

**LPG IMPORT TERMINAL – SALDANHA BAY**

**ALLOCATION MECHANISM AND TERMINAL USE POLICY**

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### DOCUMENT APPROVALS

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#### Sunrise Energy:

Name	Designation	Date	Signature
Pieter Coetzee	CEO	22 June 2021	

## DEFINITIONS

Term	Definition
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.
Arrival Window	A period (of two to three consecutive days) nominated for the arrival of a ship (measured from first line connected between the ship and MBM).
Available Capacity	Refers to the sum of both the Uncommitted and Unutilised Capacity in the Terminal in any one month and equates to the Throughput Capacity less the actual Throughput.
Available Stock	Product available to the Terminal User for dispatch, which must be both pumpable Product and less than or equal to the current Book Stock value of the Terminal User
Batched	The process of verifying the physical properties of the Product in a Bullet prior to dispatch from the Terminal.
Berthing Slot	This is the maximum period allocated to a ship within the Shipping Schedule for MBM occupancy, which includes the Arrival Window, plus Laytime provision, as measured from 16:00 on the second day of the Arrival Window.
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.
Carrier	Company or person undertaking the downstream transportation of the Product on behalf of the Terminal User or Customer.
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).
Contracted Throughput Capacity	This is the Throughput Capacity per annum reserved by a Client or Terminal User, which it has the right to use subject to the Open Access conditions of the Terminal Operator Agreement and Applicable Law.
Customer	The downstream entity that purchases Product from the Terminal User at the Dispatch Point.

Term	Definition
Customer Contract Quantities	The quantity of Product contractually committed by a Client to a Customer for a specific month.
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.
Forecast Throughput	A three-month rolling forecast of monthly Throughput provided by the Client to Sunrise Energy monthly.
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.
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 <sup>3</sup> at 15°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).
Marine Loading Facility User	An entity which uses the Marine Loading Portion of the Terminal only, including the MBM, PLEM and Import Pipeline, with an interconnection to the Import Pipeline upstream of the Sunrise onshore storage facilities.

Term	Definition
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.
Maximum Allowable Monthly Throughput	This is the Client's guaranteed capacity or Throughput in the Terminal in any month of an annual Take-or-Pay Contract.
Maximum Daily Road Tanker Dispatch Rate	The maximum allowable rate that the Product can be dispatched via road tanker by a Terminal User in any one day.
Maximum Guaranteed Monthly Throughput	The maximum monthly Throughput Guaranteed to a Client in terms of the Contracted Throughput Capacity.
Maximum Throughput Capacity	This is the maximum quantity of Product that can be imported and subsequently dispatched via the Terminal over a specific period of time, being 17,500 MT/month in the Phase 1 Terminal (or 210,000 MT/annum), and such additional capacity which shall be published to NERSA as it is commissioned and ready for operation.
MBM	Multi-Buoy Mooring System owned and operated by Sunrise Energy for the mooring of ships for the offloading of Product.
MBM Availability Slot	This is a range of days published by Sunrise Energy on the Shipping Schedule which indicates the dates that the MBM is available for the selection of specific Berthing Slots, including Arrival Windows, by a Terminal User.
Minimum Average Daily Dispatch Rate	The average minimum rate that the Product must be dispatched from the Terminal by a Terminal User to ensure that the Nominated Throughput for the month by all Terminal Users is achieved.
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.
Open Access	Is a general operating term applicable to the Terminal in terms of the Terminal Operator Agreement which refers to the requirement for the Throughput Capacity to be shared among all users or prospective users in proportion to their needs, within the operational constraints of the pipeline and subject to an appropriate payment to reserve the required capacity.
Operating Stock	This is the Product required to operate the Terminal which remains in the Bullet bottoms, piping and vapour space.

Term	Definition
Overage	When a Client exceeds its Contracted Throughput Capacity, the incremental additional Throughput Capacity is referred to as the Overage. The Throughput of any Overage must be agreed to by Sunrise Energy in writing as it may impact other Clients' requirements.
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.
Pipeline Transfers	Facilities for the direct dispatch of Product from the Terminal to other facilities via pipeline.
PLEM	Subsea Pipeline End Manifold that connects the marine loading hoses to the marine subsea pipeline.
Pre-Borrow	Product in the Terminal is utilised by any Terminal User on the basis of defined Nominated Throughput, regardless of which Terminal User is the physical owner of the Product. Product is borrowed by a Terminal User if it has depleted its own Stock in the Terminal and this quantity of Product is automatically returned to the Product owner when the Terminal User who borrowed from the Product owner offloads its next shipment.
Product	This refers to LPG, Propane or Butane, as imported by a Client and received from the ship and stored in the Bullets and piping. The Product may be blended to specification and Batched prior to the final Product being dispatched from the Terminal (and odourised, as applicable).
Road Loading Gantries	The facilities available for the filling of road tankers with Product from the Terminal per Dispatch Orders.
Ship Delivery Order	An order from a Client for the import of Product into the Terminal via ocean going ship.
Shipping Schedule	A three-month rolling schedule utilised by Sunrise Energy to manage the nomination and berthing of ships and the receipt of Product from various Terminal Users or Marine Facility Users such that the utilisation of the Terminal is optimised.

Term	Definition
Special Grade Product	May refer to Commercial Propane, Commercial Butane, or specific grades of LPG, such as LPG with a Propane content which is higher than LPG specified in SANS1774.
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) for Phase 1 and 16,500MT for all Phases, excluding the Sunrise Energy Operating Stock.
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.
Terminal User	An entity, which may be a Client or Sunrise Energy, 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.
Terminal Utilisation	The total actual Throughput for the Terminal (by all Terminal Users) for a period, as a function of the Terminal Throughput Capacity.
Throughput	The quantity of imported Product dispatched via the Terminal over a period of time.
Throughput Capacity	The total quantity of Product which can be imported and dispatched via the Terminal in a measured period. Actual Throughput Capacity of the Terminal is set out in clause 3.4.
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 Throughput capacity not committed to any Terminal User.
Unodourised	Product which has not been odourised with Ethyl Mercaptan.
Unutilised Capacity	This refers to any unutilised Contracted Throughput Capacity in the Terminal and is the difference between the Contracted Throughput Capacity and the Client's actual Throughput.

