

Document Title:

SCOPE OF SERVICES

Project Title:

PROFESSIONAL SERVICES FOR SPECIALIST CONSULTANT FOR TRANSNET PIPELINES NETWORK - STRATEGIC PLANNING FRAMEWORK

REVISION 04

1. GLOSSARY

ALR	- Alrode
DJP	- Durban Johannesburg Pipeline
FEED	- Front End Engineering and Design
E&I	- Electrical and Instrumentation
FFP	- Fitness for Purpose
IVW	- Coastal Terminal
JMP	- Jameson Park Terminal
KEN	- Kendal
KRO	- Kroonstad
MC&I	- Metering Control and Instrumentation
LLA	- Langlaagte
MCC	- Master Control Centre
NOC	- National Operating Centre
NMPP	- New Multi Product Pipeline
PII	- Pipeline Integrity International
SBG	- Sasolburg
TPL	- Transnet Pipelines
WAO	- Waltloo

2. CONTENTS

1. GLOSSARY.....	2
2. CONTENTS.....	3
3. TRANSNET PIPELINES BACKGROUND	4
4. STUDY BACKGROUND.....	4
5. STUDY OBJECTIVE	7
6. SCOPE OF SERVICES.....	8
7. STUDY REQUIREMENT CONSIDERATIONS	9
8. OWNERSHIP OF DOCUMENTS AND COPYRIGHT	11
9. HEALTH AND SAFETY	11
10. COMMUNICATIONS	12
11. DOCUMENTATION CONTROL	13

3. TRANSNET PIPELINES BACKGROUND

Transnet Pipelines, a division of Transnet SOC Ltd, provides strategic pipeline infrastructure, with associated world class pipeline logistics, for the petroleum and gas industries of South Africa. This is done in collaboration with our stakeholders thereby assuring the South African sustainable development imperative. Established in 1965, Transnet Pipelines owns, maintains and operates a network of some 3114km of high-pressure petroleum and gas pipelines. Transnet Pipelines transports an average of 16 billion litres of liquid fuel per annum. This includes diesel, unleaded petrol, aviation turbine fuel and crude oil.

The liquid pipeline network including the network depots/pump stations traverse 5 provinces namely KwaZulu-Natal, Free State, Gauteng, Northwest and Mpumalanga. The intake stations are from the Island View Terminal for imported product in Durban, the crude refinery at Coalbrook (Natref - Sasolburg) and the Synfuel plants at Secunda (Sasol II and III). TPL transports petrochemical products through the pipeline network comprising of underground steel pipelines, delivery depots and pump stations as depicted in the attached map referenced as PPT 1604 in Section 10 of this document. The pipeline is laid within a servitude, which passes through many properties (private, state owned, local authorities, communities) with the pump stations and delivery depots located in rural, industrial and suburban areas along the pipeline routes.

The pipelines range from 6" (150mm) to 24" (600mm) in diameter. All the pipelines have been constructed in accordance with the American Code ASME B31.4. Pressure in the pipeline network is monitored 24 hours a day, 365 days a year in the current Master Control Centre (MCC) in Transnet Pipelines' National Operations Centre (NOC) in Pinetown, KZN.

4. STUDY BACKGROUND

The Durban Johannesburg Pipeline (DJP) was the first line to come into operation at TPL and was commissioned in November 1965 for the then South African Railways and Harbour Company, to transport petroleum products between Durban and Johannesburg.

TRANSNET PIPELINES	PROFESSIONAL SERVICES FOR SPECIALIST CONSULTANT FOR TRANSNET PIPELINES NETWORK STRATEGIC PLANNING FRAMEWORK				TECHNICAL PROJECTS
	RFP	TPL/2024/07/0002/71877/RFP	Page 4 of 13	Rev 0	

This 300mm (12”) diameter main line stretched over a distance of approximately 720km in length with pump stations located at Island View, Hillcrest, Howick, Ladysmith, Van Reenen, Bethlehem, Magdala (18km north of Kroonstad) and Sasolburg, with take-off / delivery stations at Pietermaritzburg, Ladysmith, Bethlehem, Kroonstad, Sasolburg, Alrode and Langlaagte.

