

Licence number: Gala.t.F3/1417/2008

**LICENCE FOR THE OPERATION OF A GAS TRANSMISSION FACILITY**


This licence is issued by the National Energy Regulator, hereinafter referred to as "NERSA", in terms of the Gas Act, 2001 (Act No. 48 of 2001). This licence is issued to:

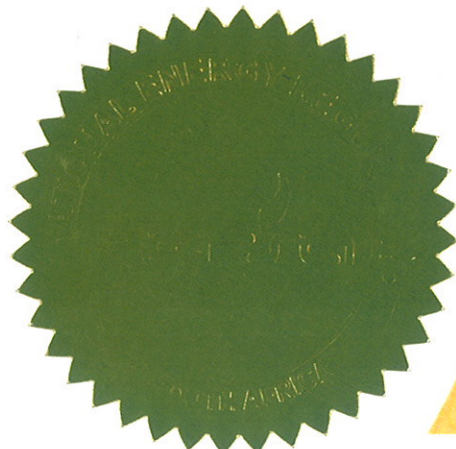
**SASOL GAS LIMITED**  
(Company Registration No: 1964/006005/06)

hereinafter referred to as "the Licensee", only for the purpose of operating a gas transmission facility from Secunda via Witbank to Middelburg.

The operation of the gas transmission facility permitted under this licence is subject to the terms and conditions as attached to this licence and/or amendments to these conditions as imposed by NERSA. The Licensee must comply with these licence conditions.

ISSUED at Pretoria on this the 12<sup>th</sup> day of November 2010.

  
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**CHIEF EXECUTIVE OFFICER**  
**NATIONAL ENERGY REGULATOR**





Licence Number: Gala.t.F3/1417/2008

**LICENCE CONDITIONS FOR THE OPERATION OF A GAS TRANSMISSION FACILITY FROM SECUNDA VIA WITBANK TO MIDDELBURG BY SASOL GAS LIMITED**

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**ANNEXURES:**

- Annexure A: Map (photo) of the Secunda to Witbank to Middelburg Pipeline Route**
- Annexure B: List (table format) of the Sections of the Pipeline and Spurlines**
- Annexure C: List of Applicable Operating and Technical Standards for the Licensed Activity**

## **DEFINITIONS**

For the purpose of this licence and its conditions, any word or expression to which a meaning has been assigned in the Act, Rules and the Agreement shall have the meaning so assigned, unless the context indicates otherwise.

In these licence conditions, the following expressions shall have the following meanings:-

**“emergency”** means a present or imminent event, outside the scope of normal operations, that requires the prompt co-ordination of resources to protect the health, safety or welfare of people or to limit damage to property and the environment.

**“interruption”** means the discontinuation of operations due to an emergency, *force majeure* (act of god) or any other external reason or threat.

**“operation and maintenance plan”** means a written plan developed by the Licensee in accordance with the codes listed in Annexure C.

**“Regulations”** means the Piped Gas Regulations made in terms of section 34(1) of the Act.

**“Rules”** means rules made by NERSA in terms of section 34(3) of the Act.

**“the Act”** means the Gas Act, 2001 (Act No. 48 of 2001), and includes Regulations made in terms of the Act.

**“the Agreement”** means the Agreement Concerning the Mozambican Gas Pipeline between the Government of the Republic of South Africa and Sasol Limited, including Schedule One to the Agreement, being the Regulatory

Agreement between the Minister of Minerals and Energy, the Minister of Trade and Industry and Sasol Limited.

“**Pipeline**” means the gas transmission pipeline from Secunda via Witbank to Middelburg owned and operated by Sasol Gas Limited.

“**Spurlines**” means the Licensee’s branch pipelines connected to the Secunda to Witbank to Middelburg Pipeline.

## **CHAPTER ONE: LICENSED ACTIVITY**

### **1 Licensed Activity**

1.1 NERSA grants the Licensee a licence to operate the gas transmission facility from Secunda via Witbank to Middelburg, traversing along the route identified in Annexure A, comprising of:

(a) a pipeline consisting of three sections with the lengths totalling approximately 120 kilometres and diameters ranging between 4 inches and 16 inches; and

(b) three spurlines with the lengths totalling 15 kilometres and diameters ranging between 3 inches and 14 inches, as shown in Annexure B hereto.

