



**SCOPE OF WORK:
INTELLIGENT PIGGING**

76-PPP-M0001 – AB -12” AND 76-PPD-M0001 – 14”

REV	ISSUE DATE	COMMENTS
00	07 July 2026	For Comments
01	13 July 2026	For Enquiry

	NAME	SIGNATURE	DATE
Originator	L Geza		
Checked	D. Meinie		
Mechanical	B Jaji		
Area Production Manager	E Campher		
NDT Technologist	S. Zungu		
Inspection	L Silwana		
Process	H. Stander		
Acceptance by Vendor:			

1 DEFINITIONS

- 1.1 “Pigging Contractor” shall mean the contractor appointed by PetroSA to perform the Work, see 3.1 below.
- 1.2 “Company” shall mean PetroSA (SOC) Ltd
- 1.3 “Confidential Information” shall mean all proprietary inventions, methods, processes, designs, secrets and other know-how and information at any one time disclosed by PetroSA in connection with the Work, whether or not in writing, in drawing or in any other way, to the extent that such Confidential Information at the time of disclosure is not in the free possession of Pigging Contractor or part of the public knowledge or literature.
- 1.4 “Mobilization” shall mean the preparation, packing and transportation of the Instrument and Equipment and personnel from the Pigging Contractor’s base office to the Pipeline as applicable
- 1.5 “Demobilization” shall mean the repackaging, refurbishing and transportation of the Instrument and the equipment and personnel from the Pipeline to Pigging Contractor’s base office
- 1.6 “Equipment” shall mean all the equipment, including the In Line Inspection Tool required for the carrying out the corrosion (and other) survey on a Pipeline.
- 1.7 “Pipelines” shall mean the pipelines as described in paragraph 4.
- 1.8 “Survey” shall mean the corrosion and other flaw detection survey providing the necessary information as defined in paragraph 3.
- 1.9 “Work” shall mean all work to be done by the Pigging Contractor necessary for obtaining information as specified for in paragraph 3.

2 LOCATION OF WORK

- 2.1 **PetroSA’s Voorbay Tank Farm:** The PetroSA Voorbay Tank farm is located on the outskirts of the town of Mossel Bay in the Republic of South Africa. Hydrocarbon products from the PetroSA Gas to liquids facility, also located on the outskirts of Mossel bay are pumped to and from the Voorbay tank via onshore pipelines.

- 2.2 **SPM Facility:** Located approximately 3km offshore, southwest from the Voorbaai tank farm approximately. The pipeline referenced in this document connects the Voorbaai tank farm to the SPM facility.

3 SCOPE OF WORK

- 3.1 Except as otherwise expressly provided for in the contract, the Pigging Contractor shall supply all supervision, materials, equipment, tools, testing devices, transport as well as every item of expense necessary for the supply and delivery to the launching point, of tools, materials and equipment necessary for the supervision, control and performance of the entire operation of pigging the following pipeline at Mossel Bay:

Pipeline No.	Fluid & Pump Rate [m³/h]	Direction of Pig Run	Pipeline Diameter [inch]	Pipeline Length [km]	Material / nominal wall thickness [mm]
76-PPP-M0001	Petrol 800	Onshore to Offshore	12	3.4	API 5L X42 / 6.4; 8.4
76-PPD-M0001	Diesel	Onshore to Offshore	14	3.4	API 5L X42/7.9; 7.0

- 3.2 The scope will be:

- 3.2.1 One cleaning run
- 3.2.2 One gauge plate run
- 3.2.3 One axial field MFL run
- 3.2.4 Optional: UT wall thickness / corrosion map run

- 3.3 The Pigging Contractor shall carry out the Work as described in paragraph 3.2 for the purpose of providing PetroSA the information about the pipelines concerning the location and extent of internal and external corrosion, any other recordable flaws by carrying out a Survey with the Instrument and analyzing and interpreting the recorded data. The information will be provided as described in paragraph 10. In addition, the vendor shall compare the acquired data with historical data and provide trending information on defects.

