/Gains refers to the accumulation of Daily Stock Adjustments for all Product (Total Stock) over time. A Loss/Gain % per Client is reported bi-annually by Sunrise Energy based on the Client's stock movement transactions over the six-month period (or upon Client request).
Maximum Allowable Cargo Offloading Time	This is the maximum time allowed by Sunrise Energy for cargo offloading from a ship, commencing when the ship pumps commence cargo discharge to when the ship pumps stop on discharge completion.
MBM	Multi-Buoy Mooring System owned and operated by Sunrise Energy for the mooring of ships for the offloading of Product.
MT	Denotes Metric Tonnes
NERSA	National Energy Regulator of South Africa.
Nominated Throughput	Accurate estimate of expected Throughput for next operational month (Month M+1).
Notice of Readiness (NOR)	The Master of a ship used to import Product will issue a NOR through the shipping agent when they arrive in Saldanha at the Pilot Station, indicating that the ship is ready to berth and to start with discharge.
Odourised	Product which has been odourised with Ethyl Mercaptan.
Operating Stock	This is the Product required to operate the Terminal which remains in the Bullet bottoms, piping, and vapour space.

DEFINITIONS

Term	Definition
Parcel	This is the quantity of Product offloaded from a ship in a single ship offloading operation.
Phase	The Sunrise Energy Terminal has been designed to be constructed in three Phases. All common facilities have been designed to accommodate the total design throughput of the Terminal (with all three phases constructed). Phase 1 is currently operational, with Phases 2 and 3 (additional storage and gantries) to be implemented in future per market requirements.
Physical Stock	Actual quantity of Stock (or inventory) in the Bullets, determined by the levels in the Bullets, temperature, pressure readings and actual physical properties of the Product.
PLEM	Subsea Pipeline End Manifold that connects the marine loading hoses to the marine subsea pipeline.
Product	Cargo as imported by a Client and received from the ship and stored in the Bullets and piping, for dispatch to their customers.
Road Loading Gantries	The facilities available for the filling of road tankers with Product from the Terminal per Dispatch Orders.
Vessel Delivery Order	An order from a Client for the import of Product into the Terminal via ocean going ship.
Vessel Schedule	A rolling schedule utilised by Sunrise Energy to manage the nomination and berthing of ships and the receipt of Product from various Clients such that the utilisation of the Terminal is optimised.
Spot Contract	A Client bringing in a shipment of Product on an adhoc or short-term basis.
Stock	Refers to the LPG, Butane or Propane Product stored within the Terminal.
Storage Capacity	This is the maximum quantity of Product that can be stored in the Terminal at any one point in time, being 5500MT (LPG)
Terminal	The complete Sunrise import facility, which includes the MBM, Import Pipeline, Bullets and Product dispatch facilities.
Terminal Operator Agreement	The Agreement between Sunrise Energy and TNPA providing a concession right for the Terminal under Section 56 of the National Ports Act 12 of 2005.

DEFINITIONS

Term	Definition
Terminal User	An entity, which utilises the Terminal to aggregate and consolidate the import requirements of downstream Customers and import and on sell the Product to these Customers at the Terminal Dispatch Points.
Throughput	The quantity of product received and dispatched via the Terminal over a designated period of time.
TMS	The Terminal Management System is the calculation interface between the DCS, which controls the operation of the Terminal, and e-Sunrise, which controls the commercial aspects of the Terminal (Dispatch Orders and Book Stock).
Ullage	Available space in the Terminal for the receipt of Product. Ullage is reported on a mass basis in MT, referenced to an average LPG composition (60%/40% Propane/Butane blend) and density at 15°C (reference temperature).
Uncommitted Capacity	Refers to Capacity of the Terminal which can be made available to third parties as determined by NERSA
Uncontracted Capacity	Refers to Capacity of the Terminal which has not been contractually committed to any Terminal User
Un-odourised	Product which has not been odourised with Ethyl Mercaptan.
Unutilised Capacity	This refers to any unutilised Contract Capacity in the Terminal and is the difference between the Capacity of the Terminal and the Client's actual utilisation as set out in clause 8.4.

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1 INTRODUCTION

This document sets out the Sunrise Energy (Pty) Ltd (hereinafter referred to as "Sunrise Energy") capacity allocation mechanism and operating policy for third parties, as required by the Regulations published under the Act and its operating licence. The document has been compiled in line with the National Energy Regulator of South Africa (NERSA) Allocation Mechanism Guidelines for Third Party Access to Petroleum Storage Facilities (dd. 26 November 2009).

Sunrise Energy owns and operates a Liquefied Petroleum Gas (LPG) Import Terminal in Saldanha Bay, Western Cape, licenced by NERSA under a combined licence for the Marine Loading Facility, Auxiliary Pipelines and Storage Facility.

2 LICENCES

Sunrise Energy has the following licences for the Marine Loading Facility, Auxiliary Pipelines and Storage Facility:

- Construction License Number: PPL.sf.F1/88/2009, amended from time to time and granted in terms of the Act;
- Operating License Number: PPL.sf.IF.F3/201/2015, amended from time to time and granted in terms of the Act;
- A Terminal Operator Agreement concluded in terms of Section 56 of the National Ports Act 12 of 2005 governing the operation and use of the Marine Loading Facility.

(Collectively referred to as "the Licences").

3 TARIFF SCHEDULE

3.1 NERSA has approved a maximum multi-year tariff for the Marine Loading Facility and Storage Facility published on the NERSA website at www.nersa.org.za/petroleumpipelines/tariffs.

3.2 Marine Loading Facility and Storage Facility tariffs for the use of the Terminal shall be negotiated and agreed with Sunrise Energy, with any such tariffs being no greater than the published NERSA tariffs in terms of Section 28 (6) of the Petroleum Pipelines Act.

3.3 Tariffs charged shall be exclusive of VAT.

4 PURPOSE OF DOCUMENT

This document provides a mechanism for the allocation of Uncommitted Capacity to Terminal Users and the subsequent operating policies and procedures applicable to the use of the Terminal.

The Terminal Allocation Mechanism ensures the following:

1. The facilitation of a business environment which complies with the **Competition Act** of South Africa, as well as all Applicable Law other relevant laws and acts, allowing for the most equitable use of the Terminal by each Terminal User per their Contracted Throughput Capacity.
2. It ensures **compliance** with the Sunrise Energy Licences as set out in clause 2 above.

3. It allows for the **optimal utilisation** of the Sunrise Energy Terminal design capacity.

This document specifically details those guidelines that govern the allocation and the use of the Terminal storage capacity and Throughput Capacity by Clients such that the above Sunrise Energy objectives and obligations are met.

5 DESCRIPTION OF THE FACILITIES

5.1 Overview

The Sunrise Energy LPG Import Terminal commenced its commercial operations on 27 May 2017. The Terminal has been constructed and the Licences allow for modular expansion to respond to growth in the South African LPG market as it occurs.

The Terminal comprises a Marine Loading Facility, with an Import Pipeline connecting the Marine Loading Facility to the receiving storage Bullets. From the Bullets, Product is dispatched to the market via road loading or direct cylinder filling.

5.2 Marine Loading Facility and Auxiliary Pipelines

A ship offloading facility is provided for the discharge of LPG (being a blend of Propane and Butane) into the Terminal, which comprises of the following main components:

- A floating **Multi-Buoy Mooring (MBM)** facility anchored in the Saldanha Bay harbour at approximately 33°01'55'' S 17°59'35'' E, for offloading of product from Ships. The MBM consists of four mooring buoys, two at either end of the vessel, each anchored to the seabed. The moored vessel connects to the subsea pipeline via a flexible hose that connects directly into the vessel's manifold. The flexible hose is connected to the subsea pipeline via a PLEM attached to the seaward end of the subsea pipeline.
- A 12-inch diameter, approximately 3.2 km length subsea pipeline, from the MBM to land at approximately 33°00'24'' S 18°00'34'' E.
- A 12-inch diameter, approximately 2.1 km length overland pipeline (buried), running from approximately 33°00'24'' S 18°00'34'' E to the onshore storage facility referred to above.

The MBM can accommodate pressurised, refrigerated, or semi-refrigerated vessels with a cargo capacity of 3,000 to 20,000 MT, with main maximum parameters summarised in Table 1 below.

