



**REQUEST FOR INFORMATION
FOR RENEWABLE ENERGY PROJECT AS
INDEPENDENT POWER PRODUCERS
ACROSS TRANSNET PIPELINES**



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ABBREVIATIONS

TPL – Transnet Pipelines

IPP - Independent Power Producers

RE – Renewable Energy

RFI – Request for Information

GHS - Green House gas emissions

kWh – kilo Watt Hour

kV - kilo-Volt

COP – Crude Oil Pipeline

MPP – Multi Product Pipeline

NERSA – National Energy Regulator of South Africa



1. TRANSNET PIPELINES BACKGROUND

Transnet Pipeline is a business unit of Transnet that provides strategic pipeline infrastructure with associated world class pipeline logistics for the petroleum and gas industries of South Africa. TPL transports an average of 17 billion litres of fuel per annum. This is done in partnership with our customers and stakeholders thereby assuring the African sustainable development imperative.

Transnet pipelines pump-stations are widely situated throughout KwaZulu Natal, Mpumalanga, Gauteng, North-West and Free State.

For over the fifty-five years, Transnet Pipelines has played a key role in the security of supply for our clients through a network of 3114km of underground high-pressure petroleum and gas pipelines.

2. PROJECT BACKGROUND

TPL has 40 sites consist of pump stations, booster stations, metering stations, delivery stations as well as workshops. All TPL points of supply across the country are supplied by Eskom and Municipalities. TPL have been experiencing an increase in electricity billing due to the ever-increasing average price percentage of electricity and the number of charges Eskom and local utilities pass on to its customers under the different tariff structures.

The most recent price increase being 13.87% instead of 9.41%, initially recommended by the National Energy Regulator of South Africa (NERSA).

Audit conducted by TPL on most of the Eskom and local utilities tariff structures, shows that Eskom and local utilities has four different charges on one electricity bill:

The information obtained from the above considerations motivated TPL to implement alternative methods to counteract the high electricity billing (due to the electricity price increases and the number of charges imposed on one electricity bill) and contribute to Transnet and Eskom request to reduce electricity consumption.

Due to the above reasons, it is recommended that TPL consider alternative methods (Renewable energy) to counteract the high electricity billing and contribute to Transnet and utilities request to reduce electricity consumption.

Request for Information: Transnet Pipelines Renewable Energy (IPP)



The benefit shall be as follows:

- Minimize costs.
- Compliance to Transnet energy policy.
- Reduce company's carbon footprint thus reduce company's carbon tax.
- Reduce company's ash waste hierarchy production.
- Reduce Eskom's grid constrains.

3. PURPOSE OF THE SCOPE

- 3.1 This document covers the Transnet Pipeline's requirements to request for information (RFI) from the open market for renewable energy to compensate across Transnet Pipelines sites.
- 3.2 The specification should provide guidance to TPL renewable energy also contributes positively to the environment and comply with the Transnet energy policy which encourages operating divisions to reduce energy cost and reduce Greenhouse gas (GHS) emission.
- 3.3 The main purpose of this RFI is to have alternative supply methods to ensure that the pipeline sites have reliable supply, cost effective, low carbon emissions and energy security.

4. TRANSNET PIPELINES NETWORK

Below is the Transnet Pipelines network diagram with number of pump stations and booster stations in different provinces, considered for renewable energy as Independent Power Producers (IPP) fig1.

The stations considered are in four provinces namely: Kwa-Zulu Natal, Free State, Mpumalamga and Gauteng

The stations selected are of high consumption site with voltages of 6,6kV, 11kV, 22kV, 88kV and 132kV as per tables below, fig2 and fig3.