In 1971, due to the construction of the Natref refinery at Sasolburg and the increased demand for fuels in the interior additional pipeline extensions were commissioned. A 200mm (8”) pipeline from Sasolburg via Potchefstroom to Klerksdorp was laid. A 300mm (12”) extension from Alrode via Airport, Elardus Park and on to Waltloo in Pretoria was laid in addition to a 200mm (8”) pipeline from Elardus Park to Pretoria West. Flow into this pipeline section was obtained by using the Sasolburg (DJP) pumps.

In the early 2000, due to numerous integrity related failures on the 12” section of the DJP, TPL commissioned a Fitness for Purpose (FFP) Study on the DJP in 2000 which was completed in 2003. The study was performed by PII (Pipeline Integrity International, a European based company which was a subdivision of the then British Gas) and concluded that the only means to mitigate the inherent integrity risks of the DJP effectively was to replace the pipeline.

In 2003, TPL began the process to construct the 24” multi product trunkline to replace the DJP to what eventually became the New Multi-products Pipeline (NMPP). The main difference between the DJP and the replacement NMPP was that there were no delivery depots allowed for along the pipeline as had previously been done on the DJP. The 24” section of the NMPP is referred to as the trunkline section.

This NMPP project included the upgrade of the inland delivery network with new lines constructed from:

- 16” JMP to Alrode (ALR)
- 16” ALR to Langlaagte (LLA)
- 16” Kendal (KEN) to Waltloo (WAO)

TRANSNET PIPELINES	PROFESSIONAL SERVICES FOR SPECIALIST CONSULTANT FOR TRANSNET PIPELINES NETWORK STRATEGIC PLANNING FRAMEWORK				TECHNICAL PROJECTS
	RFP	TPL/2024/07/0002/71877/RFP	Page 5 of 13	Rev 0	

The new NMPP pipelines entered beneficial service between 2010/2011. IVW and JMP terminals were later commissioned in 2017, and the pipeline was able to operate in multiproduct service for the first time at the Phase 1 design flowrate of 1080m3/hr. Due to quality issues on the tanks constructed at IVW, the depot was modified into what was dubbed a 'tightlining' operation whereby the product received from the clients was pumped directly into the trunkline bypassing the incomplete accumulation facilities at IVW. The pipeline has been in this 'tightline' mode since, delivering all products (petrol, diesel and JET fuel) from Island View to Jameson Park for onward distribution to the inland network. Approval has now been received to continue the build of the accumulator tanks and complete the IVW terminal and accumulation facilities. This project is expected to start in 2024/25 FY.

The DJP which in most parts ceased operation in 2018 and has since been emptied and cleaned in preparation for abandonment and full decommissioning of the DJP facilities. The 12" section from Sasolburg (SBG) to Kroonstad (KRO) of the DJP continued to operate in reverse to continue to feed the Free State market. This was in anticipation for a new replacement pipeline which was to be constructed. After business considerations the replacement of this line section with a new line to service the Free State market was found not to be commercially feasible and was subsequently cancelled. The SBG to KRO DJP Section ceased operation at the end of 2023 and has already been emptied.

The 12" ALR to Airport (APT) section of the DJP is currently still in service as the preferred routing of JET fuel from coast via the 24" MPP to OR Tambo. A replacement pipeline for this line section is currently an active project.

Product reticulated within the inland network is then delivered to clients as ordered through purpose-built delivery depots (indicated as such on the drawing referenced as PPT-1604 below). These delivery depots are strategically located to cover certain geographic regions, normally with a number of clients developing their own infrastructure in the vicinity surrounding the delivery depots.

In recent times, unsolicited requests for interconnection to the Transnet owned pipeline network in terms of the Petroleum Pipelines Act 60 of 2003 have been forthcoming.

The first successful request for interconnection was at the existing Jameson Park Terminal (located at the end of the 24” trunkline) where a client funded custody metering manifold was constructed and subsequently commissioned in 2020. Subsequently, the quantum of pipeline interconnection requests has increased but more notably the location of the connection points randomly distributed along the transmission pipeline network. These requests for connection appear to be where it would best suit the applicant and not necessarily where it would complement Transnet Pipelines existing infrastructure.