Table 1: Characteristics of Maximum Vessel Size Accommodated at MBM

Parameter	Max Value
Maximum Displacement (Summer) (MT)	35 000
Length (m)	180
Loaded Draft (m)	10.4

The minimum and maximum operating parameters for the MBM and pipeline, which Terminal Users are required to comply with, are as follows:

Table 2: Operating Parameters – MBM and Pipeline

Parameter	Limit	Units	Value
Fluid Service	-	-	LPG or LPG Components i.e. Butane, Propane*
Pressure	Minimum Operating Pressure (at Ship Rail)	kPa.g	1 600
	Maximum Operating (at Ship Rail)	kPa.g	1 700
Temperature	Minimum Operating	°C	0
	Maximum Operating	°C	30
Ship Discharge Flowrates	Required Minimum Operating (average)	m^3/hr	500
	Maximum Operating	m^3/hr	800

*Note: Pipeline to always remain liquid-packed during normal operations

5.3 Onshore Storage (and Dispatch) Facilities

The onshore component of the Terminal includes:

- Five mounded, cylindrical, pressurised storage bullets (horizontal tanks), each with working capacity of 1,100 MT LPG (based on a reference density of 531kg/m^3), with a total Capacity of 5,500 MT.
- A common Export Header for the dispatch of product from the LPG bullets via the Dispatch Points.
- Product dispatch via 3 (three) road tanker loading gantries.
- LPG Cylinder Filling Facility (which is outsourced to a third party).

5.4 Terminal Capacity

The Terminal Capacity is determined primarily by the following factors:

1. The availability of the MBM for the berthing of ships based on the mooring type, location, exposure to weather conditions, planned maintenance requirements and other availability factors.
2. The Sunrise Energy Terminal can receive a maximum of 5,500MT LPG (at 531kg/m^3 at 15°C) if the Terminal is empty and has no Available Stock remaining.
3. The dispatch capability of the Terminal, noting that the Terminal can load an average of 33 tankers between 7am and 7pm, allowing for a dispatch of approximately 825MT from the Terminal per day.

6 KEY TERMINAL OPERATING POLICIES

The following key operating policies pertaining to the use of capacity in the Terminal are applicable:

6.1 The Terminal is an Open Access facility as defined in Sunrise Energy's Terminal Operator Agreement. In this regard, the Sunrise Energy NERSA licence conditions regulate access to the use of any Uncommitted Capacity in the Terminal by any qualifying Terminal User.

6.2 Sunrise Energy reserves its right to operate the Terminal in such a way that the use of the Terminal is optimised, and that the full Capacity (per design and operating philosophy) is available to its Terminal Users, whilst ensuring compliance with the conditions of its relevant Licences, including the Competition Act and Applicable Law.

6.3 Product of the same specification may be co-mingled during operational activities.

6.4 Sunrise Energy shall verify the quality of the Product accepted into the Terminal in terms of the following:

- The Product must be delivered odourised, with the measured Ethyl Mercaptan being no less than 15ppm and up to a maximum of 50 ppm.
- Imported Product must comply with the specifications given in SANS1774, as well as the additional Sunrise Energy specific requirements related to Ethyl Mercaptan, Total Sulphur and Acetylene as set out in Annexure C.

6.5 Sunrise Energy shall manage the Shipping Schedule and Ullage in the Terminal. As such, MBM Availability Slots shall be allocated to Terminal Users for the nomination of Laycans in accordance with the Sunrise Energy Operations Policies and Procedures set out in this Allocation Mechanism. The Terminal is designed to operate as an Import Terminal with the ability to provide consistent Product dispatches into the market.

6.6 Terminal Users will be required to adhere to Minimum Daily Dispatch Rates of Product from the Terminal to ensure that maximum Ullage is available for parcel offloads per the published Shipping Schedule.

6.7 The Sunrise Energy Terminal is regularly refilled from incoming shipments and Ullage is therefore only available for specific volumes and specific time periods. Periodic Ullage availability therefore does not mean that Ullage constitutes Uncommitted Capacity as the Ullage may be contracted to Customers having cyclic requirements or it may not be capable of use due to operational or safety risks.

7 CONTRACT CAPACITY ALLOCATION

7.1 Capacity Allocation to Terminal Users

7.1.1 In order to provide access to the Terminal Sunrise Energy will issue a Request for Qualification and Request for Proposal ("RFP") in terms of which all prospective Clients can qualify and issue proposals for the use of the Terminal on a 2 (two) year basis. The RFP will be issued every 18 (eighteen) months. In order for an Applicant to qualify it must comply with the application process set out below.

7.1.2 Following the tender award any other prospective Clients can apply for the use of Uncontracted Capacity in the Terminal, with the Client contractually committing to a specific Contract Capacity for a period.

7.1.3 The first party to apply and pay for Uncommitted Capacity will be granted the first option to such capacity, provided that the Applicant complies with the requirements for access set out in this Allocation Mechanism, is compliant with legislation to import and distribute LPG, and the Applicant's application is commercially, operationally, and technically feasible.

7.2 Contractual Arrangements

7.2.1 Clients utilising the Terminal can conclude contracts with Sunrise Energy on one of the following bases:

- **Take-or-Pay Contracts**: Contract Capacity is reserved in the Terminal on a long-term basis (annual contract or longer), at a fixed charge on a "use it or lose it basis".
- **Spot Contract**: This is dependent on Uncommitted Capacity being available. Client may import Product on either an ad hoc or short-term basis if there is sufficient Uncommitted Capacity and the Shipping and Truck Loading Schedule is commercially, operationally, and technically feasible.

7.3 Applications for Capacity

7.3.1 Applicants who wish to apply for Uncommitted Capacity shall address their applications in writing to:

Contact Designation: Commercial Manager
Email: info@sunrise-energy.co.za

Applicants should provide the following information in their application:

- Full name, company name, company registration number and contact details of the Applicant;
- If a Company or Trust, all beneficial owners identification documentation;
- Specification of Product quantity and quality to be imported (in MT);
- Contract requirements (imports on a spot or long-term basis);
- The Capacity it wishes to utilise for the period with provisional volume dispatch forecasts for a period of 12 months;
- Confirmation of capacity to procure, handle and distribute LPG products and must comply with, but not limited to, the following criteria:

- Registration as Wholesalers of Petroleum Products as set out in the Petroleum Products Act, 1977 (Act No.120 of 1977) (as amended).
- Product Import Permit from SARS
- VAT registration certificate
- a valid tax compliance certificate issued within the past 3 Months
- Product Import Permit from ITAC
- Confirmation of Insurance of the Product, it being understood that Sunrise Energy does not insure Customer Product
- Proof of financial stability required including but not limited to Audited Financial Statements for the previous financial year and appropriate parent company guarantees or letter of credit. Sunrise Energy reserves the right to verify the details provided.
- Compliance with Financial Intelligence Centre Act.
- the application must include a copy of the Applicant's current accreditation certificate issued in terms of the BBBEE Act and the Codes of Good Practice promulgated in terms of the BBBEE Act;
  the application must include a certificate of good standing issued in respect of the Applicant (and its contractors) in terms of Compensation for Occupational Injuries and Diseases Act, 130 of 1993;

7.3.2 The following important terms shall apply to all Applicants:

- if the Applicant is a juristic person, the full names and identity or passport numbers of the individuals authorized to represent it and a copy of the resolution or other mandate in terms of which those individuals are authorized to represent the Applicant;
- if the Applicant represents someone else, the full names and identity or passports numbers of both the Applicant and its principal (or where either the Applicant or the principal is a juristic person, the ultimate beneficial owners of the Applicant and its principal) and a copy of the resolution or other mandate in terms of which that Applicant is authorized to represent the principal;
- the application must include proof reasonably satisfactory to Sunrise Energy that the Applicant has a reliable supply and offtake of the Product, and that the Product will be delivered and removed from the Terminal;
- the application must include proof to Sunrise Energy's reasonable satisfaction that the Applicant has suitable and sufficient transport and logistics facilities in place and sufficient suitable alternative storage so as to enable the Applicant to take delivery of, and remove its Product from the Terminal within a specified time frame.