1.2 The licence is granted to the Licensee to operate the above-mentioned gas transmission facility as indicated in Annexure A, hereinafter referred to as “the facility”, with a maximum allowable operating pressure of 50 bar gauge.

1.3 The Licensee must carry out this activity in a manner consistent with the provisions of the Act.

1.4 The Licensee may not assign this licence to another party.

### **2 Duration of licence**

2.1 The licence is valid for a period of twenty five years from the date of issue, unless revoked in accordance with the provisions of the Act.

2.2 The Licensee may apply to have its licence renewed subject to the provisions of the Act.

## **CHAPTER TWO: GENERAL CONDITIONS**

### **3 Amendment of licence**

This licence may be amended in accordance with the Act and the Rules.

### **4 Revocation of licence**

This licence may be revoked by NERSA in accordance with the provisions of the Act.

### **5 Compliance**

5.1 The Licensee must comply with the conditions of this licence, the Agreement, the Act and the Rules.

5.2 The Licensee must comply with the applicable standards and codes relevant to gas transmission pipelines including those listed in Annexure C.

5.3 This licence is granted in terms of the Act and for the activities described in 1.1 and 1.2 above. This licence does not exempt the Licensee from compliance with any other legislation.

## **6 Changes in the details of the Licensee**

- 6.1 The Licensee must notify NERSA if the control of the licensee, as contemplated in section 12(2) of the Competition Act, 1998 (Act No. 89 of 1998), changes.
- 6.2 The Licensee must notify NERSA if the composition of directors of the company changes.
- 6.3 The Licensee must provide NERSA with details of any changes in its registered name, operating or trading name, registered address and other contact details, including but not limited to the names, telephone numbers, facsimile numbers and email addresses of contact persons.
- 6.4 The notifications contemplated in 6.1 to 6.3 above must be provided within fourteen days of the event giving rise to them.

## **7 Entry, inspection and gathering of information**

The Licensee must permit any authorised person as defined in the Rules, at all reasonable times, to enter and inspect any property on which a licensed activity is taking place, and inspect any facility, equipment, machinery, book, account or other document and gather any information in accordance with the Act and the Rules.



## **8 Participation of Historically Disadvantaged South Africans**

- 8.1 The Licensee must annually provide NERSA with the information regarding Historically Disadvantaged South Africans as prescribed in the Regulations.
- 8.2 The Licensee must submit the information contemplated in 8.1 above to NERSA within thirty days of its financial year end.

## **9 Transaction recording and Regulatory Financial Reporting**

- 9.1 The Licensee must keep detailed records of all gas transmission transactions and agreements entered into, and these agreements must be made available to NERSA at its request.
- 9.2 The Licensee must maintain separate accounts for its gas transmission activities and compile gas transmission data separately from any other accounts or data collection. These separately maintained accounts must be prepared in accordance with the Regulatory Reporting Manuals as prescribed by NERSA.
- 9.3 The Licensee must comply with the requirements on Regulatory Financial Reporting as prescribed by NERSA in the Regulatory Reporting Manuals.

## **10 Monitoring and provision of information**

- 10.1 The Licensee must keep records relating to the compliance and non-compliance with the conditions of this licence.

- 10.2 The Licensee must make the records referred to in 10.1 above available to NERSA within fourteen days of receipt of a written request for such records.
- 10.3 The Licensee must furnish NERSA with any information in such form and manner and at such times as NERSA may require in the performance of its duties or functions under the Act and the Agreement.
- 10.4 The information that the Licensee must furnish NERSA with must include, but is not limited to, the following -
- (a) detailed audited annual financial statements, consisting of a balance sheet, income statement and cash flow statement for the licensed gas facility and activity;
  - (b) current tariff structure;
  - (c) quarterly reports of third party access requests granted and denied, and the grounds for refusal, to be submitted within one month of the end of each quarter from the commencement of the licensed activities;
  - (d) an updated plan of the gas transmission network, including details of any gas amenities that are no longer operational (including gas transmission facilities that have been converted to gas distribution facilities), as well as details of the availability of this network plan for public inspection. This information must be furnished to NERSA within three calendar months of the end of the Licensee's financial year; and
  - (e) details of any changes to the Licensee's health, safety and emergency plans. Details of changes to these plans must be submitted to NERSA within three calendar months of such changes being effected.