5. STUDY OBJECTIVE

- 5.1 To provide Transnet Pipelines with a holistic view of the impacts of uncoordinated interconnections to the operation of its transmission and distribution network. Impacts on operational and hydraulic efficiencies need to be established and quantified. The assessment should encompass the following:
 - 5.1.1 24" MPP Trunkline - In particular a request for interconnection in the region of Camperdown on the 24” MPP is to be assessed. Although technically possible, the operation philosophy and design of the 24” MPP trunkline did not initially consider interconnections on this line or consider distribution in this region.
 - 5.1.2 Inland transmission and distribution network for possible future interconnections
- 5.2 The study is to guide TPL in the consideration of unsolicited bids within the confines of NERSA obligations and the Petroleum Pipelines Act.
- 5.3 The specialist study through market demand analysis to help define a long-term planning framework for the architecture of the network with respect to potential new geographical markets and regions where potential for delivery points could or should be considered. This will guide TPL in responding to an unlimited number of connection requests along the entire extent of the transmission network, including both the trunkline and inland network.

6. SCOPE OF SERVICES

6.1 LOCATION OF THE SITES AND ACCESS

The services rendered will be largely desktop based, with the TPL engagement sessions convened at TPL's Head Office at 202 Anton Lembede Street, Durban alternatively online via Microsoft Teams. Site visits will be arranged as required to enable to a better understanding of the operating environment.

The pipelines covered in the scope include:

- 24" Multi Product Pipeline from Durban to Jameson Park.
- Inland Network

6.2 GENERAL DESCRIPTION OF THE SERVICES

The report may require input, opinions and analysis from independent specialists in their respective fields. The report to give recommendations to TPL on interconnection requests to the 24" MPP trunk line, inland network whilst ensuring compliance to the Nersa License conditions, Petroleum Pipeline Act and other applicable legislations.

The consultant is to develop a process model to assist TPL to methodically assess the number and location of requests for interconnection. Factors for consideration and a logical process flow to arrive at a determination is to be provided.

The entire study is to be completed within 3 months from award. An interim report and discussion session has been allowed for, whereas a minimum the 24" MPP trunkline assessment is to be concluded. The final report would incorporate the both the 24" MPP and inland network assessment.

6.3 DATA TO BE SUPPLIED TO CONSULTANT

Transnet Pipelines will furnish, with all reasonable expedition, all available pertinent data and information and give such assistance as may reasonably be required by the Consultant for the carrying out of his duties under this agreement.

TRANSNET PIPELINES	PROFESSIONAL SERVICES FOR SPECIALIST CONSULTANT FOR TRANSNET PIPELINES NETWORK STRATEGIC PLANNING FRAMEWORK				TECHNICAL PROJECTS
	RFP	TPL/2024/07/0002/71877/RFP	Page 8 of 13	Rev 0	

7. STUDY REQUIREMENT CONSIDERATIONS

The service provider is to provide a detailed report addressing all but not limited to the scope items detailed below.

7.1 Operational Considerations

Consideration to be given to the operation of a transmission trunkline system in the case of the 24" MPP as well as the long transmission lines within the inland network with respect to their inherent efficiencies, both from a planning, operational and hydraulic point of view and how these would be impacted.

If interconnections points are to be considered, then the ideal locations, quantum and delivery flowrates should be evaluated. Objective analysis to consider both split flow and full flow delivery scenarios. The 24" MPP is currently designed and operating at a flowrate rate of 1080m³/hr but assessment also to cater for future expansion to 1725m³/hr flowrate.

Ability to operate the trunkline/ transmission line with respect to interface management with interconnection points such as Camperdown and any future interconnections to form part of the evaluation.

7.2 Interconnection and Distribution Points

During the design of the 24" MPP, no consideration given to supply existing delivery depots or other regions along the trunkline route with refined product.

Guidance is now sought to identify potential distribution nodes in geographical areas not covered by existing TPL infrastructure. Such decisions should be based on credible market demand determinations and is to consider both the 24" MPP trunkline and inland distribution network.

7.3 24" MPP and Inland Network Capacity Considerations

In the case of the Camperdown request, it is understood that new volume will be moved through the line thus increasing the utilisation of the trunkline. The impact of moving increased volumes the short distance from Durban to Camperdown could result in the 24" MPP in its current configuration been inadequate to meet the required inland volume to Jameson Park in the remaining available hours of operation.