- the application must specify on what basis it intends to contract with Sunrise Energy – on a Take or Pay basis or a Spot basis and the duration of such contract;
- the application must specify any other operational storage and handling requirements and/or constraints of the Applicant;
- the application must include proof reasonably satisfactory to Sunrise Energy that the Applicant's (or its Customer's) transport contractors and other Personnel who will be entering the Terminal will comply with Sunrise Energy's Site Rules, SHE Requirements and all applicable regulatory requirements, where the Personnel are transporters, they will have to demonstrate compliance with all applicable road traffic legislation in relation to vehicles, drivers and other Personnel including but not limited to the National Road Traffic Act, 93 of 1996 and the regulations to that Act, particularly with reference to carriers of hazardous goods; if the Applicant intends taking discharge of the Products from a marine vessel, the application must include the details of the marine vessels which will be used taking note of the Vessel Requirements set out in Annexure B. In this regard, Sunrise Energy is not obliged to accept such discharge unless the Vessel complies with the provisions of Annexure B;
- the application must include a detailed schedule of any information included in the application which the Applicant considers to be Confidential Information;
- the application must include the Applicant's written consent to the Processing of any of its Personal Information by Sunrise Energy or its Personnel which is included in the Application.

7.3.3 Notwithstanding the aforementioned Sunrise Energy may require an Applicant to provide additional information or documents verifying the identity of the Applicant and / or its beneficial owners and / or that the Applicant is appropriately licensed and authorised to conclude a contract with Sunrise Energy

7.3.4 Should Sunrise Energy have Uncommitted Capacity and the application meets the aforementioned requirements the potential Client shall be notified within 30 (thirty) Business Days of receipt of the application. The potential Client will then be requested to complete a 'Know Your Customer' Form and conclude a commercial agreement on the terms and conditions as specified by Sunrise Energy.

7.3.5 Commercial agreements shall be concluded in line with the terms set out herein as well as the following key provisions:

- access to the Terminal facilities must be in line with and comply with all the terms and conditions of the Licences as set out in clause 2 above;
- Customers must agree that Sunrise Energy may disclose to NERSA any information about them and their access to and use of the Storage Facilities as is required by NERSA, from time to time;

- access to the Terminal is subject to any circumstances or events which limit or prevent such access including, but not limited to, emergency repairs or breakdowns, Sunrise Energy will communicate with Customers if any such circumstances or events prevent or restrict their access to Uncommitted Capacity.
- Sunrise Energy shall not be liable to any person for any indirect, special or consequential loss or damages arising from any cause of action, including in contract, delict, from strict or statutory liability. Indirect, special or consequential loss or damages are deemed to include standing time costs, demurrage, the cost of obtaining alternative storage and holding costs. In addition, Sunrise Energy may refuse to contract with a Customer unless and until a suitable limit of liability is agreed.
- Sunrise Energy may require a payment guarantee from Customers.
- The rights under a Storage and Handling Agreement with Sunrise Energy may not be ceded, sub-let or transferred.
- Sunrise Energy shall not contract with sanctioned entities or accept product from sanctioned suppliers.

8 TERMINAL CAPACITY OPTIMISATION

8.1 Management of Contract Capacity

8.2 Sunrise Energy guarantees that a Client with a Take-or-Pay Contract will have full access to its Contract Capacity on an annual basis.

8.3 Uncommitted Capacity will be made available to an Applicant that wishes to import Product on either an ad hoc or short-term basis, providing there is sufficient Uncommitted Capacity to accommodate the Applicant's requirement and the Client can evacuate the Product within the agreed schedule.

8.4 In the event that during any period of 3 (three) consecutive months or in respect of any complete period of 12 (twelve) months, the average Actual Throughput is less than 75% (seventy-five percent) of the Contract Capacity ("Unutilised Capacity"), Sunrise Energy shall be entitled to reduce the Contract Capacity by the percentage by which the Contract Capacity has been unutilized by the Customer and Sunrise Energy shall be entitled to allocate such Unutilized Capacity to prospective customers and/or Other Customers, that are willing to contract with Sunrise Energy to utilise it.

9 CAPACITY SCHEDULING AND PLANNING

In order to provide for the orderly and efficient operation of the Terminal the following operational procedures will apply to all Terminal Users:

10 SCHEDULING OF SHIPS

10.1 Nomination of Vessel Laycan

Client must provide a provisional Vessel Laycan, 30 days in advance.

Based on the Client's Vessel nomination, a minimum of one updated "rolling" Vessel Schedule shall be distributed by Sunrise Energy on a monthly basis.

The schedule shall indicate:

- Nominated Vessel laycan period
- Revised Vessel laycan period
- ETA of vessel
- Laytime - The allocated time slot for the duration of the vessel's stay at the MBM.
  Any planned maintenance activities at the MBM.

10.2 Laycan Delays:

Any delays in Vessel arrival will impact on the Vessel Schedule and therefore any deviation from the planned laycan must be communicated timeously to the Sunrise. Sunrise will evaluate the schedule to accommodate the delay if possible. If the schedule cannot accommodate the delay, client's vessel will move to the next available laycan on the Vessel Schedule.

10.3 Vessel nomination

Sunrise will provide the client with the Port of Saldanha's (TNPA) and Sunrise's MBM, vessel design specification that is allowed entry and mooring.

Sunrise Energy will send a Vessel Delivery Order Form for the client to provide the following Information:

- Vessel Name
- Laycan date
- Quantity and Quality of products to be discharged.
- Port of origin
- Estimated date of Arrival: Port of Saldanha
- Appointed Vessel Agent

10.4 Additional information to be provided by the client, with the Vessel delivery order.

- Certificate of Origin.
- Certificate of Analysis (including EM, Acetylene and H2S content) of nominated Vessel Tanks to be discharged - Refer to Annexure C (Refer Table 1 and 2)
- Vessel discharge plan

- MSDS for the cargo to be discharged.
- Completed Intertanko Tanker Chartering Questionnaire 88 (Vessel Q88) – Refer to Annexure A1
- Completed Amsol Marine Q88 Checklist. – Annexure A2
- Vessel rope and winch certificates.
- Vessel crane certificates

10.4.1 Sunrise to receive the completed Vessel order and all other required information, by no later than 15h00, 7 business *DAYS* prior to the first day of the vessel laycan. All shipping orders are captured on the Sunrise Energy ERP systems.

10.5 Vessel Verification

Based on the information in the vessel nomination, verification will be done by TNPA Harbour Master and Sunrise Energy Marine Advisor. The decision by the TNPA Harbour Master is final and binding on all parties. On completion of the vessel verification, Sunrise Energy will advise the client if the vessel has been accepted.

10.6 MBM Mooring Requirements and Restrictions

Notwithstanding the provisions set out in Annexure A, mooring of all Vessels is subject to the prevailing weather conditions of the day. The final decision on mooring at the MBM is made by the Harbour Master at the Port of Saldanha Bay. Vessels may be berthed during daylight hours only, but Sunrise shall ensure that, once berthed, discharging operations can take place 24 hours a day, 365 days a year subject to the restrictions of the MBM set out in Annexure A,

10.7 Product Quality Verification

Sunrise Energy will review the Product Quality certificate prior to delivery, for the nominated vessel tanks, against SANS1774 (refer to Annexure C- Table 1). Sunrise Energy will also confirm if the specific requirements for Ethyl Mercaptan, Total Sulphur and Acetylene are within the agreed specification. (refer to Table Annexure C – Table 2). For the avoidance of doubt, where there is conflict between the SANS1774 product specifications and the Sunrise Energy minimum product specifications, the Sunrise Energy specifications shall prevail.

10.8 Capacity to Receive Import Quantity

Sunrise Energy advise the Client of the Ullage available capacity to receive the nominated product quantity, 7 days before the vessel laycan.

10.9 Vessel Operations

Sunrise Energy will publish the vessel nomination and relevant documents to stakeholders, minimum 2 days before the laycan date which will also provide the roles & responsibilities of the various stakeholders, namely

- Discharge Advisor, Surveyor, Laboratory Technician, Appointed Agent, Vessel Surveyor, Laboratory Technician, Divers and the Sunrise Team.

Sunrise will generate a Vessel Discharge Procedure to be signed off by the Discharge Advisor.

10.9.1 The Product offloading rate from the ships is required to a be a minimum average of 500m^3/h and a Maximum Allowable Cargo Offloading Time will be calculated per parcel size to be offloaded. Sunrise Energy shall control the ramp up and ramp down of flow from the ship and shall maintain a constant offloading flowrate of no greater than 800m^3/h. The discharge rates are subject to TOA/ TOPS KPI targets and may be adjusted accordingly.