- 3.4 The Pigging Contractor should note that the pigging operation will be done with firewater as the driving media.

- 3.5 PetroSA shall provide all facilities necessary for the launching and recovery of the equipment. Subsea pig recovery services will be performed by PetroSA using an experienced diving contractor.
- 3.6 PetroSA shall, under advice to be given by the Pigging Contractor, launch, propel and recover the cleaning pig, gauge pig and intelligent pig. The Pigging Contractor will be responsible for placing the Instrument in the launcher. The Pigging Contractor shall also advise PetroSA on the method of removal / recovery of the Instrument.
- 3.7 The Pigging Contractor shall evaluate and accept the cleanliness of the Pipelines prior to the pigging activity. The Contractor shall issue a line cleanliness report as per Section 10.2. The Contractor shall be responsible to supply the cleaning pigs.
- 3.8 PetroSA cannot guarantee a free passage of the Intelligent Pig through the pipelines. The Pigging Contractor shall be responsible for running a gauge pig to ensure that the intelligent pig will be able to pass through the line unhindered, and without any damage. PetroSA shall take no responsibility for any damage to the Instrument once the Pigging Contractor has decided that the line is "piggable".
- 3.9 PetroSA shall not provide any pigging equipment except for the pig launcher and receiver. The Pigging Contractor shall advise PetroSA 4 weeks prior to commencement of pigging operation of utility requirements, equipment, infrastructure etc. that would be required by the Pigging Contractor, to enable the Work to be done at the specified location in an efficient manner.
- 3.10 All Work shall be done in accordance with acceptable professional engineering practices and shall be performed with the utmost diligence and efficiency.
- 3.11 The Pigging Contractor shall provide a schedule detailing:
- 3.10.1 Availability to perform the Work
 - 3.10.2 Mobilization; site activities & demobilization.
 - 3.10.3 Off – site work activities, i.e. data analysis, preliminary report issue, final report etc.
- 3.12 The Pigging Services shall be provided in-line with the requirements of API 1163 and NACE SP0102.

4 PREPARATION OF THE PIPELINE PRIOR TO PIGGING (PetroSA SCOPE)

Contractor shall detail requirements for this activity in the proposal.

5 PIGGING PROCEDURE / TECHNIQUE OF INSPECTION

The technique should be: axial field magnetic flux leakage tool.

6 POST PIGGING - OPERATION

Contractor shall detail requirements for this activity in the proposal.

7 GENERAL NOTES

- 7.1 Ensure that the cathodic protection facilities are de – energized and re-energized prior to and after each pigging operation and that they are in good working condition.
- 7.2 PetroSA shall have the right to examine the Work at any stage during its performance.
- 7.3 The in – line – Inspection tool should be equipped with a location transmitter to enable location of the Instrument should it become lodged within the pipeline and an accelerometer.

8 TEMPORARY OPERATION FACILITIES TO BE FURNISHED:

PetroSA shall supply or cause to be supplied the following operation facilities and utilities to the Pigging contractor without cost to the Pigging Contractor, for or in connection with the performance of the Work.

- 8.1 Area of site establishment at the onshore site for the Pigging Contractor's container.
- 8.2 Sanitary facilities at a nearby-designated onshore area.
- 8.3 Medical and first aid facilities at central points.

- 8.4 Potable water at central points.