## TABLE OF CONTENTS

1	INTRODUCTION.....	10
2	PURPOSE OF DOCUMENT.....	10
3	DESCRIPTION OF THE FACILITIES .....	11
3.1	Overview.....	11
3.2	Marine Loading Facility and Auxiliary Pipelines.....	11
3.3	Onshore Storage (and Dispatch) Facilities .....	12
3.4	Terminal Capacity.....	12
4	KEY TERMINAL OPERATING POLICIES.....	13
5	TARIFF SCHEDULE .....	15
6	CONTRACTED THROUGHPUT CAPACITY ALLOCATION.....	15
6.1	Capacity Allocation to Terminal Users.....	15
6.2	Capacity Allocation to Marine Loading Facility Users.....	15
6.3	Contractual Arrangements.....	16
6.4	Applications for Capacity .....	16
7	TERMINAL CAPACITY OPTIMISATION.....	17
7.1	Management of Contracted Throughput Capacity .....	17
7.6	Product Pre-Borrow between Terminal Users.....	18
8	SCHEDULING OF SHIPS .....	19
8.1	Nomination of Berthing Slots.....	19
8.2	Full Nomination of Ships.....	21
8.3	Performance Requirements for Ship Offloading Operations.....	23
9	PRODUCT DISPATCH.....	24
9.1	Terminal Dispatch Rates .....	24
9.2	Dispatch Forecasts.....	25
9.3	Road Dispatch Orders .....	25
10	PRODUCT QUALITY MANAGEMENT .....	26
10.1	Ship Offloading Quality Verification .....	26
10.3	Quality of Product Dispatched .....	27
10.4	Deterioration in Product Quality.....	27
11	PRODUCT QUANTITY MANAGEMENT .....	28



11.1	Operating Stock.....	28
11.2	Minimum Stock Levels.....	28
11.3	Product Reconciliations and Losses.....	28
11.4	Quantity of Product received from Ship.....	28
11.5	Quantity of Product Dispatched via Road Tankers.....	29
11.6	Quantity Disputes.....	29
12	HANDLING OF SPECIAL GRADE PRODUCT .....	29
13	TECHNICAL AND SAFETY REQUIREMENTS FOR ACCESS TO THE STORAGE FACILITY .....	30
13.1	Carrier Company Compliance .....	30
13.2	Road Tanker Driver Compliance.....	31
13.3	Road Tanker Compliance .....	31
13.4	Disclaimers and Indemnities .....	31
14	CONFIDENTIALITY.....	32
15	POLICIES AND PROCEDURES.....	32

## 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 *GNR 342 Government Gazette No. 30905 of 4 April 2008* in terms of the *Petroleum Pipelines Act, 2003 (Act No. 60 of 2003)* 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 operates an Open Access Liquefied Petroleum Gas (LPG) Import Terminal in Saldanha Bay, Western Cape, licenced by NERSA under the following combined licences for the Marine Loading Facility, Auxiliary Pipelines and Storage Facility:

- Construction License Number: PPL.sf.F1/88/2009, amended from time to time;
- Operating License Number: PPL.sf.IF.F3/201/2015, amended from time to time.

## 2 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, with particular importance in ensuring that more than one Terminal User can equitably utilise the Terminal on an Open Access basis.

The Terminal Allocation Mechanism and Terminal Use Policy 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 licence conditions, including the Terminal Operator Agreement, which is governed by the National Ports Act No. 12 of 2005, and the NERSA Operating Licences, as governed by the Petroleum Pipelines Act No 60 of 2003.
3. It allows for the **optimal utilisation** of the Sunrise Energy Terminal, which means being able to fully utilise the Maximum Throughput Capacity of the Terminal, while ensuring optimum operating efficiency.
4. It ensures that there is a dependable supply of LPG to the downstream market and **that market supply is not interrupted**.
5. It allows for **market growth** by creating an environment where Terminal Users can plan and commit to a future supply of Product to downstream Customers.

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.

The document provides guidance on the following:

- Terminal Overview
- The main principles of use of the Terminal
- How Uncommitted Capacity is Allocated

- How Committed Capacity is managed within the Terminal
- Tariff Schedule (NERSA rates)
- Planning Requirements
- Terminal sharing policies, including Pre-Borrow Arrangements
- Ship Scheduling and Offloading Operations
- Product Dispatch Policies
- Product Quality, Quantity and Safety Management

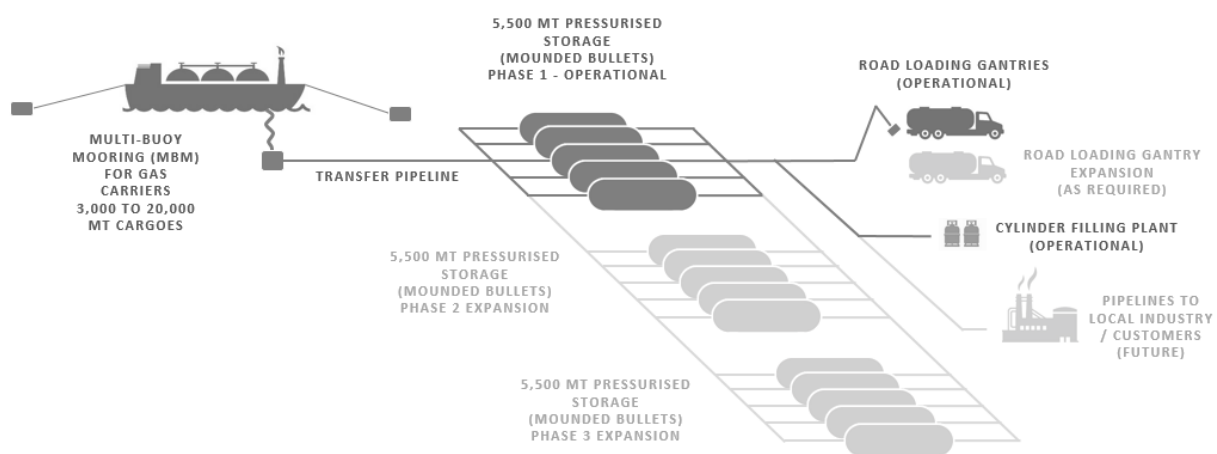
### 3 DESCRIPTION OF THE FACILITIES

#### 3.1 Overview

The Sunrise Energy LPG Import Terminal commenced its commercial operations on 27 May 2017. The Terminal has been constructed to allow for modular expansion of the receiving storage facilities to enable response to growth in the South African LPG market as it occurs. Phase 1 of the facility is currently operational, with Phases 2 and 3 scheduled to be constructed at a future date.

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.

Figure 1: Sunrise Energy Terminal Flow Schematic



#### 3.2 Marine Loading Facility and Auxiliary Pipelines

A ship offloading facility is provided for the discharge of unodourised LPG, 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 <sub>oa</sub> (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	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 <sup>3</sup> /hr	500
	Maximum Operating	m <sup>3</sup> /hr	800

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

### 3.3 Onshore Storage (and Dispatch) Facilities

The onshore component of the Terminal (Phase 1) 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<sup>3</sup>), with a total working capacity of 5,500 MT.
- A common Export Header for the dispatch of product from the LPG bullets via the Dispatch Points (either road loading or pipeline export).
- Product dispatch via 3 (three) road tanker loading gantries.
- LPG Cylinder Filling Facility (which is outsourced to a third party).

### 3.4 Terminal Capacity

The Terminal Throughput Capacity is determined primarily by the following factors:

1. The availability of the MBM for the berthing of ships, noting that this is a maximum of 70%, as is typical in industry based on the mooring type, location, exposure to weather conditions, planned maintenance requirements and other availability factors. The MBM availability factor necessitates the offloading of maximum parcel sizes to achieve the maximum Terminal Throughput, as per design.
2. The size of the receiving storage, which dictates the maximum quantity of Product which can be received from a ship in a single offloading operation. The Sunrise Energy Phase 1 Terminal can receive a maximum of 5,500MT LPG (at 531kg/m<sup>3</sup> at 15°C) if the Terminal is empty and has no Available Stock remaining. This will increase to 16,500MT once all three Phases are implemented (and based on the handling of a single Product (LPG) only).
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.

The storage capacity of the Terminal, as well as the Maximum Throughput Capacity is provided in Table 3 below.