10.9.2 Should a Client wish to extend their Laytime (extend the time at the MBM) to enable the offload of additional Product, the Client shall make such a request to Sunrise Energy in writing, 24 hours in advance. Sunrise Energy shall consider whether such a Laytime extension can be considered based on availability at the MBM per the Vessel Schedule and weather permitting. Extended MBM Stay subject to TNPA Harbour Master approval. The Client will be liable for any charges incurred by the Extended MBM Stay.

10.9.3 Sunrise Energy shall measure a vessel's Laytime from the time that the first line is connected at the MBM during ship mooring, ending when the last line is disconnected during the ship unmooring operation. The maximum allowable Laytime for a vessel offloading a cargo of 1,500 Mt (with a reference density of 531 kg/m3 at 15°C) is 15 hours, allowing for a Maximum Allowable Cargo Offloading Time of ~5 hours (, with the balance of `10 hours available for all other operations associated with the mooring/unmooring operations, Independent Surveyor inspections, sampling, and testing, plus allowance for any overnight time during which these operations may cease. The maximum allowable Laytime will vary according to the cargo quantity, noting that the Maximum Allowable Cargo Offloading Time will be reduced if the offloading quantity is less than 1,500 Mt.

10.9.4 Should a vessel not have completed the discharge of its nominated parcel size at the end of the maximum allowable Laytime, the Client may be required to immediately stop offloading and vacate the MBM. Should the Client vessel exceed the Laytime provision and accordingly delay another Client from proceeding with a vessel offloading operation, the responsible Client will be liable for any resulting demurrage charges incurred by the delayed party.

10.10 Quantity of Product received from Vessel:

The quantity of Product offloaded is metered by a custody-transfer mass flowmeter located on the Import Pipeline (at the Sunrise Energy Terminal). On completion of ship offloading, the quantity of the product delivered will be certified by the Independent Surveyor/Inspection company. Several sources of measurement will be used to determine the Offloaded Quantity, including:

- Mass measurement (primary source)
- Vessel inventory calculations
- Surveyor/ship readings

The agreed Offloaded Quantity (as well as the Quality) will be recorded in the ERP system as a Lot. A Ship Delivery Confirmation Report will be issued to the Client.

10.11 Quality of Product received from Vessel Product

Prior and during vessel offloading, several samples of the offloaded product will be taken (via the sample point located on the import pipeline, upstream of the storage tank inlet manifold). The Quality results from the most representative samples will be averaged and a Certificate of Analysis will be produced by the Independent Surveyor/Inspection company, based on SANS1774 (refer to Annexure C- Table 1).

10.12 Comingling of Products

Sunrise at its own discretion may comingle product of the same specification, in order to optimize the Terminal ullage and capacity.

11 SCHEDULING OF PRODUCT DISPATCH BY ROAD OR PIPELINE

- Dispatch Orders will only be accepted by Sunrise Energy if the Customer has sufficient allocated stock available.
- Sunrise Energy will provide a Product Dispatch Order Form for the client to provide information on a daily basis to schedule the road or pipeline dispatches.
- Sunrise will provide the Client with the Terminal's Technical and safety requirements for access to the storage facility - Refer to Annexure D and Annexure E.

11.1 Monthly Road and Pipeline Forecast

- Client to provide total quantity to be dispatched by road or pipeline for the new month, 2 days prior to commencement of the new month.

11.2 Weekly Road Dispatch Forecast:

- Client must provide a dispatch forecast, 7 days in advance, indicating, quantity of product to be dispatched per day, for 7 consecutive days.
- Based on the client's dispatch forecast, a minimum of one, updated "rolling" road tanker schedule shall be distributed, by Sunrise Energy, on a weekly basis.

11.3 The Weekly "rolling" road tanker schedule shall indicate:

- The Client's total quantity to be dispatched for the 7 days, including a daily dispatch plan.
- The daily road loading slots will be planned from 07:00 to 16:30 and nomination of slots will be based on " first come first service" principle.
- Any planned maintenance on the Road Loading Gantries and provide possible adjustments to the slot planning allocation.

11.4 The Daily Road Tanker and Pipeline Schedule

11.4.1 The Client's daily road tanker schedule shall consist of,

1	Client
2	Customer
3	Client or Customer Order number
4	Order Quantity
5	Product name
6	Dispatch date
7	Requested loading slot
*8	Carrier details (Driver / Tractor / Trailer details)
9	Delivery designation
*10	Road combined weight

**Only applicable for Road Tanker Orders*

- Road Dispatch Orders must be submitted by 15:00 hrs. prior to the day of loading.
- All road dispatch orders are captured on the ERP systems.

11.5 Deviation from the Road Slot Planning Allocation.

- Any deviation in road tanker arrival will impact on the road dispatch schedule and therefore any change from the planned discharge slot must be communicated timeously to the Sunrise.
- Sunrise will evaluate the schedule to accommodate the delay if possible. If the schedule cannot accommodate the delay, client's road tanker will move to the next available slot on the road dispatch schedule or the next day.

11.6 Unscheduled dispatches:

- Any unscheduled Road dispatches can be accommodated on the day only if there is capacity to do so and after planned orders have been fulfilled.
- Should a Client wish to extend road dispatch schedule, outside normal Terminal hours, the Client shall make such a request to Sunrise Energy in writing, 48 hours in advance, before 15h00 daily, Monday to Friday. Sunrise Energy shall consider whether such a road dispatch extension can be considered or accommodated.

11.7 Road Tanker and Pipeline Dispatch Operation

- Dedicated Sunrise personnel are allocated to manage the client -customers daily requirements and communication.
- Clients who sell products to their customers shall issue allocation orders to Sunrise Energy, which shall enable Sunrise Energy to assign client stock (allocation quantity") to various customers or transfer stock between customers in the Sunrise ERP. This will not result in a financial transaction in the Sunrise system. The Sunrise ERP System will validate that the allocation quantity is less than the total stock available to the client on the day of the order.

Road Tanker dispatch Operation

- Sunrise employees that have been trained to perform the loading procedure. Road tanker drivers must be present at the gantry during the loading of their tanker and are responsible for performing all actions related to the operation of their road tanker and its equipment.

Pipeline dispatch Operation

- The Sunrise Energy Terminal Staff, Panel Operator / Plant Operator and the Pipeline Plant Operator are essential participants in this process to ensure safe and efficient Product transfer.

Sunrise Energy's personnel are responsible for the Sunrise Energy Terminal pipeline transfer activities.

- Receiving pipeline plant personnel are responsible for monitoring of pipeline transfer operation, including confirming liquid volume/tonnage to be transferred, initial and final pressure, temperature and quantity received.
- The Product transfer operation via pipeline will be automatically shut down by DCS/TMS, when the required transfer quantity has been received.

11.8 Quantity of Product Dispatched

- The quantity of Product dispatched is measured by means of weighbridges. The weight of the road tanker is measured prior to loading and, on loading completion, with the net quantity being equivalent to the quantity loaded and dispatched. A Bill of Lading will automatically be generated, which will record the quantity loaded.
- Weighbridge calibration certificates will be made available to the Client on request. The quantity of Product transferred by pipeline is metered by the transfer bullet custody-transfer mass flowmeter located and flowmeters at the Sunrise Energy Terminal.

11.9 Quality of Product Dispatched

- Sunrise Energy shall be entitled to blend the product in the Bullets such that the Product meets the required specifications for dispatch.
- Prior to dispatch of product from a Bullet, the Product in a Bullet will be circulated for a period and a representative product sample will be drawn and tested by the third-party laboratory, who shall certify the product quality in line with relevant specification for product dispatch. Once certified, the Bullet shall be assigned a Batched Status in TMS. Only Batched Product can be dispatched to the Road Loading Gantries, or via pipeline to other third-party facilities.

11.10 Product Reconciliations and Losses

- Physical Stock inventory is recorded daily by the Terminal at Terminal Close.
- Any loss or gain is compared with the Book Stock and adjustments are proportionally allocated to the Client's daily dispatches.
- The maximum allowable Loss/Gain over the 6-month reporting period is 0.5% of the throughput for the same period.