9 PROJECT SCHEDULE

- 9.1 PetroSA shall give final notice regarding mobilization at least 4 weeks prior to commencement of work.
- 9.2 The Contractor shall provide a schedule of operations to be performed.
- 9.3 Recommended period for onsite activities can be completed within 2 days. The vendors schedule needs to demonstrate if it is possible to achieve this in 2 days

10 REPORTING REQUIREMENTS

- 10.1 The Pigging Contractor shall submit a report at the end of the work to the PetroSA Project Engineer having recorded information on but not limited to the following: -
- Start and stop dates and times of the cleaning operation.
 - Start and stop times of each type of pig.
 - Any problems encountered
 - The visual results after each pigging operation.
- 10.2 The Pigging Contractor is to provide a report covering the cleaning of the pipeline. The report is to be submitted to the Company within 24 hours of the completion of the cleaning, and is to give details of the type of debris removed, the nature of the debris, an estimate of the total volume of debris removed, a register of the pigging runs that were conducted, and any other relevant data.
- 10.3 The Pigging Contractor is to provide a report on the gauge and intelligent pig runs that were conducted. The report shall be submitted within 24 hours of the completion of the runs, and shall provide, but not limited to, the following information: -
- Condition of the gauge tool
 - Amount of debris removed
 - Recommendation as to whether the Intelligent tool should be run through the Pipeline

- 10.4 The Pigging Contractor shall provide an Initial Report on the operation of the Instrument within 24 hours of the inspection run. The report shall indicate whether all features of the tool functioned correctly, whether the quality of data is sufficient for analysis and whether or not a rerun is to be performed. The report shall include the velocity profile, and any velocity excursions that occurred during the run.
- 10.5 The Pigging Contractor is to provide a Preliminary Report within 7 working days after receipt of the field data at the Pigging Contractor's premises. The report shall include, but not be limited to, details of any defects that affect the Maximum Allowable Operating Pressure of the Pipeline.
- 10.6 The Pigging Contractor is to supply the final inspection report within 20 days of receiving the data at the Pigging Contractor's premises. It shall contain, but not be limited to: -
- 10.6.1 Introductory Pipeline data such as the diameter, pipeline length, year built, nominal wall thickness, external & internal coating, MAOP, throughput and pressure at time of Survey, areas where the Instrument did not meet specifications, cleanliness of line etc.
- 10.6.2 Identification and location of significant internal and external features.
- 10.6.3 Comparison of significant internal and external features with previous inspection data (where available) to identify if any significant changes have occurred. Previous inspection data will be in multiple supplier formats. The table below summarizes the last inspection performed on each line:

Line Number	Date of last Inspection	Inspection technique Used
76-PPP-M0001-AB-12"	2018	Axial Field MFL
76-PPD-M0001 – 14"	2023	Axial Field MFL

Hard copies of past inspection data will be supplied by PetroSA.

- 10.6.4 Differentiation shall be made between internal and external significant defects, mill, defects, dents gouges, magnetic anomalies.
- 10.6.5 Identification of all joint numbers which contain a significant feature, giving the distance from the nearest above ground reference point to the upstream girth weld of the pipe joint to an accuracy of 1 meter.
- 10.6.6 Distance of each significant defect to the nearest reference weld to an accuracy of 20mm, and the orientation, looking upstream, to the nearest o'clock position.
- 10.6.7 Length of pipe joint containing a significant feature to an accuracy of 30mm.
- 10.6.8 Identification and location of all pipeline fixtures and attachments including, but not limited to: -
- Cathodic protection posts
 - Seam welds
 - Take offs
 - Nominal wall thickness deviations
 - Clamps
 - Sleeve
 - Valves, etc.
- 10.7 The Pigging Contractor is to provide three hard copies of the report, two CD's copies of the report in Microsoft Excel or Word format per pipeline.
- 10.8 The Pigging Contractor is to provide a minimum of 15 enhanced feature reports per pipeline. Enhanced feature reports shall be provided for all defects that affect the Maximum Allowable Operating Pressure (MAOP) of the Pipeline. PetroSA will select any other features over and above those that affect MAOP, after presentation of the preliminary report. The enhanced feature report shall contain detailed defect/feature data and dig-up sheets, if applicable.
- 10.9 The Pigging Contractor shall provide a Fitness for Purpose / Service (FFP/S) and Corrosion Growth Assessment based on the requirements of ASME B31.G and other industry standards and norms (i.e. Pipeline Operator Forum specifications for intelligent pigging of pipelines). This FFP/S report must include a comparison of defects / features to the past inspection history to determine if there is an increase in the number of defects / features as well as an assessment of changes to previously reported defects / features to ultimately determine an estimated corrosion growth rate. The final FFP/S report must provide a schedule for

possible future repairs based on the calculated corrosion growth rate over a 5 year operating period.