Table 3: Sunrise Energy Capacity per Phase

	PHASE 1	PHASE 2	PHASE 3
	Current Operations	Future – Per Market Demand	Future – Per Market Demand
Total Storage Design Capacity (m <sup>3</sup> )	12 445	24 890*	37 335*
Total Storage Operating Capacity (m <sup>3</sup> )	10 270	20 540*	30 810*
Total Storage Capacity (LPG at Density 535kg/m <sup>3</sup> ) (MT)	5 500	11 000*	16 500*
Maximum Throughput Capacity (MT/month)	17 500	35 000*	52 000*

\*Exact Phase 2/Phase 3 storage capacity subject to final optimal bullet design and the size and number of the individual bullets may vary.

Metric tonne (MT) capacity is based on an LPG density of 531kg/m<sup>3</sup> at 15°C.

The current Maximum Throughput Capacity of the Terminal is 17,500 MT/month (or 210,000 MT/annum) based on a working storage capacity of 5,500MT (LPG with density 531kg/m<sup>3</sup> at 15°C).

The onshore Terminal can be expanded by constructing additional batteries of Bullets, indicated as Phase 2 and 3 in Table 3, with additional storage of up to 11,000 MT (LPG), equating to a total storage for all Phases of 16,500 MT (LPG). This will allow for a Maximum Throughput Capacity of 52,000 MT/month.

There is provision for the addition of a further three road loading gantries in future, as well as for the supply of Product via pipeline to neighbouring customers.

## 4 KEY TERMINAL OPERATING POLICIES

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

- 4.1 The Terminal is an Open Access facility in terms of the Petroleum Pipelines Act 60 of 2003 (as governed by NERSA) as well as Sunrise Energy's Terminal Operator Agreement with TNPA (in terms of Section 56 of the National Ports Act 12 of 2005). 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.

- 4.2 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 Throughput Capacity (per design) is available to its Terminal Users, whilst ensuring compliance with its relevant licence conditions, including the Terminal Operator Agreement, Sunrise Energy NERSA licences in terms of the Petroleum Pipelines Act, the Competition Act and Applicable Law.
- 4.3 The Terminal is designed for the import, storage and distribution of LPG, Propane and Butane.
- 4.4 Due to the limited capacity of the Phase 1 Terminal, Special Grade Product (such as Butane or Propane) will only be handled by Sunrise Energy if it can be demonstrated that such imports will not significantly impede the Throughput Capacity of the Terminal or limit the ability of other parties to utilise any Uncommitted Capacity (for LPG). The import of Special Grade Product would be subject to prior written agreement with Sunrise Energy and will be subject to an additional cost.
- 4.5 Product of the same specification will be co-mingled in the Terminal and there will be no physical segregation of Terminal User or Clients' Products.
- 4.6 Sunrise Energy shall verify the quality of the Product accepted into the Terminal in terms of the following:
- The Product must be non-odourised, with the measured Ethyl Mercaptan being less than 5ppm, however naturally occurring mercaptans, such as methyl mercaptan, of up to 50ppm (measured as Total Sulphur) in the Product is acceptable. Sunrise Energy will odourise the Product to specification upon dispatch from the Terminal.
  - Except for special grades of Product (e.g., that which may be utilised as fuel for power generation), 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 (refer to 10.1.3).
- 4.7 Sunrise Energy shall manage the Shipping Schedule and Ullage in the Terminal such that all Terminal Users are offered the opportunity to maximise the size of shipping parcels offloaded into the Terminal. As such, MBM Availability Slots shall be allocated to Terminal Users for the nomination of Berthing Slots in proportion to their Contracted Throughput Capacity. Specific MBM Availability Slots will be allocated to Marine Loading Facility Users such that any commercial impact on Terminal Users and their ability to achieve their Contracted Throughput Capacity is minimised.
- 4.8 Terminal Users are required to Pre-Borrow Product between Terminal Users, meaning that a Terminal User will import the maximum shipping parcel size which can be accommodated, irrespective of their Contracted Throughput Capacity. Once Product owned by a specific Terminal User has been depleted and should that Terminal User require Product to service its Customers, then it will be allocated Product (which may belong to another Terminal User) available in the Terminal on a Pre-Borrow basis. This Product will automatically be returned to the second Terminal User once the first Terminal User has received a new shipment. The Pre-Borrow arrangement will be subject to:
- The pre-borrowed Product being of the same specification.

- The pre-borrowing of Product shall not compromise the ability of each Terminal User to meet its monthly Throughput obligations and commitments to its Customers.
- Unless by alternative arrangement, Terminal Users are limited to the Pre-Borrow of Product not exceeding the average Parcel (which, for Phase 1, is an average of 4,500 MT, but which will increase as the Storage Capacity of the Terminal is increased through Phases 2 and 3). Terminal Users will be required to immediately “square off” or replenish any Product Pre-Borrow in excess of this.

4.9 The Terminal is designed to operate as a Throughput Terminal and not a storage facility, requiring a consistent dispatch of Product to the market. 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.
- Shall ensure that one Terminal User does not prevent any other Terminal User from achieving their Nominated Throughput for the month.

## 5 **TARIFF SCHEDULE**

5.1 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.

5.2 A combined Throughput tariff (not exceeding the sum of the maximum NERSA tariffs for the Marine Loading Facility and Storage Facility) shall be applicable to Clients utilising the full Terminal.

## 6 **CONTRACTED THROUGHPUT CAPACITY ALLOCATION**

### 6.1 **Capacity Allocation to Terminal Users**

6.1.1 Prospective Clients can apply for the use of Uncommitted Capacity in the Terminal up to the Maximum Throughput Capacity, with the Client contractually committing to a specific Contracted Throughput Capacity for a period.

6.1.2 The first party to apply and pay for Uncommitted Capacity will be granted the first option to such capacity, provided that the application is commercially, operationally, and technically feasible.

6.1.3 In accordance with section 21 of the Petroleum Pipelines Act, Sunrise Energy will not discriminate between Clients.

### 6.2 **Capacity Allocation to Marine Loading Facility Users**

6.2.1 In terms of clause 20(1)(j) of the Petroleum Pipelines Act, NERSA considers the conditions for the use of the Marine Loading Facility with its Auxiliary Pipeline separately from the Storage Facility. As such, other NERSA licencees may apply for an interconnection to the Marine Loading Facility (and Auxiliary Pipeline) provided the interconnection is technically feasible and the interconnecting party bears the increased costs occasioned thereby.

6.2.2 Sunrise Energy will be responsible for the operation and maintenance of any such interconnection

to its Marine Loading Facility and Auxiliary Pipelines and, to be technically feasible as required under the Petroleum Pipelines Act, the design of the interconnection must comply with Sunrise Energy's requirements and the design codes and standards of the Terminal.

### 6.3 Contractual Arrangements

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

- **Take-or-Pay Contracts:** Contracted Throughput Capacity is secured in the Terminal on a long-term basis (annual contract or longer), at a fixed rate. The Client has the right of first refusal to utilise this Contracted Throughput Capacity. Should Clients exceed their Contracted Throughput Capacity, a Spot pricing rate will be applied to any Overage on a per MT basis. Overage cannot be guaranteed and is subject to their being Available Capacity in the Terminal.
- **Spot Contract:** A Client may import Product on either an ad hoc or short-term basis, without a long-term or Take-or-Pay Contract. Spot Contracts can only be accommodated if there is sufficient Available Capacity in the Terminal, with shipments only accommodated at a time when there is sufficient Ullage available.