11.11 ANNEXURES:

11.11.1 Annexure A: Vessel Requirements

A1: Completed Intertanko Tanker Chartering Questionnaire 88 (Vessel Q88)

INTERTANKO TANKER CHARTERING QUESTIONNAIRE 88 – LPG (Version 5)

1.	**GENERAL INFORMATION**			
1.1	Date updated:			
1.2	Vessel's name (IMO number):			
1.3	Vessel's previous name(s) and date(s) of change:			
1.4	Date delivered/Builder (where built):			
1.5	Flag/Port of Registry:			
1.6	Call sign/MMSI:			
1.7	Vessel's contact details (satcom/fax/email etc.):			
1.8	Type of vessel (as described in Form A or Form B Q1.11 of the IOPPC):			
1.9	Type of hull:			
Ownership and Operation				
1.10	Registered owner - Full style:			
1.11	Technical operator - Full style:			
1.12	Commercial operator - Full style:			
1.13	Disponent owner - Full style:			
Insurance				
1.14	P & I Club - Full Style:			
1.15	P & I Club pollution liability coverage/expiration date:			
1.16	Hull & Machinery insured by - Full Style: (Specify broker or leading underwriter)			
1.17	Hull & Machinery insured value/expiration date:			
Classification				
1.18	Classification society:			

1.19	Class notation:				
1.20	Is the vessel subject to any conditions of class, class extensions, outstanding memorandums or class recommendations? If yes, give details:				
1.21	If classification society changed, name of previous and date of change:				
1.22	Does the vessel have ice class? If yes, state what level:				
1.23	Date/place of last dry-dock:				
1.24	Date next dry dock due/next annual survey due:				
1.25	Date of last special survey/next special survey due:				
1.26	If ship has Condition Assessment Program (CAP), what is the latest overall rating:				
Dimensions					
1.27	Length overall (LOA):				
1.28	Length between perpendiculars (LBP):				
1.29	Extreme breadth (Beam):				
1.30	Moulded depth:				
1.31	Keel to masthead (KTM)/ Keel to masthead (KTM) in collapsed condition, if applicable:				
1.32	Distance bridge front to center of manifold:				
1.33	Bow to center manifold (BCM)/Stern to center manifold (SCM):				
1.34	Parallel body distances		Lightship	Normal Ballast	Summer Dwt
	Forward to mid-point manifold:				
	Aft to mid-point manifold:				
	Parallel body length:				
Tonnages					
1.35	Net Tonnage:				
1.36	Gross Tonnage/Reduced Gross Tonnage (if applicable):				
1.37	Suez Canal Tonnage - Gross (SCGT)/Net (SCNT):				
1.38	Panama Canal Net Tonnage (PCNT):				
Loadline Information					
1.39	Loadline	Freeboard	Draft	Deadweight	Displacement

	Summer:				
	Winter:				
	Tropical:				
	Lightship:			-	
	Normal Ballast Condition:				
1.40	FWA/TPC at summer draft:				
1.41	Does vessel have multiple SDWT? If yes, please provide all assigned loadlines:				
1.42	Constant (excluding fresh water):				
1.43	What is the company guidelines for Under Keel Clearance (UKC) for this vessel?				
1.44	What is the max height of mast above waterline (air draft)			Full Mast	Collapsed Mast
	Summer deadweight:				
	Normal ballast:				
	Lightship:				

2.	**CERTIFICATES**	**Issued**	**Last Annual**	**Last Intermediate**	**Expires**
2.1	Safety Equipment Certificate (SEC):				
2.2	Safety Radio Certificate (SRC):				
2.3	Safety Construction Certificate (SCC):				
2.4	International Loadline Certificate (ILC):				
2.5	International Oil Pollution Prevention Certificate (IOPPC):				
2.6	International Ship Security Certificate (ISSC):				
2.7	Maritime Labour Certificate (MLC):		N/A		
2.8	ISM Safety Management Certificate (SMC):		12	13	
2.9	Document of Compliance (DOC):				
2.10	USCG Certificate of Compliance (USCGCOC):				
2.11	Civil Liability Convention (CLC) 1992 Certificate:		N/A	N/A	
2.12	Civil Liability for Bunker Oil Pollution Damage Convention (CLBC) Certificate:		N/A	N/A	
2.13	Liability for the Removal of Wrecks Certificate (WRC)"		N/A	N/A	
2.14	U.S. Certificate of Financial Responsibility (COFR):		N/A	N/A	
2.15	Certificate of Class (COC):				
2.16	International Sewage Pollution Prevention Certificate (ISPPC):		N/A	N/A	
2.17	Certificate of Fitness (COF):				

2.17.1	Noxious Liquids Substance Certificate (NLS)				
2.18	International Energy Efficiency Certificate (IEEC):		N/A	N/A	N/A
2.19	International Air Pollution Prevention Certificate (IAPPC):				
Documentation					
2.20	Owner warrant that vessel is member of ITOPF and will remain so for the entire duration of this voyage/contract:				
2.21	Does vessel have in place a Drug and Alcohol Policy complying with OCIMF guidelines for Control of Drugs and Alcohol Onboard Ship?				
2.22	Is the ITF Special Agreement on board (if applicable)?				
2.23	ITF Blue Card expiry date (if applicable):				

3.	**CREW**			
3.1	Nationality of Master:			
3.2	Number and nationality of Officers:			
3.3	Number and nationality of Crew:			
3.4	What is the common working language onboard:			
3.5	Do officers speak and understand English?			
3.6	If Officers/ratings employed by a manning agency - Full style:			

4.	**FOR USA CALLS**	
4.1	Has the vessel Operator submitted a Vessel Spill Response Plan to the US Coast Guard which has been approved by official USCG letter?	
4.2	Qualified individual (QI) - Full style:	
4.3	Oil Spill Response Organization (OSRO) - Full style:	
4.4	Salvage and Marine Firefighting Services (SMFF) - Full Style:	

5.	**SAFETY/HELICOPTER**	
5.1	Is the vessel operated under a Quality Management System? If Yes, what type of system? (ISO9001 or IMO Resolution A.741(18) as amended):	
5.2	Can the ship comply with the ICS Helicopter Guidelines?	
5.2.1	If Yes, state whether winching or landing area provided:	
5.2.2	If Yes, what is the diameter of the circle provided:	

6.	**COATING/ANODES**				
6.1	Tank Coating	Coated	Type	To What Extent	Anodes
	Cargo tanks:				
	Ballast tanks:				

7.	**BALLAST**				
7.1	Pumps	No.	Type	Capacity	At What Head (sg=1.0)
	Ballast Pumps:				
	Ballast Eductors:				

8.	**CARGO-LPG**		
8.1	Does the vessel comply with GC/IGC Code requirements?		
8.2	What is the minimum/maximum permissible tank pressure?		
8.3	What is the minimum permissible tank temperature?		
8.4	Number of cargo tanks and total cubic capacity (98%):		
8.5	Capacity (98%) of each natural segregation with double valve (specify tanks):		
8.6	Deck tank(s) capacity (98%):		
8.7	What is vessel Ship Type? What type and of what material are the cargo tanks constructed?	,	
8.8	Maximum allowable relief valve setting:		
8.9	What is total SBT capacity and percentage of SDWT vessel can maintain?		
Reliquefaction Plant			

8.10	Number and capacity of compressors:			
8.11	Manufacturer/type of compressors:			
8.12	Max % Ethane the re-liquefaction plant can handle:			
Cargo Handling and Pumping Systems				
8.13	What is the maximum number of grades that can be loaded/carried/discharged simultaneously with complete segregation and without risk of contamination?			
8.14	Are there any cargo tank filling restrictions? If yes, specify number of slack tanks, max s.g., ullage restrictions etc.:			
8.15	Max loading rate for homogenous cargo (without vapour return):			
8.16	Max loading rate for homogenous cargo per manifold (without vapour return):			
Cargo Control Room				
8.17	Is ship fitted with a Cargo Control Room (CCR)?			
8.18	Can tank innage/ullage/pressure/temperature/reliquefaction plant status be read from the CCR?			
Gauging and Sampling				
8.19	Gauges:	Manufacturer	Type	Rated Accuracy
	Level gauges:			
	Temperature gauges:			
	Pressure gauges:			
8.20	Sampling connection type and size:			
Cargo Manifolds and Reducers				
8.21	Do manifold arrangements comply with SIGTTO standards?			
8.22	What type of valves are fitted at manifold:			
8.23	Manifold distance from center of manifold:			
8.24	Distance manifold to ships side:			
8.25	Distance manifold height above uppermost continuous deck:			
8.26	Manifold height above light/load waterline:			
8.27	Distance from rail of compressor room/platform to presentation flanges:			