- 10.5 The Licensee must submit the information requested in section 10.4 (a) and (b) annually, within six calendar months of the end of the Licensee's financial year.

## **11 Correspondence**

- 11.1 All official communication by the Licensee with NERSA must be in writing, signed and addressed to NERSA.
- 11.2 The Licensee must in all correspondence with NERSA quote the licence reference number as it appears on the certificate of this licence.

## **12 Changes to the licensed facility**

- 12.1 The Licensee must notify NERSA of any change to the licensed facility in advance of the change being effected.
- 12.2 The Licensee must not effect any change to the licensed facility that requires an amendment of this licence or a new licence, until an amended or new licence has been issued by NERSA.
- 12.3 Any change to the licensed facility must be done in accordance with applicable standards including those listed in Annexure C hereto.

## **CHAPTER THREE: SPECIFIC CONDITIONS**

### **13 The Agreement**

For the duration of the Special Regulatory Dispensation Period as determined in accordance with Schedule One to the Agreement, the Licensee must comply with the relevant provisions of the Agreement, including Schedule One thereto.

### **14 Operation and maintenance of the transmission facility**

14.1 The Licensee must operate, maintain, decommission, recommission or abandon the licensed transmission facility in accordance with applicable standards including those listed in Annexure C hereto.

14.2 The Licensee must develop implement and maintain the following management plans-

- (a) an operating and maintenance plan;
- (b) an emergency plan; and
- (c) a decommissioning plan, where applicable, in accordance with the applicable and relevant standards and codes as listed in Annexure C, and applicable legislation.

14.3 The plans contemplated in 14.2 above are conditions of this licence.

14.4 The Licensee must submit the management plans contemplated in 14.2 (a) and (b) above to NERSA within three calendar of the date of issue of this licence.

- 14.5 In the event of amendments to or changes in the requirements of the standards and codes listed in Annexure C hereto, the Licensee must submit the consequent amendments or changes to the plans mentioned in 14.2 above to NERSA within three calendar of such amendments to or changes in the requirements of the standards and codes.
- 14.6 The Licensee must comply with regulation 11 of the Regulations regarding the rehabilitation of land.
- 14.7 The Licensee must submit the procedures for decommissioning, recommissioning or abandonment to NERSA prior to commencement of such decommissioning, recommissioning or abandonment. Such procedures will be a condition of this licence.

## **15 Maintenance and interruptions of operations**

- 15.1 The Licensee must notify NERSA and its affected customers of any planned or unplanned:
- (a) interruptions in the supply or delivery of gas; and
  - (b) extraordinary maintenance and repair work that may affect the supply or delivery of gas.
- 15.2 Notifications of all planned interruptions or maintenance and repair work must be provided in writing to both NERSA and the affected customers at least three days in advance of the planned interruption or maintenance and repair work.

15.3 Notifications of all unplanned interruptions or maintenance and repair work due to unforeseen events must be provided in writing to both NERSA and the affected customers within 48 hours of the occurrence of the interruption or maintenance and repair work.

15.4 Any maintenance or repair work to the licensed facility must be done in accordance with applicable standards including those listed in Annexure C hereto.

## **16 Third Party Access**

16.1 The Licensee must, for the duration of the Special Regulatory Dispensation Period as determined in accordance with Schedule One to the Agreement, comply with the terms of the Agreement relating to third party access to the pipeline and its spurlines constructed after the date of signature of the Agreement.

16.2 Upon expiry of the duration of the Special Regulatory Dispensation Period, third party access to the pipeline and spurlines referred to in 16.1 above will be subject to the provisions of the Act.