### 6.4 Applications for Capacity

6.4.1 Clients or Marine Facility User applications for Uncommitted Capacity shall be addressed in writing to:

Attention: Klaas Mofokeng, Commercial Manager  
 Phone: +27 21 913 7000  
 Email: klaas@sunrise-energy.co.za  
 Address: Ground Floor  
 Vineyards Square North  
 Vineyards Office Estate  
 99 Jip de Jager Drive  
 Bellville  
 7530

Applicants should provide the following information in their application:

- Full name, registration number and contact details of the company;
- Specification of Product quantity to be imported (in MT);
- Contract requirements (imports on a spot, short-term or long-term basis);
- The forecast Throughput for the period with provisional dispatch forecasts;
- 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
  - Proof of financial stability required. Sunrise Energy reserves the right to verify the details



provided.

- Compliance with Financial Intelligence Centre Act.

6.4.2 Should Sunrise Energy be able to accommodate the request, the potential Client shall be notified within fifteen (15) working days of receipt of the request. 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 TERMINAL CAPACITY OPTIMISATION

### 7.1 Management of Contracted Throughput Capacity

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

7.3 Clients are required to maintain a rolling three-month forecast of their expected monthly Throughput, which shall account for seasonality and expected monthly Throughput variations. The Throughput Forecast shall be provided to Sunrise Energy by no later the 15th day of Month M for the Months M+1 to M+3, with the Nominated Throughput for Month M+1 being a firm commitment (with a tolerance of no more than  $\pm 10\%$ ).

7.4 A Maximum Guaranteed Monthly Throughput will be applied to the Contracted Throughput Capacity per Client, which shall be equivalent to the *average monthly* Contracted Throughput Capacity (i.e., Contracted Throughput Capacity / 12). If a Client’s Throughput for any month exceeds, or is forecast to exceed, the Guaranteed Allowable Monthly Throughput, this shall automatically be allowed by Sunrise Energy, subject to there being sufficient Available Capacity in the Terminal for the month. Should there be insufficient Available Capacity, each Client’s monthly Throughput allowance may be reduced proportionally to the Maximum Guaranteed Monthly Throughput. The Client shall duly be notified of this in advance based on the total Nominated Throughput for the month. Table 4 below demonstrates an example of this mechanism:

Table 4: Maximum Guaranteed Monthly Throughput and Mechanism to accommodate additional Throughput requests

	Terminal User 1	Terminal User 2	Total
Contracted Throughput Capacity (MT/a)	180 000	30 000	210 000
Maximum Guaranteed Monthly Throughput (MT/m)	15 000	2 500	17 500
<i>Example: One Client exceeds their Maximum Guaranteed Monthly Throughput:</i>			
Nominated Throughput for the Month (MT/m)	16 000	2 000	20 500
Adjusted Nominated Throughput to Maximum Throughput Capacity (MT/m)	15 500	2 000	17 500

7.5 If a Client consistently underutilises its Contracted Throughput Capacity, Sunrise Energy shall, after consultation with and the consent of the Client, have the right to allocate such Unutilised Capacity

to other Terminal Users if they require it. The Unutilised Capacity shall be determined from the Throughput Forecast for a three-month period.

## **7.6 Product Pre-Borrow between Terminal Users**

- 7.6.1 Terminal Users are required to adhere to Pre-Borrow arrangements, where Product of a specific specification can be freely interchanged between Terminal Users (on a loan basis) on the basis of accurate Nominated Throughput for the month.
- 7.6.2 There will be no financial transaction associated with the Pre-Borrow of Product.
- 7.6.3 Pre-Borrow arrangements will ensure the optimal use of the Marine Loading Facilities and will allow all Terminal Users to import optimal shipping parcel sizes, with the number of shipping slots allocated to Terminal Users based on proportional Terminal use (refer to paragraph 8.1.3 below). This will reduce constraints related to the use of the Terminal by more than one Terminal User, allowing for the use of the Terminal on an Open Access basis and a consistent supply of Product to the market.
- 7.6.4 Sunrise Energy will manage the Pre-Borrow of Stock between its Terminal Users within eSunrise. On the first day of every month, the available Product in the Terminal will be proportionally allocated to each Terminal User based on the proportional Nominated Throughput for the month. Each Terminal User's own Product will firstly be depleted in the Terminal before product is automatically assigned (or loaned) from other Terminal Users.
- 7.6.5 Unless by specific arrangement, a Terminal User shall not be allowed to exceed a Pre-Borrow loan balance of 4,500MT, which is the average Phase 1 ship parcel size (this Pre-borrow loan balance may be extended after the implementation of Phases 2 and 3).
- 7.6.6 Sunrise Energy may request a Terminal User to reconcile its Pre-Borrow account by importing Product for return to the other Terminal User. This may occur if a single Terminal User has an outstanding Pre-Borrow account which is not settled after 3 months or if a Terminal User ceases to utilise the Terminal.
- 7.6.7 Terminal Users with Pre-Borrow arrangements shall be required to provide a bank guarantee on an annual basis to enable the replacement of up to 4,500MT stock in the Terminal, with such guaranteed values to be equivalent to the maximum Saudi CP value for LPG (60% Propane / 40% Butane), plus a shipping fee of USD100/MT. The guarantee must be an irrevocable demand guarantee from a reputable South African bank in favour of Sunrise Energy and may be accessed by Sunrise Energy immediately if a Terminal User fails to replenish borrowed Product in line with the Pre-Borrow policies and procedures, in which event Sunrise Energy shall pay the other Terminal User an amount equal to the cost of the pre-borrowed Product that was not replenished.

## 8 SCHEDULING OF SHIPS

Refer to the summary Table 6 (Ship Scheduling, Nominations and Throughput Management).

### 8.1 Nomination of Berthing Slots

8.1.1 A rolling Shipping Schedule shall be published by Sunrise Energy to the Client on a monthly basis (in the first week of Month M, the current operational month). This schedule shall indicate the firm Berthing Slots, with Arrival Windows, for Month M, as well as the provisional Berthing Slots, with Arrival Windows, nominated by the Terminal Users for Month M+1. The Shipping Schedule shall also indicate MBM Availability Slots for M+2, with the dates available for the nomination of Berthing Slots by the Client. The published MBM Availability Slots shall account for:

- Planned maintenance activities;
- Sufficient Ullage available in the Terminal for the receipt of maximum shipping parcel offloads, determined by means of the Throughput Forecasts and considering discharge of a ship when there is a minimum of 2-days Product remaining in the Terminal (at the minimum Terminal Dispatch Rate for the month);
- Other Client or Marine Facility User nominations or MBM Availability Slots.

8.1.2 By the 15<sup>th</sup> day of Month M, the Client shall confirm the nomination of the three-day Arrival Windows for M+1 and shall nominate provisional Berthing Slots for M+2 (which includes a 3-day Arrival Window plus an additional 1-day Laytime provision). The Berthing Slots nominated must fall within the MBM Availability Slots provided by Sunrise Energy. The Client shall simultaneously indicate the Nominated Throughput for Month M+1 to Sunrise Energy, as well as the provisional Throughput for Months M+2 and M+3.