8.28	Distance from deck of compressor room/platform to center of manifold:				
8.29	Reducers:	No.	Flange Rating	Size	Length
	ANSI Class 300:				
	ANSI Class 300 to 150:				
	ANSI Class 150:				
8.30	Reducers additional comments:				
8.31	Pipe flanges: (specify flange letter, duty, rating, size and face)				
8.32	Are local pressure gauges fitted outboard of the manifold valves?				
IG Plant/Nitrogen					
8.33	Type of system:				
8.34	Capacity:				
8.35	Type of fuel used:				
8.36	Composition of IG:			Percent	
	Oxygen:				
	CO2:				
	IG-NOx:				
	IG-N2:				
8.37	N2 purity percentage/capacity generated by N2 generator:			Capacity	
	95%:				
	98%:				
	99.5%:				
8.38	Lowest dew point achievable:				
8.39	Nitrogen liquid storage capacity:				
Cargo Pumps					
8.40	How many cargo pumps can be run simultaneously at full capacity:				
8.41	Pumps	No./Tank	Type	Rate Per Pump	At What Head (sg=1.0)
	Cargo pumps:				
	Booster pumps:				

Cargo Re-Heater/Vaporiser			
8.42	Cargo re-heaters/vaporizers:	LPG Heater/ Vaporizer	Vaporizer
	Type:		
	Heating medium:		

9.	MOORING					
9.1	Wires (on drums)	No.	Diameter	Material	Length	Breaking Strength
	Forecastle:					
	Main deck fwd:					
	Main deck aft:					
	Poop deck:					
9.2	Wire tails	No.	Diameter	Material	Length	Breaking Strength
	Forecastle:					
	Main deck fwd:					
	Main deck aft:					
	Poop deck:					
9.3	Ropes (on drums)	No.	Diameter	Material	Length	Breaking Strength
	Forecastle:					
	Main deck fwd:					
	Main deck aft:					
	Poop deck:					
9.4	Other lines	No.	Diameter	Material	Length	Breaking Strength
	Forecastle:					
	Main deck fwd:					
	Main deck aft:					
	Poop deck:					
9.5	Winches	No.	No. Drums	Motive Power	Brake Capacity	Type of Brake
	Forecastle:					

	Main deck fwd:					
	Main deck aft:					
	Poop deck:					
9.6	Bitts, closed chocks/fairleads		No. Bitts	SWL Bitts	No. Closed Chocks	SWL Closed Chocks
	Forecastle:					
	Main deck fwd:					
	Main deck aft:					
	Poop deck:					
Anchors/Emergency Towing System						
9.7	Number of shackles on port/starboard cable:					
9.8	Type/SWL of Emergency Towing system forward:					
9.9	Type/SWL of Emergency Towing system aft:					
Escort Tug						
9.10	What is size/SWL of closed chock and/or fairleads of enclosed type on stern:					
9.11	What is SWL of bollard on poop deck suitable for escort tug:					
Lifting Equipment/Gangway						
9.12	Derrick/Crane description (Number, SWL and location):					
9.13	Accommodation ladder direction:					
	Does vessel have a portable gangway? If yes, state length:					
Single Point Mooring (SPM) Equipment						
9.14	Does the vessel meet the recommendations in the latest edition of OCIMF 'Recommendations for Equipment Employed in the Bow Mooring of Conventional Tankers at Single Point Moorings (SPM)'?					
9.15	If fitted, how many chain stoppers:					
9.16	State type/SWL of chain stopper(s):					
9.17	What is the maximum size chain diameter the bow stopper(s) can handle:					
9.18	Distance between the bow fairlead and chain stopper/bracket:					
9.19	Is bow chock and/or fairlead of enclosed type of OCIMF recommended size (600mm x 450mm)? If not, give details of size:					

10.	**PROPULSION**			
10.1	Speed		Maximum	Economical
	Ballast speed:			
	Laden speed:			
10.2	What type of fuel is used for main propulsion/generating plant:			
10.3	Type/Capacity of bunker tanks:			
10.4	Is vessel fitted with fixed or controllable pitch propeller(s):			
10.5	Engines	No	Capacity	Make/Type
	Main engine:			
	Aux engine:			
	Power packs:			
	Boilers:			
Bow/Stern Thruster				
10.6	What is brake horse power of bow thruster (if fitted):			
10.7	What is brake horse power of stern thruster (if fitted):			
Emissions				
10.8	Main engine IMO NOx emission standard:			
10.9	Energy Efficiency Design Index (EEDI) rating number:			

11.	**SHIP TO SHIP TRANSFER**	
11.1	Does vessel comply with recommendations contained in OCIMF/ICS Ship To Ship Transfer Guide (Petroleum, Chemicals or Liquified Gas, as applicable)?	
11.2	What is maximum outreach of cranes/derricks outboard of the ship's side:	
11.3	Date/place of last STS operation:	

12.	**RECENT OPERATIONAL HISTORY**	
12.1	Last three cargoes/charterers/voyages (Last/2nd Last/3rd Last):	

12.2	Has vessel been involved in a pollution, grounding, serious casualty, unscheduled repair, or collision incident during the past 12 months? If yes, provide details:	
12.3	Date and place of last Port State Control inspection:	
12.4	Any outstanding deficiencies as reported by any Port State Control? If yes, provide details:	
12.5	Recent Oil company inspections/screenings (To the best of owners knowledge and without guarantee of acceptance for future business)*: * *"Approvals" are not given by Oil Majors and ships are accepted for the voyage on a case-by-case basis.*	
12.6	Date/Place of last SIRE inspection:	
12.6.1	Date/Place of last CDI inspection:	
12.7	Additional information relating to features of the ship or operational characteristics:	

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11.11.2 **A2: Completed Amsol Marine Q88 Checklist.**

SALDANHA BAY MBM INFORMATION, REQUIREMENTS, RESTRICTIONS & Q88 CHECKLIST				
	SUNRISE ENERGY – SALDANHA BAY MBM TERMINAL QUESTIONAIRE			
	Nominated LPG Tanker			
	The attached questionnaire shall accompany each vessel nomination and shall be completed in full by the Master.			
	Master, Owners and Charterers are to confirm that they have taken these points into consideration in the preplanning of mooring and cargo operations	Checked – Yes / No by the Master, prior to, and the Discharge Advisor on receipt of the nomination		
	REQUIREMENTS & RESTRICTIONS	Master Y/N	Q88 Ref	Master & DA comments
	Vessel Description			
	Type of LPG Tanker as per IGC Code – 2G or 2PG		1.8	
	Type of LPG Tanker: Pressurised or Fully refrigerated		1.8	
	Maximum Age 15 years; older vessels subject to SIRE inspection and TNPA approval		1.4 12.6	
	Date/Place of last SIRE inspection:		12.6	
	Date/Place of last CDI inspection:		12.6.1	

	Maximum LOA allowed is approximately 180 metres. Minimum LOA allowed is 97 metres subject to Pilot's discretion.		1.27	
	Certification			
	All applicable certification valid		2.	
	Cargo and Ballast Handling			
	The Sunrise Energy MBM facility is designed nominally for a maximum 35,000 Mt designed Summer Displacement. Larger vessels (maximum 40,000 Mt designed Summer Displacement) may be accommodated subject to maximum arrival displacement less than 35,000 mt. Maximum wind speed reduced from 20 Knots to 15 Knots for mooring operations. TNPA approval required.		1.39	
	Calculated Arrival Displacement			
	Calculated Departure Displacement			
	Saldanha Bay MBM max depth is 13.0 metres Chart Datum – maximum draft for vessel 10.4 metres		1.39	

	Trim & Ballast – MARPOL regulations 2.1 at no time should the amount of cargo and/or ballast be less than 98% of the Segregated Ballast Condition as confirmed in Q88 Version 5 2.2 at no time should the amount of cargo and/or ballast be less than 98% of the Segregated Ballast Condition as confirmed in Q88 Version 5 - 8.3.3 2.3 the MASTER should take on/discharge ballast concurrent with cargo operations.		8.9	
	Cargo Pumps		8.40 etc	
	What is the maximum and normal operating discharge pressure at the ship's manifold:			Shore: 16 Bar maximum
	What is the maximum discharge pressure in terms of the Desponent / Owners Head Charter Party:			
	Discharging will be through one submarine hose string with the following restrictions: Maximum discharging rate is 714 cubic metres per hour. Average discharge rate is approximately 550 cubic metres per hour subject to maintaining a minimum of 14 Bar at the manifold.			