16.3 The Licensee must from the date of issue of the licence provide third parties access on commercially reasonable terms to uncommitted capacity in the spurlines that existed prior to the date of signature of the Agreement.

16.4 The uncommitted capacity contemplated in this licence will be as determined by NERSA from time to time.

16.5 The Licensee must:-

- (a) implement and publicise guidelines for the use of the gas transmission system, including details of a non-discriminatory pipeline capacity allocation mechanism. This information must be sufficient to enable potential customers to understand the procedure for obtaining access to the Pipeline, as well as to enter and conclude negotiations with the Licensee;
- (b) publicise information regarding available uncommitted pipeline and spurline capacity on a monthly basis.

16.6 The guidelines contemplated in 16.5 (a) above must include-

- (a) a detailed description of the gas transmission system indicating all ownership boundaries;
- (b) method by which the tariffs are calculated;
- (c) procedure by which a customer may request a tariff;
- (d) contractual terms and conditions regarding use and payment;
- (e) technical requirements for access to the gas transmission facility;  
and
- (f) the process to request access.

16.7 The Licensee must implement and publicise the guidelines contemplated in 16.5 (a) above within thirty days of the date of granting this licence.

16.8 The Licensee must allow third parties to trade transmission transport capacity rights, and must:

- (a) develop procedures to facilitate secondary trade in transmission transport capacity rights; and
- (b) submit these procedures to NERSA for approval prior to implementation.

16.9 Sections 21(1)(d), 21(1)(e); 21(1)(f); 21(1)(g); and 21(1)(h) of the Act are conditions of this Licence.

## **17 Tariff**

17.1 The Licensee must not charge tariffs for the transmission of gas via the transmission facility other than those approved or regulated by NERSA.

17.2 The Licensee must submit to NERSA for approval and monitoring, a schedule of proposed tariffs and details of their calculation, in such form and manner as NERSA may require.

17.3 The Licensee must, within six calendar months of the issue of this licence, submit to NERSA for approval and monitoring, a schedule of proposed tariffs for its current year of operation including details of their calculation.

17.4 The Licensee must comply with section 22 of the Act.



## **18 Ancillary obligations**

18.1 The Licensee is responsible for compliance with all licence conditions during any contracted work on the gas transmission facility or services that are the subject of this licence.

18.2 The Licensee must ensure that reasonable publicity is given to the ways in which the public can contact the Licensee for the purpose of reporting emergencies.