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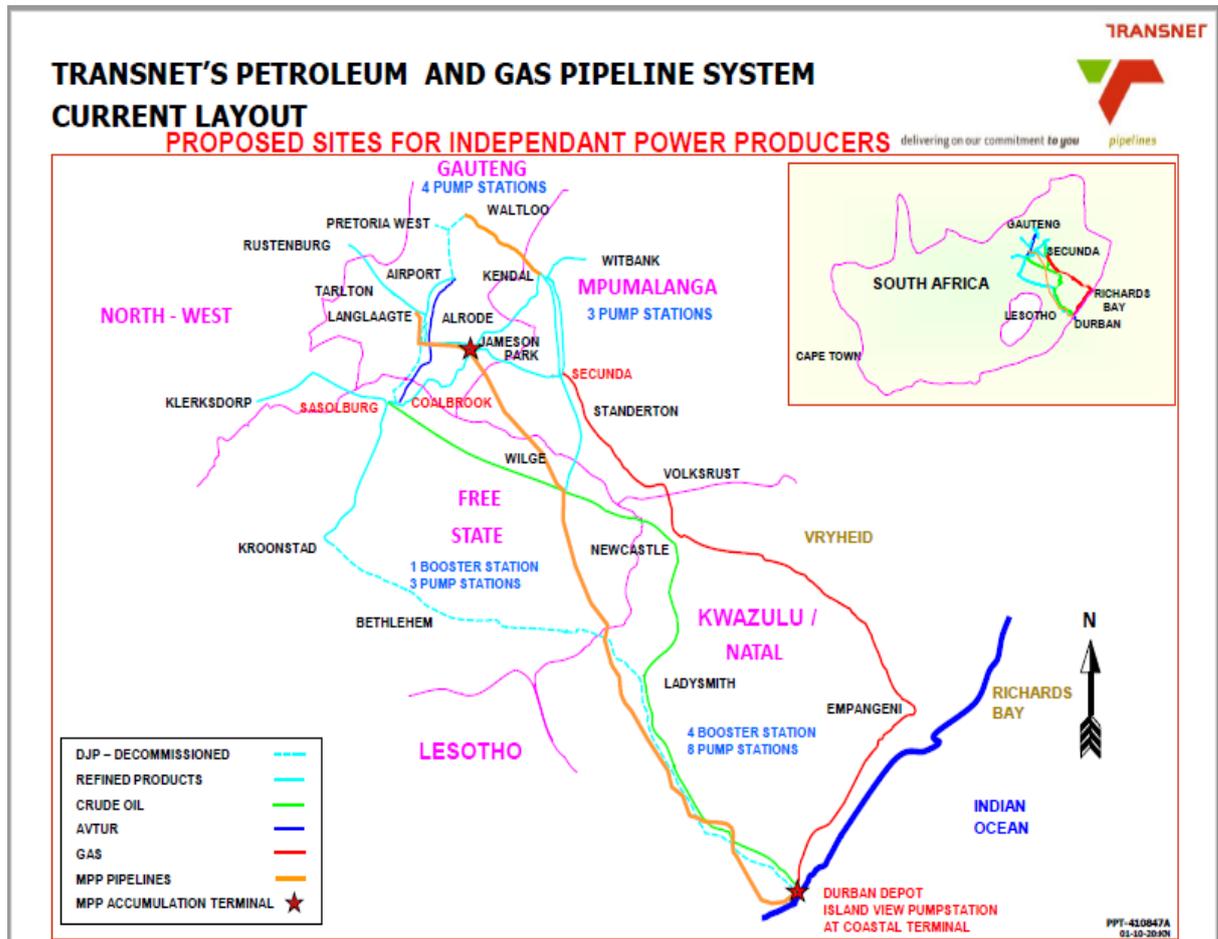


Fig1: Transnet pipeline's existing network

PUMP STATION	PRODUCT PUMPED	AREA	LOCAL MUNICIPALITY & SUPPLY VOLTAGE	NMD (kVA)	AVERAGE MAX DEMAND (kVA)	AVERAGE CONSUMPTION (kW)
Fynnlands PS	COP	Durban	eThekwini, 11kV supply	3646	2923	1 265 064
Hillcrest PS	COP	Hillcrest	eThekwini, 11kV supply	3060	2493	1 133 520
Mngeni BS	COP	Westmead	eThekwini, 11kV supply	N/A	N/A	400 000
Island View PS	Refined	Durban	eThekwini, 11kV supply	8000	1518	535 200
Twini PS	Refined	Umbongintwini	eThekwini, 11kV supply	4485	3684	1 275 768
Hilltop PS	Refined	Pietermaritzburg	Msunduzi 132kV supply	7500	2598,4	1 058 310
Ladysmith PS	COP	Ladysmith	Alfred Duma 11kV supply	3841	2884	1 142 000
Newcastle PS	COP	Newcastle	Newcastle 11kV supply	2399	2238,67	1 080 000
Alrode PS	Refined & Avtur	Alberton	EkuRhuleni 6,6kV supply	N/A	2 178,50	439 582
Witbank PS	Refined	Witbank	EMalahleni 6,6kV supply	N/A	N/A	7 200