	Vessel must comply with SIGTTO/OCIMF recommendations in respect of adequate eye pads, bitts or similar facilities at or near the manifold to enable the cargo hose(s) to be hung off properly by means of hanging-off chains. References: SIGTTO/OCIMF Manifold Recommendations for Liquefied Gas Carriers. OCIMF Recommendations for Oil and Chemical Tanker Manifolds and Associated Equipment, First Edition 2017, Section 9 – Deck Fittings to facilitate hose handling at buoy moorings.		8.21	
	Distance from rail to manifold to be minimum 4 metres. OCIMF recommendation 4.5 metres for SPM operations.		8.23	
	Distance manifold height above uppermost continuous deck.		8.25	
	Manifold height above light/load waterline		8.26	
	LPG line – 1 x 8-inch hose string and 12-inch pipeline to shore – 8 inch connection. The manifold connections must be capable of accepting an 8”, ANSI 300lb 4 cam studded Camlock Coupling. 8” ASME Reducer available.		8.29	Aft manifold to be used.
	Mooring			

	Forward: Vessels to be equipped with two anchor windlasses capable of working independently of one another. Vessels to be equipped with 4 x 220m x 64mm mooring ropes (or Dynema, etc. equivalent) with MBL of approximately 63mt – 2 per mooring buoy (2).		9.5 9.3	Mooring Chafing Gear recommended.
	Aft: There must be sufficient winches aft to make fast 4 lines from the stern of the vessel. Vessels to be equipped with 4 x 220m x 64mm polypropylene mooring ropes (or Dynema, etc equivalent) with MBL of approximately 63mt – 2 per mooring buoy (2). All lines to be flaked out and ready for use at appropriate leads prior to pilot boarding. **Mooring wires are not suitable for MBM operations.**		9.5 9.3	
	Lifting Equipment			
	Minimum crane capacity on the port side manifold – SWL 5 tonnes.		9.12	
	Maximum outreach of crane outboard of ship's side		11.2	

	INFORMATION	
	Tanker's officers and crew allocated duties for ISPS, berthing & mooring, crane operations, making fast tugs (tug's lines) and unmooring.	
	Pilot ladder rigged on port & stbd side with suitable manila man ropes (as per SOLAS & TNPA Regulations). Combination ladder if applicable.	
	Only daylight mooring is permitted. Mooring shall not commence later than 2.5 hours prior to sunset. Later mooring will be subject to Pilot's discretion. Only daylight unmooring is permitted. Unmooring shall not commence earlier than 0.5 hours prior to sunrise or later than 1 hour prior to sunset. Later unmooring will be subject to Pilot's discretion.	
	Environmental limitations for mooring [under 35,000 Mt Summer Displacement]: Wind speed 10 m/s = 20 Knots [15 Knots over 35,000 Mt Summer Displacement] Wave height Hs = 1.0 m or Hmax = 1.5 m Wave period 12 seconds	
	Total LPG line length is approximately 5400 metres (3200 m subsea, 2100 m onshore, 98 m PLEM and submarine hose string).	
	Mooring - PLEM marker buoy to be 35m aft and maximum 30 to 35 m to port of manifold	
	Maximum hose pressure allowed is 17 Bar.	

	Maximum shutdown pressure – 3000 kpa(g) / 30Bar(g) / 206.9 psi(g), minimum shore valve shutdown time is 30 seconds.	
	There are no bunkering facilities at the Port of Saldanha Bay.	
	There are no fresh water facilities at the Saldanha Bay MBM.	
	There are no fresh garbage facilities at the Saldanha Bay MBM.	
	The vessel must provide food / accommodation for at least 5 shore personnel for the duration that the vessel will be moored at the MBM – Discharge Advisor, Surveyor, Tanker Team (3)	
9.9	**INFORMATION REQUIRED FROM SHIP**: That the vessel complies with all requirements. The quantity of cargo and/or ballast on board. Which tanks are available for discharging. The arrival draft and estimated sailing draft. Arrival and Sailing Displacement. The calculated arrival and departure stability data.	
10.0	**SECURITY**	
	Master is to confirm he will comply with South African ISPS Pre-arrival procedures in accordance with SAMSA regulations - See **SAMSA Marine Notice No. 28 of 2016**	
	Vessel Security Information	

	Security level in force onboard		
	Name and rank of SSO		
	Confirm that vessel's last port was ISPS compliant and security level at that port		
	Terminal Security Information		
	○ Security Level in force: 1		
	Terminal Assistant Port Facility Security Officer;	Discharge Advisor	Ship Security Officer
	Contact details: Sunrise Energy PFSO HSSEQ Manager T: +27 872554808 E: info@sunrise-energy.co.za	Marine Discharge Advisor	
	The Terminal PFSO will be represented on board by the Discharge Advisor		
	13.1.1 DEFECTS		
	Details of any defects, which may adversely affect the vessel's manoeuvrability, stability, integrity and/or operational safety. Deficiencies that arise after the Q88 is completed must be reported to both Sunrise Energy and the AMSOL Discharge Advisor immediately		

11.11.3 **Annexure C: Specification requirements**

Table 1: SANS 1774

	Specification Standard:		**SANS 1774**
Test	**Units**	**Method**	**Specification**
Density @ 20°C	Kg/m^3	IP 432	Report
Density @ 15°C	Kg/m^3	IP 432	Report
Vapour Pressure @ 37.8°C	kPa	IP 432	750 - 1050
Copper Corrosion 1h @ 37.8°C	Rating	ASTM D1838	Class 1
Free Water	Visual	SABS 1774	None
Total Sulphur	mg/kg	ASTM D3246	200 max
Residual on Evaporation	ml/100ml	ASTM D2158	0.05 max
Oil Stain (using 1.5 ml of solvent residue mixture)	ml	ASTM D2158	No oil ring
Odourization: ethyl mercaptan	µl/L	ASTM D5305	15 - min
Total C2 hydrocarbons	Mole%	ASTM D2163	6.0 max
Total C3 hydrocarbons	Mole%	ASTM D2163	Report
Total C4 hydrocarbons	Mole%	ASTM D2163	Report
Total ethylene content	Mole%	ASTM D2163	1.0 max
Total dienes	Mole%	ASTM D2163	1.0 max
Total C5 and higher (as n-pentane)	Mole%	ASTM D2163	2.0 max
Gross Calorific Value @ 20°C (Liquid)	MJ/kg	ISO 6976	Report
Gross Calorific Value @ 20°C (Liquid)	MJ/L	ISO 6976	Report

Table 2: Sunrise Terminal minimum product requirements

Table 2: Sunrise Energy specific requirements for Ethyl Mercaptan, Total Sulphur, & Acetylene				
Property	Units	Limit Value	Test Method	Specification Source
Total Acetylene Content	Mole% Max	0.1 Max	IP 264	Acetylene Content per Sunrise Energy Specification;
Total Sulphur content,	mg/kg	100 Max	ASTM D2784, ASTM D3246, ASTM D5453, IP 243	Sunrise Energy Specification
Odourisation: ethyl mercaptan,	µL/L	50 ppm Max	ASTM D5303	Sunrise Energy Specification

LPG IMPORT TERMINAL – SALDANHA BAY

Document Title

Operating Guide: Carrier Requirements and Pre-Registration

Document No:	SE-OPS-DOC-026
Revision:	02
Date:	05-09-2023
Total Pages:	8
Document Status:	Approved for use
Document Classification:	Generic

SECTION A - DOCUMENT INFORMATION

A.1 DOCUMENT HISTORY

Rev.	Date	Status	Changes	Revised By	Checked By	Approved By
00	28/09/2017	Approved for use	First Issue	NM	PB	KR
01	11/02/2020	Approved for use	Review as per ISO 9001	NM/MA	HB/KR	WB
02	05/09/2023	Approved for use		NM		RS

A.2 APPROVED FOR USE

This document is released for the intent as indicated in the Status above.