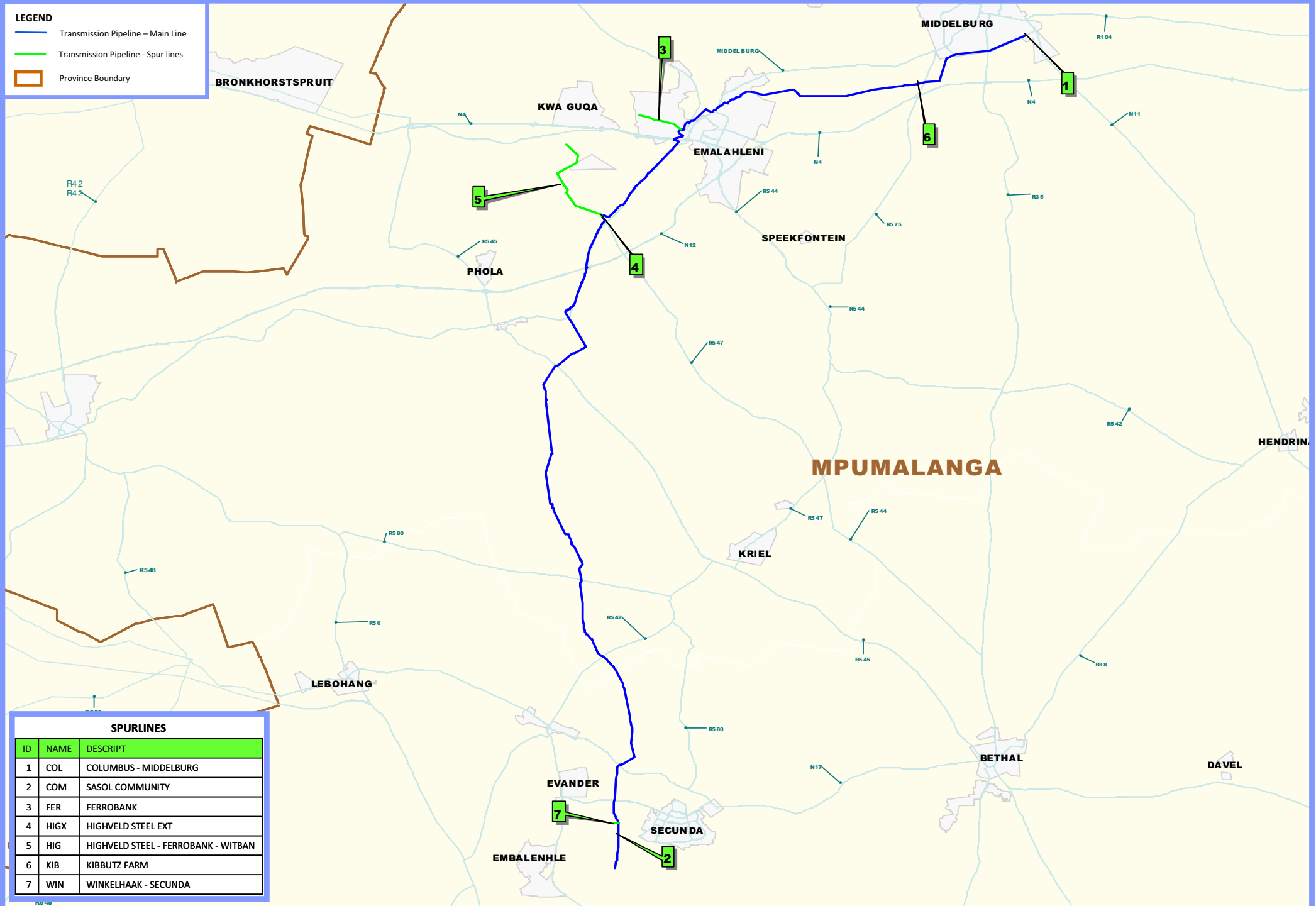
## **19 Whole Licence**

This licence and licence conditions constitute the entire licence and supersedes all prior understandings and agreements between the Licensee and NERSA.

# SECUNDA / WITBANK / MIDDELBURG - TRANSMISSION PIPELINE

**LEGEND**

- Transmission Pipeline – Main Line
- Transmission Pipeline - Spur lines
- Province Boundary



SPURLINES		
ID	NAME	DESCRIPT
1	COL	COLUMBUS - MIDDELBURG
2	COM	SASOL COMMUNITY
3	FER	FERROBANK
4	HIGX	HIGHVELD STEEL EXT
5	HIG	HIGHVELD STEEL - FERROBANK - WITBAN
6	KIB	KIBBUTZ FARM
7	WIN	WINKELHAAK - SECUNDA

## MAIN LINES

ID	NAME	DESCRIPT	P_DIA	LICENCE	CODE	INS_YEAR	LENGTH_M
1	SWM	SECUNDA - WITBANK - MIDDELBURG	16	SECUNDA - WITBANK - MIDDELBURG	MAIN LINE	1994	72430.226
2	SWM	SECUNDA - WITBANK - MIDDELBURG	14	SECUNDA - WITBANK - MIDDELBURG	MAIN LINE	1994	47384.481
3	MID	MIDDELBURG	4	SECUNDA - WITBANK - MIDDELBURG	MAIN LINE	1993	28.457