8.1.3 Sunrise Energy shall assign Terminal Users the rights to specific MBM Availability Slots, with such slots assigned based on the Terminal User's Throughput Forecast (up to the Guaranteed Monthly Throughput), which is used to calculate the shipping slots available to each Terminal User. The following table demonstrates the proportional allocation of MBM Availability Slots per Terminal User, with 3 MBM Availability Slots to be allocated to Terminal User 1, whereafter a MBM Availability Slot will be allocated to Terminal User 2.

Table 5: MBM Availability Slots allocated per Terminal User

Month No.	Monthly Throughput (MT/m)		
	Terminal User 1	Terminal User 2	Total
M+1	13 000	4 000	17 000
M+2	15 000	4 000	19 000
M+3	12 000	4 000	16 000
TOTAL	40 000	12 000	52 000
Max Shipments allowed per 3-month period	9	3	12
Proportional Shipments per 3-month period	3.0	1.0	

- 8.1.4 Terminal Users will have the first option to make use of the MBM Availability Slots assigned to them. Should a Terminal User elect not to make use of an assigned MBM Availability Slot, then this may be offered to another Terminal User or Marine Loading Facility User, as applicable.
- 8.1.5 Marine Loading Facility Users will be allocated potential MBM Availability Slots outside of the MBM Availability Slots available to the Terminal Users such that any impact on the Terminal operation is minimised.
- 8.1.6 Should an MBM Availability Slot not be suitable for a Terminal User:
- Terminal Users may mutually agree to exchange MBM Availability Slots; or
  - Sunrise Energy may be requested to determine whether alternative MBM Availability dates may be considered; or
  - If neither of the above is possible, the Terminal User shall forfeit their slot.
- 8.1.7 Sunrise Energy shall have the right to amend firm Berthing Slots for Clients due to adverse weather events a) after Notice of Readiness has been tendered and before the ship is berthed at the MBM, or b) after the ship has berthed at the MBM and Laytime has commenced, but with adverse weather forcing the ship to be unmoored for safety reasons. The affected Berthing Slots of all Terminal Users and Marine Facility Users will automatically rescheduled, as applicable. Sunrise Energy shall not be liable for any demurrage claims from Clients or Marine Facility Users in this instance.
- 8.1.8 A Terminal User or Marine Facility User must ensure that its ship arrives within the firm Arrival Window nomination. The time of arrival is accepted by Sunrise Energy as being the commencement of the Laytime, which is when the first line is secured between the ship and the MBM. Sunrise Energy shall acknowledge Notice of Readiness (NOR) but shall not accept NOR as being a measure of the ship's arrival time per the Arrival Window. As such, Sunrise Energy shall not take responsibility for any delays to berthing after NOR is tendered (for example, due to the ship arriving too late in the day for berthing or during adverse weather conditions), with such delays being outside the control of Sunrise Energy.
- 8.1.9 Should a Client/Marine Facility User's ship not arrive within the firm Arrival Window for whatever reason (including weather), the Client/Marine Facility User shall request (in writing to Sunrise Energy) whether the Berthing Slot can be amended. Sunrise Energy shall attempt to accommodate any delays within the Shipping Schedule, only if other Terminal Users' or Marine Facility Users' Berthing Slots are not affected. The Client/Marine Facility User may be provided with access to the MBM to continue with ship offloading but may be requested to vacate the MBM at the end of the allowable Laytime, with the start of Laytime measured from 16:00 on the second day of the originally scheduled firm Arrival Window) such that the next scheduled Terminal User/Marine Facility User can be accommodated. Should it not be possible to accommodate the late arrival of a ship, the Berthing Slot shall automatically be scheduled to the first date that the MBM is available. Sunrise Energy shall not be liable for any demurrage claims from Clients or Marine Facility Users in this instance.
- 8.1.10 Should a Client/Marine Facility User wish to extend their Laytime (extend the time at the MBM) to enable the offload of additional Product, the Client/Marine Facility User shall make such a request

to Sunrise Energy in writing. Sunrise Energy shall consider whether such a Laytime extension can be considered based on availability at the MBM per the Shipping Schedule.

## **8.2 Full Nomination of Ships**

- 8.2.1 Should a Client or Marine Facility User nominate an additional Berthing Slot within a month where nominations have already been made, or wish to amend a nomination, this request must be made to Sunrise Energy in writing. Sunrise Energy will evaluate the request based on the availability of the MBM and will advise if such request can be accommodated.
- 8.2.2 Clients/Marine Facility Users shall confirm the 2-day Arrival Window for a ship within 15 business days of the first day of nominated Arrival Window. If the nomination is not confirmed by the Client/Marine Facility User in writing 15 days before first day of the nominated Arrival Window, then the Client will forfeit their Berthing Slot. A new nomination will only be considered by Sunrise Energy if there is Available Capacity in the Terminal and availability at the MBM.
- 8.2.3 The Client shall inform Sunrise Energy when the Product to be delivered has been loaded onto the ship nominated in terms of the firm Arrival Window and shall, within 5 days of this loading date (measured from the Bill of Lading date), provide Sunrise Energy with:
- The Certificate of Origin of the Product;
  - Certificate of Quality of the Product, or, if inter-tanker transfers are planned, theoretical or calculated blend properties shall be provided with the Certificates of Quality of the blended products.
- 8.2.4 Within 10 business days of the first day of the 2-day Arrival Window, the Client shall provide the following to Sunrise Energy:
- Ship Details (Q88 Questionnaire of nominated vessel to be submitted for acceptance);
  - Quantity of specific Product to be discharged;
  - Any additional documentation as may be required by TNPA from time to time.
- 8.2.5 Should a Client/Marine Facility User fail to provide the necessary documentation to Sunrise Energy as per paragraphs 8.2.3 and 8.2.4 above, Sunrise Energy shall have the right to cancel the Berthing Slot and move the Berthing Slot to the next MBM Availability Slot.

**Table 6: Ship Scheduling, Nominations and Throughput Management**

Term	Definition
M	Current Operational Month
M+1	Month 1 following Current Operational Month
M+2	Month 2 following Current Operational Month
M+3	Month 3 following Current Operational Month
D	First Day of D

#	Timeline	By Whom	To Whom	Action	Comments
1.	1 <sup>st</sup> business week of the Month M	Sunrise Energy	Client/ Marine Facility User	Sunrise Energy to publish the latest 3-month shipping schedule (which includes current month M, plus months M+1, M+2.	The Shipping Schedule will reflect all allocated MBM Availability Slots and nominated Berthing Slots specific to the Terminal User (or Marine Facility User).
2.	15 <sup>th</sup> day of Month M (if 15 <sup>th</sup> not a business day, then the next business day thereafter)	Client/ Marine Facility User	Sunrise Energy	<ol style="list-style-type: none"> <li>Client to confirm the Berthing Slots for M+1 and provisional Berthing Slots for M+2, which include the nomination of 3-day Arrival Windows plus a 1-day Laytime provision per Berthing Slot.</li> <li>Client to provide Throughput Forecast for M+1 to M+3, which included the Nominated Throughput for M+1.</li> </ol>	Nominated Berthing Slots shall include Product to be offloaded.
3.	24 hours after received the Shipping Schedule (or the next business day thereafter)	Sunrise Energy	Client/ Marine Facility User	<ol style="list-style-type: none"> <li>Sunrise Energy shall publish an updated Shipping Schedule, confirming Berthing Slots for M+1 and the provisional Berthing Slots for M+2, including the three-day Arrival Windows and a one-day Laytime provision per Berthing Slot.</li> <li>Sunrise Energy shall publish the Minimum and Maximum Daily Dispatch Rates for M+1 based on the Nominated Throughput.</li> </ol>	Sunrise Energy shall evaluate any requests from Clients for changes to Berthing Slots. These shall only be accommodated if there is Available Capacity in the Terminal and the rescheduling of such slot shall not negatively affect another Terminal User (or Marine Facility User).
4.	By no later than 15h00 on the 15 <sup>th</sup> business day prior to the	Client/ Marine Facility User	Sunrise Energy	Client to narrow the 3-day Arrival Window to a 2-day Arrival Window.	If nomination not confirmed by the Client in writing 15 days before the first day of the Berthing Slot (D-15),