TRANSNET PIPELINES	PROFESSIONAL SERVICES FOR SPECIALIST CONSULTANT FOR TRANSNET PIPELINES NETWORK STRATEGIC PLANNING FRAMEWORK				TECHNICAL PROJECTS
	RFP	TPL/2024/07/0002/71877/RFP	Page 9 of 13	Rev 0	

This could necessitate an earlier than planned requirement to upgrade the 24" from its current flow of 1080m³/hr to 1725m³/hr.

Capacity driven scenarios such as the example above on the existing infrastructure on the 24" MPP and inland network would need to be assessed with impacts quantified to confirm the current market demand/security of inland supply on a weekly basis as part of TPL's day to day business.

7.4 Legal and Licensing Considerations

The Petroleum Pipelines Act No 60 of 2003 (PPA) governs the construction, operation, and safety of pipelines carrying petroleum substances in a particular jurisdiction. When considering the requests for the interconnection to the 24" trunkline or inland network under the PPA, the following aspects would need to be considered:

7.4.1 Current Operating Licence Conditions.

7.4.2 Regulations outlined in the PPA with respect to new entrants in particular Section 20(j) reads: *"(j) licensees must allow interconnections with the facilities of other licensees, as long as the interconnection is technically feasible and the person requesting the interconnection bears the increased costs occasioned thereby"*.

7.4.3 Any new entrant seeking to interconnect to the trunkline must also consider the rights and interests of other stakeholders, including existing customers, landowners, and affected communities. With reference to Section 21 of the PPA: *"Non-discrimination ... Licensees may not discriminate between customers or classes of customers regarding access, tariffs, conditions or service except for objectively justifiable and identifiable grounds approved by the Authority."*

7.4.4 Section 2 which defines the objects of the act, among others 2(d) to "promote equitable access to petroleum pipelines, loading facilities and storage facilities".

7.4.5 Interconnection to the 24" trunkline would require TPL to amend its Operating Licence.

In line with the Petroleum Pipelines Act and regulation under NERSA, guidance and opinion is to be given with respect to the consideration of the particular request at Camperdown and unsolicited requests in general for interconnection at points on the transmission network not currently developed for client delivery.

TRANSNET PIPELINES	PROFESSIONAL SERVICES FOR SPECIALIST CONSULTANT FOR TRANSNET PIPELINES NETWORK STRATEGIC PLANNING FRAMEWORK				TECHNICAL PROJECTS
	RFP	TPL/2024/07/0002/71877/RFP	Page 10 of 13	Rev 0	

Input to the ownership model of such infrastructure and the definition of what is and is not common user infrastructure as further interest and requests for interconnection to the pipeline possibly at the same location, or elsewhere, is expected to increase.

8. OWNERSHIP OF DOCUMENTS AND COPYRIGHT

The Consultant hereby grants to Transnet Pipelines a non-exclusive licence in accordance with the provisions of section 22 of the Copyright Act 1978:

- 8.1 to copy any plan, diagram, drawing, specification, bill of quantities, design, calculation, or similar document made, other than under the direction or control of Transnet Pipelines, by the Consultant in connection with the Project.
- 8.2 to make free and unrestricted use thereof for its own purposes.
- 8.3 to provide copies thereof to other consultants to be used by them for the purposes of the consultancy.
- 8.4 to provide other parties with copies thereof for the purpose of tenders invited by it.

The Consultant, furthermore, shall engage any specialist and/or firm employed by him for investigation or for design in connection with the project, to grant to Transnet Pipelines a similar non-exclusive licence for the purposes set out herein. No separate or extra payment shall be due by Transnet Pipelines in respect of any non-exclusive licence granted in terms of this clause.

The source codes of computer programmes designed and developed for Transnet Pipelines by the consultant shall be the sole property of Transnet Pipelines, and Transnet Pipelines has the right to copy and alter code without obtaining permission of the Consultant. No portion of the completed system shall be available as commercial value for any party besides Transnet Pipelines. After completion of such software, and prior to final payment the Consultant will forward a copy of the data code with all documentation.