Name	Designation	Date	Signature
Rajen Singh	CEO	05/09/2023	

SECTION B - ABOUT THIS GUIDE

B.1 PURPOSE

In order to achieve optimised loading operations, while ensuring the highest level of safety on site, Carriers, Road Tankers and Drivers entering site will need to be verified and pre-registered on the Sunrise Energy database. Access to site cannot be granted unless both the Tanker and the Driver meet the Sunrise requirements.

This guide details the information required from Carrier companies to pre-register Tankers and Drivers with Sunrise Energy.

Specific Tanker requirements, including on-site safety and verification requirements are also outlined.

	*When a Road Tanker arrives on site, a series of steps will need to be followed to ensure that it is safe to load.* *The Sunrise Energy Terminal Operator / Plant Operator and the Tanker Driver are essential participants in this process to ensure safe and efficient loading.*
	*In the event of an emergency, all Drivers must immediately stop all Terminal truck loading and report to the Sunrise Energy Gantry Operator and follow instructions.* *Failure to comply to the above can result in injury or loss of life.*

B.2 REFERENCES

B.2.1 Legal Requirements

Doc No	Description
SANS10231:2010	Transport of Dangerous Goods – Operational Requirements for Road Vehicles
Occupational Health and Safety Act 85 of 1993	

B.2.2 Operating Procedure and Manuals

The following Operating Procedure relates to this Guide:

Doc No	Description
OMS-06 Road Tanker Loading Rev 2	Loading a Tanker
QMS-07 Road Tanker Dispatch Rev 2	Dispatching a Tanker
QMS-05.5 Road Tanker Inspection Rev 1	Verification of First-Time Tanker on Site

B.3 DEFINITIONS

Tanker	A vehicle consists of a tractor (or horse) and trailer (with storage tank) that is used to transport LPG, Butane or Propane on the roads.
Rigid	A rigid tractor/trailer combination (i.e. the storage tank is integral to the vehicle and not located on a separate trailer).
Driver	The driver of the Tanker, who will also be responsible for the loading of the Tanker on site.

GUIDE

Database Pre-Registration Requirements

Carriers are required to register all applicable Tankers and Drivers with Sunrise Energy prior to arrival on site for the loading of Product.

Tankers and Drivers shall only be considered valid for entry by Sunrise Energy if all requested (and valid) documentation and details are provided.

It should furthermore be noted that, in addition to the information requested in this document, Drivers will need to complete a specific safety induction on site. This should preferably be arranged with Sunrise Energy prior to the loading commencement date.

As the majority of tankers in the South African fleet are Tractor and Trailer combinations and not Rigid Vehicles, separate databases will be maintained for each of these, allowing for Tractor/Trailer interchangeability.

Carrier companies are required to complete the following:

QMS-05.1 Carrier Registration	Carrier Registration Form
QMS-05.4 Driver Registration	Driver Registration Form
QMS-05.3 Tractor Registration	Tractor (Horse) Registration Form
QMS-05.2 Vehicle Trailer Registration	Trailer Registration Form
SE-COM-FRM-008	Rigid Vehicle Registration Form

A form should be completed for each Driver, Tractor, Trailer (and/or Rigid Vehicle) that might load LPG (or Propane) product at the Sunrise LPG Terminal.

The forms can be updated and reissued to Sunrise as required when new Tanker or Drivers are added or when any details are changed.

1. For all Tanker Drivers, valid copies of the following documents should be provided:
    - Driver's Licence
    - PDP (Professional Driving Permit)
    - First Aid Training Certificate
    - Fire Fighting Training Certificate
    - Dangerous Goods Training Certificate
    - Medical Certificate
2. For all Tractors (horses), valid copies of the following should be provided:
    - Licence
3. For all Trailers or Rigid Vehicles, valid copies of the following should be provided:
    - Licence
    - Pressure Vessel Certificate
    - Fire Permit

Completed forms and documentation can be emailed to the duly authorised commercial representative at Sunrise Energy.

It is the responsibility of the Carrier Company to ensure that new valid documents and certificates are provided to Sunrise Energy after expiry. Sunrise Energy shall however continually monitor the validity of various licences and shall endeavour to inform the Carrier Company in advance of documents expiring.

TANKER COUPLINGS

For safety reasons, Sunrise Energy has implemented the following coupling standard on site for the loading (and offloading) of road tankers:

Coupling Standard:

Type:	Dry-Disconnect
Standard:	BS EN 13175:2014 or equivalent
Size:	Vapour: DN50 (2") - male on tanker and female on loading arms Liquid: DN80 (3") - male on tanker and female on loading arms
Connections:	NPT (threaded) or flanged

The couplings on the tankers must be compliant with the latest edition of SANS1518:2019 Edition 4.1, which came into effect in July 2018.

On-Site SAFETY REQUIREMENTS

In addition to the checks done by means of pre-verification, a visual inspection of each Tanker will be completed prior to loading. The Sunrise Energy will have the authority to prevent the loading of any Tanker should any concerns be identified.

Safety checks may include, *inter-alia*:

- General Cleanliness – good with no obvious oil leaks
- Tyres – in good condition
- Lights – working and clean
- Fire Extinguishers – available, service, operable and within validity dates
- Valves – no obvious leaks
- Couplings – correct couplings fitted of high integrity
- Vehicle Licences – clearly displayed and legible
- Hazchem Plates – clean, legible, with working emergency number
- Transport emergency information for the Hazardous product transferred by the vehicle to be kept inside the designated space / document holder and clearly visible through the front windscreen and both front windows and available for presentation when requested by Sunrise Terminal on arrival.
-

All Drivers will also be required to wear the following Personal Protection Equipment:

- Fire retardant overalls
- Safety Boots
- Safety Glasses
- Leather Apron
- Face mask
- Hard Hat
- Leather gloves

FIRST TIME VERIFICATION OF TANKER ON SITE

When a Tanker arrives on site for loading for the first time, the Terminal Operator may complete an on-site verification of the Tanker.

This will include an audit of the Tanker weights and loadable volumes provided by the Carrier, as well as the total maximum loadable weight of both the Tractor and Trailer.

The verification will be performed in accordance with procedure SE-OPS-SOP-016.

REGULATORY CARRIER COMPLIANCE

Carriers to ensure that their Drivers know and adhere to the agreed route and authorized stopping places, unless directed otherwise by a member of the Emergency Services. Where pre-planned stops, for example those required every two hours for tyre and spillage checks, are not in designated places, the vehicle shall stop only in areas sufficiently far away from the main traffic flow so as not to present a risk to other road users.

11.11.5 Annexure E: LPG Road Tanker Vetting checklist

LPG TANKERS VETTING CHECKLIST:

Item #	Description	Tick (✓)
• **For all Tanker Drivers, valid copies of the following documents should be provided:**		
1.1	Valid Driver's Licence	
1.2	Valid PDP (Professional Driving Permit)	
1.3	Valid First Aid Training Certificate	
1.4	Valid Fire Fighting Training Certificate	
1.5	Valid Dangerous Goods Training Certificate	
1.6	Valid Medical Certificate	
○ **For all Tractors (horses), valid copies of the following should be provided:**		
2.1.1	Valid tractor Licence	
○ **For all Trailers or Rigid Vehicles, valid copies of the following should be provided:**		
2.2.1	Valid Trailer Licence	
2.2.2	Valid Pressure Vessel Certificate	
2.2.3	Valid Fire Permit	
Completed forms and documentation can be emailed to the duly authorised commercial representative at Sunrise Energy.		

CARRIER DOCUMENT CHECKLIST:

Item #	Description	Attachments	Tick (✓)
	3. Carrier companies are required to complete the following:		
3.1	Carrier Registration Form	QMS-05.1 CARRIER REGISTRATION.pdf	
3.2	Driver Registration Form	QMS-05.4 DRIVER REGISTRATION.pdf	
3.3	Tractor (Horse) Registration Form	QMS-05.3 TRACTOR REGISTRATION.pdf	
3.4	Trailer Registration Form	QMS-05.2 VEHICLE-TRAILER RI	
3.5	Rigid Vehicle Registration Form	RIGID VEHICLE REGISTRATION FORM	
Completed forms and documentation can be emailed to the duly authorised commercial representative at Sunrise Energy.			