#	Timeline	By Whom	To Whom	Action	Comments
	first day of the Berthing Slot (D-15)				then the Client will forfeit their Berthing Slot. A new nomination will only be considered by Sunrise Energy if there is Available Capacity in the Terminal.
5.	Within 5 days of Product being loaded onto ship	Client / Marine Facility User	Sunrise Energy	Client/Marine Facility User to provide the following information to Sunrise Energy: <ul style="list-style-type: none"> <li>• Certificate of Origin</li> <li>• Certificate of Quality, including theoretical blend properties (for inter-tanker transfers)</li> </ul>	
6.	By no later than 15h00 on the 10 <sup>th</sup> business day prior to the first day of the Berthing Slot	Client/ Marine Facility User	Sunrise Energy	Client/Marine Facility User to provide the following information to Sunrise Energy: <ul style="list-style-type: none"> <li>• Ship Details (Q88 Questionnaire of nominated vessel to be submitted for acceptance)</li> <li>• Quantity of specific Product to be discharged</li> </ul>	
8.	48hrs all nomination information has been received. (applicable to business days)	Sunrise Energy	Client/ Marine Facility User	Sunrise Energy/TNPA will complete the required ship verification process to ensure that the ship meets the Saldanha Bay Port and Sunrise Energy MBM requirements. Sunrise Energy will confirm to the Client that the ship can be accepted after the verification has been completed.	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.

### 8.3 Performance Requirements for Ship Offloading Operations

- 8.3.1 The Product offloading rate from the ships is required to be a minimum average of 500m<sup>3</sup>/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<sup>3</sup>/h.
- 8.3.2 Sunrise Energy shall measure a ship'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 ship offloading a cargo of 5,500MT (with a reference density of 531 kg/m<sup>3</sup> at 15°C) is 36 hours, allowing for a Maximum Allowable Cargo Offloading Time of 20.7 hours (per 8.3.1 above), with the balance of 15.3 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 5,500MT.

- 8.3.3 Should a ship not have completed the discharge of its nominated parcel size at the end of the maximum allowable Laytime, the Terminal User or Marine Facility User may be required to immediately stop offloading and vacate the MBM. Should Terminal User or Marine Facility User's ship exceed the Laytime provision and accordingly delay another Terminal User or Marine Facility User from proceeding with a ship offloading operation, the responsible Terminal User or Marine Facility User will be liable for any resulting demurrage charges incurred by the delayed party.

## **9 PRODUCT DISPATCH**

### **9.1 Terminal Dispatch Rates**

- 9.1.1 Within one business day of receiving the Throughput Forecast (with the Shipping Schedule) from the Client, Sunrise Energy shall publish the required Minimum Average and Maximum Daily Dispatch Rates which the Client will need to comply with in M+1.
- 9.1.2 Minimum Average Daily Dispatch Rates per day per Terminal User shall be based on the Nominated Throughput of the Terminal User in proportion to the total Forecast Throughput for the month (for all Terminal Users).
- 9.1.3 The Maximum Daily Road Tanker Dispatch Rate shall be based on the maximum number of road loading slots that can be accommodated by Sunrise Energy in any one day (from 07:00 to 19:00), considering any planned maintenance, and shall be proportioned to each Terminal User based on their Throughput requirements. A maximum number of daily loading slots will be assigned to each Terminal User on this basis.
- 9.1.4 Terminal Users shall be notified in advance of any planned maintenance on the Road Loading Gantries within the month and the resulting adjustment to specific Maximum Daily Dispatch Rates on specific days.
- 9.1.5 The following example illustrates the calculation of the Minimum Average and Maximum Daily Dispatch Rates for the Terminal:



Table 7: Calculation Example – Minimum Average and Maximum Daily Dispatch Rates per Terminal User

No. Terminal road tanker dispatch slots available per Day (7h00 – 19h00)	33		
Terminal Maximum Daily Road Tanker Discharge Capacity (MT/day)	825		
	Client 1	Client 2	Total
Forecast Throughput (MT/month)	12 000	6 000	18 000
Minimum Average Daily Dispatch Rate Requirement (MT/day)	396	198	594
No Road Tankers per Day (minimum average)	16	8	24
Maximum Daily Road Tanker Dispatch Rate Requirement (MT/day)	550	275	825
No Road Tankers per Day (maximum)	22	11	33

9.1.6 The Minimum Average Daily Dispatch Rate will be measured on a continuous rolling basis throughout the month and performance information will be made available to the Terminal Users on the eSunrise portal system. Terminal Users must closely adhere to Minimum Average Daily Dispatch Rates and will be provided with early warnings if Minimum Average Daily Dispatch Rates are not being met and will be requested to ensure that this is rectified such that Ullage becomes available for the receipt of the next scheduled shipment. Terminal Users may not store Product save in the event of a Force Majeure Event preventing the Terminal user from adhering to the Minimum Average Daily Dispatch Rate and in which event the Terminal User shall strictly comply with the Force Majeure provisions under the Terminal User’s Throughput and Handling Agreement.

9.1.7 Should a Terminal User delay another Terminal User from offloading a full shipping parcel (of at least 4,000MT) due to not achieving the required Minimum Average Daily Dispatch Rate, the Terminal User will be liable for any resulting demurrage charges incurred by the second Terminal User.

## 9.2 Dispatch Forecasts

9.2.1 By the last working day of month M, the Client shall provide Sunrise Energy with the following:

- The Customer Contract Quantities for M+1. This will be entered into the eSunrise System and prevent any Customer from collecting more Product from the Terminal than their contracted quantity. The total of the Customer Contract Quantities cannot exceed the Nominated Throughput for the month.
- A discharge plan for month M+1, showing estimated quantities of Product that will be evacuated from the Terminal per day.

9.2.2 Sunrise Energy requires updated weekly dispatch forecasts from Clients, to be submitted to Sunrise Energy by no later than 14:00 on the Friday of the prior week. Allocation Orders per Customer shall be created based on the weekly discharge plan (and within the limits of the Customer Contract Quantities).

## 9.3 Road Dispatch Orders

9.3.1 Road Dispatch Orders are applicable to the dispatch of product via road tankers and may be received directly from the Customer or via the Client. Customers must submit Road Dispatch Orders

to Sunrise Energy against applicable Allocation Orders, where Clients assign specific quantities of stock to their Customers for direct collection. Dispatch Orders will only be accepted by Sunrise Energy if the Customer has sufficient allocated stock available.