## SPURLINES

ID	NAME	DESCRIPT	P_DIA	LICENCE	CODE	INS_YEAR	LENGTH_M
1	COL	COLUMBUS - MIDDELBURG	6	SECUNDA - WITBANK - MIDDELBURG	SPURLINE	1993	34.892
2	COM	SASOL COMMUNITY	4	SECUNDA - WITBANK - MIDDELBURG	SPURLINE	1994	11.312
3	FER	FERROBANK	4	SECUNDA - WITBANK - MIDDELBURG	SPURLINE	1994	3918.862
4	HIGX	HIGHVELD STEEL EXT	8	SECUNDA - WITBANK - MIDDELBURG	SPURLINE	1994	0.671
5	HIG	HIGHVELD STEEL - FERROBANK - WITBAN	8	SECUNDA - WITBANK - MIDDELBURG	SPURLINE	1994	10560.390
6	KIB	KIBBUTZ FARM	14	SECUNDA - WITBANK - MIDDELBURG	SPURLINE	1994	7.840
7	WIN	WINKELHAAK - SECUNDA	3	SECUNDA - WITBANK - MIDDELBURG	SPURLINE	1995	613.565

## REFERENCE CODES AND STANDARDS (MINIMUM REQUIREMENTS)

The following codes and standards hereinafter collectively noted as Reference Codes are referenced in this specification, and unless more stringent requirements are established in this specification, form part of the specification. Where conflicts arise with this specification, the more stringent shall apply.

### 1 Management of the Organisation

ISO 9001	Quality Management System
ISO 14001	Environmental Management System
OHSAS 18001	Occupational Health and Safety Association Standard

### 2 Design of the pipeline

#### 2.1 Process

API RP520	Design and installation of pressure relieving systems
API RP521	Guide for pressure relieving and depressing system

#### 2.2 Mechanical / Piping

ASME B16.5	Steel Pipe Flanges and Flanged Fittings
API 5L	Specification for Line Pipe
API 12K	Specification for Indirect - Type Oil Field Heaters
ASME B31.3	Process Piping
ASME B31.4	Liquid Transportation Systems for Hydrocarbons
ASME B31.8	Gas Transmission & Distribution Piping Systems
ASME VIII	Pressure Vessels Division 1 & 2
SANS 1091	National Colour Standards for Paint
TEMA R	Tubular Heat Exchanger Manufacturing Association
PD 8010	British design code for steel pipelines

#### 2.3 Electrical & Instrumentation

NRS 037-1	Telecontrol Protocol Part 1: Telecontrol protocol for stand-alone Remote Terminal Units.
SANS ETS 300386-1	Equipment engineering (EE): Telecommunication network equipment - Electromagnetic compatibility (EMC) requirements Part 1: Product family overview, compliance criteria and test levels.
SANS ETSI EN 300386	Electromagnetic compatibility and radio spectrum matters (ERM) - Telecommunication network equipment - Electromagnetic Compatibility (EMC) requirements.
ARP 0108	Regulatory requirements for explosion protected apparatus
SANS IEC 60079	Electrical apparatus for explosive atmospheres.
SANS IEC 61131	Programmable Controllers.
SANS IEC 61643-1	Surge protective devices connected to low-voltage power distribution systems Part 1: Performance requirements and testing methods.
	Low-voltage surge protective devices Part 1: Surge protective devices connected to low-voltage power distribution systems - Requirements and tests
SANS 10313	Protection against lightning – Physical damage to structures