11 SURVEY ACCEPTANCE CRITERIA

- 11.1 PetroSA reserves the right to reject any survey record, in part or in whole, which does not comply in total with paragraph herein.
- 11.2 The Pigging Contractor shall be able to demonstrate to the PetroSA representative that the Instrument has functioned within its stated capabilities and parameters throughout the entire pipeline section surveyed.
- 11.3 Should the Pigging Contractor be unable to comply with paragraph above, then PetroSA reserves the right to either request the Pigging Contractor to rerun the Instrument at no charge to PetroSA or to provide a pro-rata discount to the original survey price.

12 PERSONNEL

- 12.1 The Pigging contractor shall appoint such qualified personnel as will be necessary for the safe and efficient performance of the Work.
- 12.2 Personnel performing data analysis shall be certified to at least Level two (RSA 2 or equivalent in the personnel home Country) in the applicable inspection method.
- 12.3 The Contractor shall have available a person certified as a Level 3 in the applicable inspection method, should PetroSA require detailed feature clarification or dispute any reportable features that impact on MAOP of the pipeline.
- 12.4 PetroSA will instruct Pigging Contractor's personnel in regard to safety regulations and other matters related to the performance of the Work and Pigging Contractor's personnel will at all times adhere to these regulations and instructions.
- 12.5 The Pigging Contractor shall at its own cost remove any Pigging Contractor personnel that, in PetroSA reasonable opinion, failed to adhere to any of such instructions and regulations, and the Pigging Contractor shall, at its own cost,

immediately provide a suitable replacement of any such Pigging Contractor personnel.

- 12.6 The Pigging Contractor shall be responsible for providing transportation and accommodation to his personnel engaged during the Work.
- 12.7 The Pigging Contractor shall ensure that all his personnel are provided with the minimum safety equipment / apparel as required for the safe execution of the Work.

13 PRICING

Pigging Contractor to provide price breakdown for the following items: -

- Mobilization and Demobilization
- Cost for each type of pigging run
- Standing time rates
- Rerun charges for Instrument

14 ADDITIONAL INFORMATION REQUIRED

The Pigging Contractor is to submit the following information with the tender:

- Detection capability and sizing accuracy.
- Work procedure/program for the complete pigging operation.
- Confirmation that product specification is compatible with Instrument.
- Request for any additional information that the Pigging Contractor may feel is necessary for the successful implementation of the project.
- List any exclusions or additional requirements that may be required.

15.0 DRAWINGS, DOCUMENTS, SPECIFICATIONS & PROCEDURES

Document Type	Document Number	Comments	Revision
15.1. DRAWINGS & DATA SHEETS			
SPM Export Facility – Site layout	76 – QZ005 – D001	Attached	04
SPM Export Facility – Offshore Pipeline	76 – QZ005 – D003	Attached	03
15.2 SPECIFICATIONS			
Metrication	SP/MZ001-S005	Attached	04
15.3 PROCEDURES			
CONTRACTOR QUALITY ASSURANCE REQUIREMENTS	ISM/PR/AIA/003	Attached	01
PIGGING OF CONDENSATE, DISTILLATE AND PETROL PIPELINES	BST/PR/051/019	Attached	00
ENGINEERING CONTRACTOR DRAWING SUPPLY	END/PR/DRW/001	Attached	01
PERMIT TO WORK	SAF/PR/OPS/002	Attached	01

General Note:

The contractor may require additional drawings, specifications or other documentation deemed necessary for performing the Work. Those requirements should be communicated to the PetroSA procurement department not later than five working days before date of tender closure. Every effort will be made to supply documentation as reasonably needed.