- 9.3.2 Road Dispatch Orders must be submitted by 15:00 prior to the day of loading and will be accepted by Sunrise Energy by 16:00 on the day prior to loading, based on the availability of road tanker dispatch slots per Terminal User. Accepted Road Dispatch Orders will be handled on a first-come, first-serve basis on the day of loading. Unscheduled road dispatches can be accommodated on the day only if there is capacity at the loading gantry to do so and after planned orders have been fulfilled.

## 10 PRODUCT QUALITY MANAGEMENT

### 10.1 Ship Offloading Quality Verification

- 10.1.1 Sunrise Energy will test the quality of the Product on board the ship in the laboratory located at the Terminal, which is operated by an independent third-party laboratory company, whose findings, save for manifest error, shall be final and accepted as binding. The Product quality must be certified by the laboratory to meet the Terminal or Marine Facility User's (as applicable) Product specifications, as well as Sunrise Energy's minimum specifications in terms of 10.1.3 before Sunrise Energy will allow offloading to commence.
- 10.1.2 Except for special grades of Product utilised for specific applications, Product received into the storage which is intended for standard domestic, commercial and industrial use must be compliant with SANS1774, as well as the Sunrise Energy specific requirements for Ethyl Mercaptan, Total Sulphur and Acetylene (refer to 10.1.3).
- 10.1.3 Any Product received into the Terminal must meet the following minimum criteria (which includes Sunrise Energy specific requirements). 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:

Table 8: Minimum Product Specifications

Property	Units/Limit Parameter	Limit Value	Test Method	Specification Source
Total Acetylene Content	% mole Max	0.1	IP 264	Acetylene Content per Sunrise Energy Specification; SANS1774 Test Methodology
Vapour Pressure at 37.8°C	@ 37.8°C kPa.g	Max 1410	ASTM D6897, ASTM D1267 or IP 410 or IP 432	SANS1774 (Commercial Propane)
Corrosion	Copper Strip (1h at 37.8°C), Classification, Max	1	ASTM D1838	SANS1774

Property	Units/Limit Parameter	Limit Value	Test Method	Specification Source
Free Water Content	Visible	None	Visual inspection	SANS1774
Total sulphur content, mg/kg	Max	50	ASTM D2784, ASTM D3246, ASTM D5453, IP 243	Sunrise Energy Specification
Residual matter: a) Residue on evaporation, ml/100ml, max. b) Oil stain observation using 1.5ml of solvent-residue mixture <sup>a</sup>	[No Oil Ring = "Pass" Oil Ring = "Fail"]	0.05  Pass = No oil ring in terms of 9.2.2 of ASTM D2158 or 7.7 of IP 316	ASTM D2158, IP317	SANS1774
Odourisation: ethyl mercaptan,	[µL/L, min]	Non-odourised (<5ppm as measured)	ASTM D5303	Sunrise Energy Specification

- 10.2 If the Product is outside of the specification limits, Sunrise Energy may, in its sole discretion:
- Refuse receipt of the Product into the Terminal and the ship will need to depart the MBM;
  - Agree to receive the Product into the Terminal, however, will impose a penalty per MT of off-specification Product received.

### 10.3 Quality of Product Dispatched

- 10.3.1 Sunrise Energy shall be entitled to blend the Product in the Bullets such that the Product meets the required specifications for dispatch.
- 10.3.2 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 on-site 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.
- 10.3.3 If a dispatched Product requires odourisation, Ethyl Mercaptan shall automatically be dosed into the Product at the Dispatch Points such that the minimum specification in terms of SANS1774 is met (15µL/Litre). The final Ethyl Mercaptan concentration in the dispatched product is calculated based on the dosing flowmeter reading and is captured on the certificate of analysis provided with the dispatch confirmation (or Bill of Lading document).

### 10.4 Deterioration in Product Quality

- 10.4.1 Deterioration in product quality is unlikely, with the Sunrise Energy Terminal being a completed closed system, with zero venting occurring during normal operations.

## **11 PRODUCT QUANTITY MANAGEMENT**

### **11.1 Operating Stock**

11.1.1 Sunrise Energy maintains approximately 500 MT LPG Operating Stock in the Terminal. The Operating Stock quantity is based on the quantity of unpumpable liquid product at the bottom the LPG Bullets, the quantity of LPG vapour in the Bullets and the quantity of LPG liquid and vapour in all process piping, which includes the Import Pipeline from the MBM.

### **11.2 Minimum Stock Levels**

11.2.1 MBM Availability Slots take into consideration a minimum level of two days' stock in the Terminal and Terminal Users are encouraged to schedule ships such that they arrive in Saldanha before this minimum stock quantity is depleted. This will allow for a buffer in case of any weather delays preventing immediate berthing of the ship and will ensure that such delays do not affect the ongoing supply of Product to the market.

### **11.3 Product Reconciliations and Losses**

11.3.1 Sunrise Energy does not vent any LPG to atmosphere under normal operating conditions, making use of a vapour recovery system to compress and recover any vapours vented via this system. The total product losses are therefore extremely low.

11.3.2 Physical Stock inventory (per Product) is recorded by the Terminal at Terminal Close (typically daily). This information is compared with the Book Stock (per Product) and adjustments are made to the Terminal User's Book Stock based on the Terminal User's proportional use of the Terminal per day (based on stock movements or transactions).

11.3.3 Cumulative Book Stock adjustments will determine the overall Loss/Gains of the Terminal, reported to each Terminal User as a percentage of the total quantity of the Terminal User's stock movements over a period.

11.3.4 The maximum allowable Loss/Gain over the 6-month reporting period is 0.5%. Sunrise Energy will not be liable for any losses within this limit. Any losses above the 0.5% threshold must be justified and proven via an auditing process to determine liability.

### **11.4 Quantity of Product received from Ship**

11.4.1 The quantity of Product offloaded is metered by an approved custody-transfer Coriolis mass flowmeter located on the Import Pipeline (at the Sunrise Energy Terminal), with the measurement of the Product being on a mass basis.

11.4.2 The quantity offloaded will furthermore be verified by means of Independent Surveyor ship measurements and the change in Bullet inventory due to receipt of Product from a ship.

11.4.3 The final quantity discharged, as recorded by the Terminal, will be certified by the Independent Surveyor.

## 11.5 Quantity of Product Dispatched via Road Tankers

- 11.5.1 For road dispatch operations, 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.
- 11.5.2 Certificates of calibration can be made available to the Client on request.

## 11.6 Quantity Disputes

- 11.6.1 Quantity disputes are prevented by means of the following measures put in place:
- All metering and weighbridge systems are regularly calibrated as required, with calibration certificates available. The mass flowmeter on the Import Pipeline is custody-transfer approved.
  - An Independent Surveyor is responsible for verifying the final quantity of Product offloaded from the ship (with the custody mass meter being the primary measurement).
  - Road tanker drivers are responsible for verifying and accepting the initial tanker weight and final load quantity, as determined by the weighbridge prior to and after loading.
  - A Bill of Lading (and Dangerous Good Declaration) is provided to the road tanker driver before leaving the Terminal. The driver must sign acceptance of the quantity of Product loaded before exiting the Terminal gate.
- 11.6.2 Sunrise Energy does not insure any other parties' Product in the Terminal, with Product insurance being the responsibility of the Terminal User or Marine Facility User, as applicable.