	and life hazard
SANS 10086	The installation, inspection and maintenance of equipment used in explosive atmospheres.
SANS 10089-2	The Petroleum Industry Part 2: Electrical installations in the distribution and marketing sector
SANS 10108	The classification of hazardous locations and the selection of apparatus for use in such locations.
SANS 10119	Reduction of explosion hazards presented by electrical equipment – Segregation, ventilation and pressurization
SANS 10123	The control of undesirable static electricity
SANS 10142-1	Code of Practice for Wiring and Premises.
SANS 10198-2	Part 2: Choice of cable type and method of installation.
SANS 10198-3	Part 3: Earthing systems – general provisions
SANS 10198-5	Part 5: Determination of thermal and electrical resistivity of soil
SANS 10198-8	Part 8: Cable laying and installation
SANS 10198-9	Part 9: Jointing and termination of extruded solid dielectric-insulated cables up to 3,3 kV
SANS 10198-12	Part 12: Installation of earthing system
SANS 10198-13	Part 13: Testing, commissioning and fault location
SANS 10200	Neutral earthing in medium voltage industrial power systems
SANS 10199	The design and installation of earth electrodes.
SANS 10340-1	Installation of telecommunication cables Part 1: Fibre optic cable in buildings.
SANS 0398-2	The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 2: Cable selection - low voltage cables up to 3.3 kV.
SANS 314-2	Flame Proof Enclosures for Electrical Apparatus Part 2: National requirements.
SANS 970	Ex N (Non-Sparking) Electrical Equipment for use in Potentially Flammable Atmospheres (Zone II Locations).
SANS 10199	The design and installation of earth electrodes
SANS 1063	Earth rods and couplers.
SANS 1069-1	Land mobile communication equipment Part 1: Technical characteristics and test conditions for radio equipment with an internal or external RF connector and intended primarily for analogue speech.
SANS 1085	Wall outlet boxes for the enclosure of electrical accessories.
SANS 1222	Enclosures for electrical equipment classified by IP code.
SANS 1507-1-6	Electric cables with extruded solid dielectric insulation for fixed installations
SANS 60079-10	Electrical apparatus for explosive gas atmospheres, Part 10: Classification of hazardous areas
SANS 62305-1	Protection against lightning, Part 1: General principles
SANS 62305-2	Protection against lightning, Part 2: Risk management
SANS 62305-3	Protection against lightning, Part 3: Physical damage to structures and life hazard
NACE SP 0177	Mitigation of alternating current and lightning effects on metallic structures and corrosion control systems
SANS IEC 60079	Electrical apparatus for explosive atmospheres.

## 2.4 Cathodic Protection

API RP 2003	Protection against ignitions arising out of static, lightning and stray currents
BS EN 12068	Cathodic protection. External organic coatings for the corrosion protection of buried or immersed steel pipelines used in conjunction with cathodic protection. Tapes and shrinkable materials
BS EN 13509	Cathodic protection measurement techniques
BS EN 14505	Cathodic protection of complex structures
BS EN 15257	Cathodic protection. Competence levels and certification of cathodic protection personnel
BE EN 50162	Protection against corrosion by stray current from direct current systems
DD CEN TS 15280	Evaluation of AC corrosion likelihood of buried pipelines -- Application to cathodically protected pipelines
DIN 30676	Design and application of cathodic protection of external surfaces
DIN 50918	Corrosion of metals, electrochemical corrosion tests
DIN 50925	Verification of the effectiveness of the cathodic protection of buried structures
DIN 50929	Probability of corrosion of metallic materials when subject to corrosion from the outside
EN 50443	Effects of electromagnetic interference caused by high voltage AC railway and power supply systems on pipelines
NACE SP 0169	Control of external corrosion on underground or submerged, metallic piping systems
NACE SP 0177	Mitigation of alternating current and lightning effects on metallic structures and corrosion control systems
NACE SP 0188-99	Discontinuity (holiday) testing of new protective coatings on conductive substrates
NACE SP 0204	Stress corrosion cracking (SCC) direct assessment methodology
NACE SP 0286	Electrical isolation of cathodically protected pipelines
NACE SP 0388	Impressed current cathodic protection of internal submerged surfaces of steel water storage tanks
NACE SP 0502	Pipeline external corrosion direct assessment methodology
NACE SP 0572	Design, installation, operation and maintenance of impressed current deep groundbeds
NACE Pub 10A190	Measurement techniques related to criteria for cathodic protection of underground or submerged steel piping systems
NACE TM 0102	Measurement of protective coating electrical conductance on underground pipelines
NACE IP 35103	External stress corrosion cracking of underground pipelines
NACE RP-0394	Standard recommended Practice: Application, Performance and Quality Control of Plant-Applied, Fusion-Bonded Epoxy External Pipe Coating
NACE RP-0490	Standard Recommended Practice Holiday Detection of Fusion-Bonded Epoxy External Pipeline Coatings of 250 to 760 $\mu\text{m}$ (10 to 30 mils)
SIS 05 59 00	Pictorial visual standards for surface preparation for the painting of steel surfaces
SANS 1117	Plastics wrappings for the protection of steel pipelines
SANS 1178	Bitumen coating for pipelines
SANS 1200DB	Standardized Specification for Civil Engineering Construction Section DB: Earthworks (Pipe Trenches)
SANS 1200LB	Standardized Specification for Civil Engineering Construction