9. HEALTH AND SAFETY

Should site activities be required, the service provider shall at all times comply with Safety, Health and Environmental requirements prescribed by the relevant legislation as well as the Transnet Contractor Management Procedure (TIMS-GRP-PROC-014) attached as Annexure

TRANSNET PIPELINES	PROFESSIONAL SERVICES FOR SPECIALIST CONSULTANT FOR TRANSNET PIPELINES NETWORK STRATEGIC PLANNING FRAMEWORK				TECHNICAL PROJECTS
	RFP	TPL/2024/07/0002/71877/RFP	Page 11 of 13	Rev 0	

A as they may apply to the scope of services. The service provider shall comply with the provisions of the Occupational Health and Safety Act, 85 of 1993 and relevant regulations as amended. The service provider performs duties of the employer and is in every respect responsible for compliance with the provisions of the act.

The service provider will be responsible for the safety, health and environmental rules that TPL may require to be implemented. The service provider shall ensure that no employees or persons working on his/her behalf are allowed to enter any Transnet Pipelines site, unless that employee or person has undergone safety, health and environmental induction pertaining to the hazards prevalent to the site at the time of entry. The service provider shall ensure that all employees working on site have valid medical certificates of fitness specific to the scope of work to be performed and issued by an occupational health practitioner. Before establishing or entering any Transnet site, the contractor shall submit a Safety, Health and Environmental Compliance file for review and approval by Transnet Pipelines. The submission requirements will be aligned to the scope of services of the contractor.”

The SHE Compliance File should contain the following as a minimum:

- a) Valid Letter of Good Standing with the Compensation Fund
- b) Signed 37(2) Agreement
- c) Risk Assessment
- d) Method Statement

10. COMMUNICATIONS

The Consultant shall abide to all communication requirements imposed upon them by TPL. Any communication received, produced or issued by the Consultant shall first be reviewed by TPL before transferred onto another party. This covers but is not limited to, engagement with marketplace, key role players in oil and gas industry, advertisements, communications with Transnet Clients, industry forums, magazines, websites, blogs and any other social media. All communication initiatives shall be approved by TPL.

The engagement, communication (timing and context) templates and formats shall be agreed and signed off by the relevant Employers’ process owner before any deliverables are started. Time spent correcting incomplete and incorrect documentation will be for the Consultant’s own cost. All reports shall be cross-referenced against other disciplines and tools to ensure accuracy and integration of information. All communications direct, indirect, 3rd party or other shall be captured in the relevant document control system.

TRANSNET PIPELINES	PROFESSIONAL SERVICES FOR SPECIALIST CONSULTANT FOR TRANSNET PIPELINES NETWORK STRATEGIC PLANNING FRAMEWORK				TECHNICAL PROJECTS
	RFP	TPL/2024/07/0002/71877/RFP	Page 12 of 13	Rev 0	

TRANSNET'S PETROLEUM AND GAS PIPELINE SYSTEM CURRENT LAYOUT

delivering on our commitment to you pipelines

GAUTENG

NORTH - WEST

MPUMALANGA

FREE STATE

KWAZULU / NATAL

LESOTHO

SOUTH AFRICA

INDIAN OCEAN

LEGEND:

- DJP – DECOMMISSIONED
- REFINED PRODUCTS
- CRUDE OIL
- AVTUR
- GAS
- MPP PIPELINES
- MPP ACCUMULATION TERMINAL

Map Labels: PRETORIA WEST, WALTLOO, RUSTENBURG, TARTLTON, AIRPORT, KENDAL, WITBANK, LANGLAAGTE, ALRODE, JAMESON PARK, SECUNDA, KLERKSDORP, SASOLBURG, COALBROOK, STANDERTON, WILGE, VOLKSRUST, KROONSTAD, BETHLEHEM, NEWCASTLE, VRYHEID, LADYSMITH, EMPANGENI, RICHARDS BAY, DURBAN.

Inset Map Labels: GAUTENG, SECUNDA, RICHARDS BAY, DURBAN, LESOTHO, CAPE TOWN.

Map Notes: DURBAN DEPOT ISLAND VIEW PUMPSTATION AT COASTAL TERMINAL

Reference: PPT-410847 01-10-20:KN

TRANSNET PIPELINES	PROFESSIONAL SERVICES FOR SPECIALIST CONSULTANT FOR TRANSNET PIPELINES NETWORK STRATEGIC PLANNING FRAMEWORK				TECHNICAL PROJECTS
	RFP	TPL/2024/07/0002/71877/RFP	Page 13 of 13	Rev 0	