## 12 HANDLING OF SPECIAL GRADE PRODUCT

- 12.1 To maintain an optimised Terminal which can receive economic shipping parcel sizes, the Phase 1 storage facilities will as a default accommodate LPG which meets SANS 1774 specifications, with the additional minimum criteria stated in 10.1.3. All Product will be co-mingled within the Bullets. Should a Client wish to supply Special Grade Product to the market, this shall be requested in writing at least 45 days in advance of the first import operation. Sunrise Energy shall confirm in writing as to whether such a request can be accommodated.
- 12.2 Should Sunrise Energy accept the Client's request to accommodate Special Grade Product in the Terminal for dispatch to the market, the Client shall be entitled to no more than one Bullet for the receipt, storage and dispatch of the Special Grade Product.
- 12.3 The Client requesting the accommodation of Special Grade Product shall take liability for any reductions in Throughput Capacity for the period that the Special Grade Product is stored such that the Monthly Contracted Throughput Capacity of any other Terminal User is not affected.
- 12.4 An expansion of the Terminal via Phases 2 and 3 may consider the accommodation of Special Grade Product, depending on Client requirements, and Sunrise Energy may revise its policies outlined below accordingly.
- 12.5 The Client may be liable for additional handling charges related to the handling and dispatch of Special Grade Product, including:
- Additional operating costs, including additional flushing operations, surveying, sampling,

batching and laboratory testing.

- Compensation for a loss in overall Terminal capacity, resulting from:
  - Dedicated storage requirements for the Special Grade Product;
  - The loss of road loading bay availability, noting that only a single road loading bay is available for the loading of Special Grade Product. Additionally, while the loading of Special Grade Product is taking place, no LPG trucks can be loaded at the other two loading bays.

12.6 Dedicated time slots for the road loading of Special Grade Product shall be agreed between Sunrise Energy and the Client. The frequency of such dedicated time slots shall be minimised where possible to reduce the effect of the Special Grade Product loading on the Terminal road loading efficiency, as well as reducing the Special Grade Product losses associated with the flushing operations required before and after loading operations. A maximum of one dedicated time slot per day will be allowed for Special Grade Product loading.

12.7 Clients owning the Special Grade Product shall take note of the Sunrise Energy policies and procedures related to the handling of Special Grade Product, which influence Stock management, Available Stock and Stock adjustments, including:

- The Import Pipeline (approximately 220MT LPG) shall be reinstated to LPG service at the end of the offloading of Special Grade Product from a ship and this should be accounted for by the Client (unless otherwise agreed with Sunrise Energy).
- The Loading Header is as a default lined up for the loading of road tankers with LPG. Flushing of the Loading Header is therefore required before road loading operations to displace the Loading Header with Special Grade Product and again after road loading operations to displace the Loading Header with LPG. This results in the flushing or downgrade of approximately 14MT Special Grade Product to LPG per operation (line-up plus reinstatement of the Loading Header to LPG). This stock adjustment is for the Client's account.
- It should be noted that no road tanker loading of Special Grade Product is possible during ship offloading operations.
- When a Bullet is converted from LPG to Special Grade Product service, the contamination of the Special Grade Product with the Bullet bottoms (approximately 50MT LPG) must be considered by the Client (the Bullet cannot be emptied below a specific low-low level).
- When a Bullet is reinstated from Special Grade Product Service to LPG, the Bullet bottoms will be converted to LPG Stock.

## 13 TECHNICAL AND SAFETY REQUIREMENTS FOR ACCESS TO THE STORAGE FACILITY

### 13.1 Carrier Company Compliance

13.1.1 Customers will nominate Carrier companies to load and dispatch product on their behalf. Prior to loading product from Sunrise Energy, Customers will inform Sunrise Energy of their Carrier company details. Carrier companies will need to pre-register their tankers and drivers with Sunrise Energy (as per 13.2 and 13.3 below), failing which the tankers and the driver will be refused entry to the Terminal.

## 13.2 Road Tanker Driver Compliance

13.2.1 All drivers must be in possession of the following Licenses/Certificates:

- Valid Code 14 Dangerous Goods Driver's License
- Valid PDP
- Valid First Aid Certificate
- Valid Medical Certificate
- Valid Firefighting Certificate

The above documentation must be provided to Sunrise Energy well in advance of drivers arriving on site so that it can be properly verified by Sunrise Energy. A database is maintained by Sunrise Energy to ensure compliance requirements are met and drivers will automatically not be provided entry to site should any of the above licences or certification have expired.

13.2.2 All drivers must furthermore be inducted and trained on Site specific safety rules and regulations, which may include, but is not limited to:

- General site induction
- Emergency Response Plan (ERP) training
- Basic firefighting training
- LPG properties and handling training
- Transfer processes and procedures
- HSSE practices in product handling and control
- Control of Electrostatic discharges
- Road transport related policies i.e., drug and alcohol policy, seatbelt policy, cell phone policy

13.2.3 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 tanker and tanker equipment.

## 13.3 Road Tanker Compliance

13.3.1 Any vehicle entering Sunrise Energy's facilities is required to adhere to the National Road Traffic Act (1996) and Regulations, particularly with reference to carriers of hazardous goods.

13.3.2 Sunrise Energy will inspect all tankers prior to loading and will not allow loading to proceed if any safety concerns are identified.

13.3.3 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.

## 13.4 Disclaimers and Indemnities

13.4.1 Road tanker drivers are required to sign the Bill of Lading Documentation and Dangerous Good Declaration Form before departing the Terminal, which includes:

- Confirming the Disclaimer that the Carrier company is responsible for providing the correct Maximum Combined Road Loading Weight of the Road Tanker to Sunrise Energy and that Sunrise Energy will not be held responsible for any overfilling of the Road Tanker should the correct information not be provided to Sunrise Energy.

- Confirming the final Load Quantity on the Tanker, with its associated Quality Certificate.

## 14 CONFIDENTIALITY

14.1 All Sunrise Energy planning/nomination processes and operational procedures, which includes the information of the Sunrise Energy Import Terminal and its Clients and Customers, are deemed to be confidential. Accordingly, no Party may disclose confidential information pertaining to another Party, without written consent of the owner of the confidential information or where required to do so by law. Confidential information shall include, but not be limited to, the details of agreements between Clients and Sunrise Energy, the information handed over during negotiations, as well as the details of planning volumes, operating procedures, and so forth.

## 15 POLICIES AND PROCEDURES

15.1 Clients and Marine Facility Users shall be provided with relevant copies of the Sunrise Energy policies and procedures listed in Table 9 below, which must be complied with at all times.

15.2 Clients shall ensure that their Customers comply with the procedures relevant to the use of the Terminal for the loading of road tankers.

Table 9: Policies and Procedures relevant to Terminal Users, Marine Facility Users and Customers

Sunrise Document Number	Title
SE-OPS-DOC-026	Commercial Guideline: Carrier Requirements and Pre-Registration
SE-OPS-SOP-012	Standard Operating Procedure: Ship Discharge into Terminal
SE-OPS-SOP-008	Standard Operating Procedure: Loading a Road Tanker
To be confirmed	Commercial Procedure: Stock Management
To be confirmed	Commercial Procedure: Product Pre-Borrow