	Section LB: Bedding (Pipes)
SANS 1217	External coating for pipelines other than bitumen
SANS 10064	The preparation of Steel Surfaces for Coating
SANS 10121	Cathodic Protection of Buried and Submerged Structures
SANS 10129	Plastics Tape wrapping of Steel Pipelines
SANS 15589	Pipelines and other buried and submerged structures (Parts 1 & 2)
StanSA SC 5120.61L	Pipelines and other buried & submerged structures
ASTM D4541	Standard Test Method for Pull-off Strength of Coatings using Portable Adhesion Testers
ASTM G8	Standard Test Methods for cathodic Disbonding of Pipeline Coatings
ASTM G14	Standard Test methods for Impact Resistance of Pipeline Coatings (Falling Weight Test)
ASTM G42	Standard Test methods for Cathodic Disbonding of Pipeline Coatings Subjected to Elevated Temperatures
CSA Standard Z245.20	External Fusion Bond Epoxy Coating for Steel Pipe
CSA Standard Z245.21	External Polyethylene Coating for Pipe
AS 3862	External Fusion-Bonded Epoxy Coating for Steel Pipes
AS/NZ S4352	Tests for coating resistance to cathodic disbanding
ISO 8501-1	Preparation of Steel Substrates before Application of Paints and Related Products – Visual Assessment of Surface Cleanliness

### 3.1 Civil & Structural

SANS 10100-1	The structural use of concrete.
SANS 0162 Series	The structural use of steel
SANS 920 – 2005	Steel bars for concrete reinforcement
SANS 878 - 2004	Ready-Mix Concrete
SANS 1200 Series	Standardised Specifications for Civil Engineering Construction.

## 3 Construction, Operations & Maintenance of the pipeline

### 3.1 Mechanical / Piping

API 1104	Welding of Pipelines and Related Facilities.
ASME IX	Welding specification
ASME B31.8	Gas Transmission & Distribution Piping Systems.
ASME B31.8 S	Managing System Integrity of Gas Pipelines

### 3.2 Electrical & Instrumentation

SANS 10313	The protection of structures against lightning.
SANS 10108	Code of Practice: The classification of hazardous locations and the selection of electrical apparatus for use in such locations.
	The classification of hazardous locations and the selection of apparatus for use in such locations
SANS 314	Flameproof Enclosures for Electrical Apparatus.
SANS 549	Intrinsically Safe Electrical Apparatus.
SANS 969	Enclosures for Electrical Apparatus for use in Class II, Divisions 1 and 2 locations (dust-ignition-proof or hose-proof or both).
SANS 970	Ex N (Non-Sparking) Electrical Equipment for use in

Potentially Flammable Atmospheres (Class 1 Div 2 Location).

### 3.3 Cathodic Protection

NACE RP 0169

Control of External Corrosion on Underground or Submerged Metallic Piping Systems.

SANS 0121

Cathodic protection of buried and submerged structures.

### 3.4 Civil & Structural

SANS 10164

Structural Use of Masonry.

SANS 1200 Series

Standardised Specifications for Civil Engineering Construction.

## 4 Legend

ISO/EN/IEC

International Standard Organisation

BS/PD

British Standards Institute

OHSA

Occupational Health and Safety Association

DIN

German Institute for Standards

API

American Petroleum Institute

ANSI

American National Standards Institute

ASTM

American Standard Testing Method

AS

Australian Standard

ASME

American Society for Mechanical Engineers

CSA

Canadian Standards Authority

ASME S

American Society for Mechanical Engineers (Supplement)

SANS

South African National Standards

NACE

National Association for Corrosion Engineers

April 2010