Fig: 2 TPL site that are supplied by Local Municipalities

PUMP STATION	PRODUCT PUMPED	AREA	ESKOM SUPPLY	NMD (kVA)	AVERAGE MAX DEMAND (kVA)	AVERAGE CONSUMPTION
Duzi BS	COP	Pietermaritzburg	11kV supply	1500	1169,2	334 464,8
Mooi River PS	COP	Mooi River	11kV supply	1500	1169,31	228 227,86
Fort Mistake PS	COP	Fort Mistake	22kV supply	1500	1119,36	303 537,06
Howick PS	COP	Howick	88kV supply	3013	2828	1 058 931,14
Mnambithi PS	Refined	Ladysmith near N3	132kV supply	7000	2954,63	1 223 992,80
Quagga PS	COP	Volk rust	88kV supply	2800	2781,33	965 504,43
Wilge BS	COP	Frankfort	22kV supply	1900	1408,28	226 006,32
Meyerton PS	AVTUR	Meyerton	11kV supply	800	525,72	214 626,68
Coalbrook PS	Refined COP Avtur	Sasolburg	88kV supply	2250	1324,76	293 135,04
Sasolburg PS	Refined & AVTUR	Sasolburg	11Kv supply	15 000	4 049,49	241 242,56
Tarlton PS	REFINED	Krugersdorp	11kV supply	1500	384,55	63 846,01
Secunda PS	GAS & Refined	Secunda	11kV supply	2000	2618	507 796,50
Kendal PS	Refined	Kendal	11kV	200	24,02	12 112,00
Jameson Park PS	Refined	Heidelberg	88kV supply	15 000	4 049,49	1 129 893,35

Fig:3 TPL sites with Eskom supply

5. RENEWABLE ENERGY REQUIREMENTS

5.1 The proposed Renewable energy must meet the requirements below:

Responses to this request should include the following information:

- Method statement
- Project Implementation plan with timelines
- Additional required information that is not covered

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6. TECHNICAL REQUIREMENTS

- 6.1 TPL RFI for renewable energy supply seeks to establish the potential for the private sector to provide “green energy” to all pumpstations, either by direct supply at the intake points or through the municipal or Eskom networks by the way of wheeling arrangements.
- 6.2 The RFI is open to explore all renewable energy technologies.
- 6.3 The objective of this RFI is to procure total of 16 MWh of renewable energy power generation capacity that can be implemented cumulatively across Transnet Pipelines pumpstation, refer to table 1 & 2 and 3.
- 6.4 TPL is enquiring for a renewable energy IPP company that will supply electricity to TPL at a low cost as opposed to current utility supplies to all sites listed.
- 6.5 Bidders must show the reduction in the current existing TPL NMD and their cost per kWh including wheeling rate.
- 6.6 The Company IPP renewable energy supply must show how will their power supply be integrated to the TPL power supply.
- 6.7 Bidders must show how their meters will be integrated to the TPL main electricity supply to charge TPL and the utilities if their excess energy feeds back to the grid.
- 6.8 Bidders must show how they will meet the current TPL consumption in all seasons, if not at what percentages they will be achieving of the TPL consumption in all seasons.

7. REFERENCE DOCUMENTATION

7.1 STANDARDS AND SPECIFICATIONS

7.1.1 Where Government, Local authorities and other statutory body's regulations, laws and requirements are more stringent than those specified hereunder, the aforementioned regulations, laws and requirements shall take precedence.

7.1.2 Where no specific rules, regulations, codes or requirements are contained in this specification nor covered by the below mentioned codes, the respondent shall, in consultation with TPL, adhere to internationally accepted engineering practices or original manufacturers specification.

For the purpose of understanding these Standards, the following abbreviations apply.

- SANS - South African National Standards
- SABS - South African Bureau of Standards
- BS - British Standards
- IEC - International Electrotechnical Commission
- IEEE - Institute of Electrical and Electronics Engineers
- NRS - National Regulatory Standards

General:

TITLE	SABS	IEC	BS	OTHER
Grid interconnection for embedded generation: Small-scale embedded generation (Utility interface)				NRS 097-2-1
Grid connection code for renewable power plants (PPR's) connected to the electricity transmission system (TS) or the distribution system (DS) in South Africa				NERSA

TITLE	SABS	IEC	BS	OTHER
Grid interconnection for embedded generation: Small-scale embedded generation (Simplified utility connection criteria for low - voltage connected generators)				NRS 097-2-3:
Quality of supply part 4: Application guidelines for utilities				NRS 048-4
Quality of supply part 2: Voltage characteristics, compatibility levels, limits and assessment methods				NRS 048-2
IEEE Standard for interconnecting distributed resources with electric power systems				IEEE 1547
Crystalline silicon terrestrial photovoltaic (PV) modules – Design qualification and type approval		IEC 61215		
Conditions of Contract				NEC

8. DOCUMENTATION AND DRAWING REQUIREMENTS

- 8.1 Company profile and experience of similar projects.
- 8.2 Information to be included Company Profile:

- Brief projects description
- Values of the respective projects
- Planned completion period and actual completion period.

9. COSTING

- 9.1 Bidders to note that the request for quote is for budget purposes only and that no business will be awarded against this invitation.
- 9.2 Bidders must submit detail technical specification and Bill of Material for each solution proposed.

10. SIGNATURES

	Name	Title	Signature	Date
Compiled by	Nozibele Juqu	Energy Manager		20/07/23
Approved by	Shanil Rugbeer	Principal Engineer (Electrical)		11/08/2023