



RFQ NUMBER
CENTRAL/JHB/45/2009

DESCRIPTION

SUPPLY, DELIVERY AND INSTALLATION OF THREE PHASE 88Kv ISOLATORS WITH SWITCHES TO VARIOUS SUBSTATIONS FOR DEPOT ENGINEER ISANDO.

ISSUE DATE : 11 AUGUST 2009

CLOSING DATE: 08 SEPTEMBER 2009 (10H00)

OPTION DATE : 03 DECEMBER 2009

A **DUAL COMPULSORY** information session will be held on the 19th and 20th August 2009 at the following:

Venue: 1 ANVIL ROAD

TRANSNET BUILDING

ISANDO

Time: 09H00 till late

CONTACT PERSON: TEBOGO MOOKETSI TEL: 083 305 5966

(TENDER BOX) ALLOCATED AT THE CHAIRPERSON TRANSNET FREIGHT RAIL, ACQUISITION COUNCIL, GROUND FLOOR, INYANDA HOUSE 1, 21 WELLINGTON ROAD PARKTOWN, JOHANNESBURG.



REQUISITION FOR QUOTATION

MESSRS:

ADDRESS :

.....

.....

Tel (011)
Fax (011)

SUPPLY CHAIN SERVICES

Contact: Winston Baloyi
TEL: (011) 584 0606
FAX: (011)

ISSUE DATE : 11-08-2009
CLOSING DATE : 08-09-2009 (10h00)

Prices in South African currency, including all costs.			
Direct delivered price to the destination.			
ITEM NO:	DESCRIPTION (Project specification on page 8)	QTY	Price Per Each
1.	88kV AC, three phase outdoor power isolator type with associated fittings (Spec. on page 14)	7	R
2.	44kV AC,three phase outdoor power isolator type with associated fittings (Spec. on page 14)	3	R
3.	Power isolator type, manually operated earthing blades, auxiliary contacts interlock	10	R
4.	Supporting lattice type structure	10	R
5.	Work to be done at feeder Bay:		
5.1	Remove jumpers	30	R
5.2	Remove existing holders	30	R
5.3	Remove existing structure, cables and foundation	10	R
5.4	Supply and fit chemical anchors	80	R
5.5	Erect steel structures	10	R
5.6	Erect isolators and earth switches	10	
5.7	Reconnect droppers	80	R
5.8	Reconnect electric cable from isolator to panel	10	R
6	Other expenses		
6.1.	Hydraulic machinery	10	R
6.2.	Transport	5000km	R
6.2.1	Losberg (indicate area preferred)	1	
6.2.2	Kookrus (indicate area preferred)	1	
6.2.3	Sasolburg (indicate area preferred)	1	
6.2.4	Kliprivier (indicate area preferred)	1	
6.2.5	Roadbend (indicate area preferred)	1	
6.2.6	Welgedacht (indicate area preferred) 44kV AC	3	
6.2.7	Westonaria	1	
Note:	Project specification attached		

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7. Price must be V.A.T Exclusive



8. Contact : Tebogo Mooketsi at tel:011 570 7563 or 083 350 5966

SIGNATURE OF TENDERER: _____ Date: _____

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9. COMPULSORY DOCUMENTS

The following documents are compulsory, they must be attached to the tender document if **not** your tender will not be considered.

- a)Tax Clearance Certificate
- b)Supplier Declaration Form
- c)Current Vat Registration No.
- d)BBBEE Score Card

10. BUSINESS ADJUDICATION CRITERIA AND WEIGHTINGS:

10.1."ORDER WINNING CRITERIA"

10.1.1 COMMERCIAL:

- 10.1.1.1. Total price per substation including delivery and installation.

10.2."TECHNICAL"

- 10.2.1. Compliance to specification
- 10.2.2. Warranties
- 10.2.3. Delivery period
- 10.2.4. Qualifications of Engineers
- 10.2.5. References/Track record

10.3. "BBBEE"

- 10.3.1. Provide BBBEE Certificate

11. FRAUD HOTLINE

Transnet strives to be fair, equitable and just in all its dealings with tenderers. As such we encourage all tenderers to report any practice, activity or information that they are aware of or become aware of which may result in any perception of or actual fraud being committed against or in the name of Transnet. The hotline details are:-

Hotline telephone: 0800 003 056

Email: transnet@tip-offs.com

Fax: 0800 007 788

All information received will be treated with the utmost confidentiality

SIGNATURE OF TENDERER:_____Date:_____



DAY 2

13. TENDER SITE MEETING:

A **COMPULSORY** information sharing session will be held at the following venue:

Venue : 1 Anvil Road
 Transnet Building
 Isando

Time : 09h00 till late

Date : 20th August 2009

The site meeting is compulsory and companies not attending **will be overlooked** during the tender awarding process.

Contact: Winston Baloyi 011 584 0606

13.1. ATTENDANCE CERTIFICATE

This is to certify that.....

Representative/s of

Has/have today attended the Tender briefing in respect of the proposed:

.....

TRANSNET'S REPRESENTATIVE TENDERER'S REPRESENTATIVE

DATE :.....

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VERY IMPORTANT

ANY TENDERER NOT ATTENDING THE INFORMATION SHARING MEETING WILL AUTOMATICALLY BE EXCLUDED FROM THE TENDER AWARDING PROCESS

SIGNATURE OF TENDERER: _____ **Date:** _____

14. BROAD-BASED BLACK ECONOMIC EMPOWERMENT (“BBBEE”)

TRANSNET fully endorses and supports the South African Government’s Broad-Based Black Economic Empowerment Programme and it is strongly of the opinion that all business enterprises have an equal obligation to redress the imbalances of the past. TRANSNET would therefore prefer to do business with business enterprises who share these same values and who are prepared to contribute to meaningful BBBEE initiatives (including and not limited to enterprise development, subcontracting and Joint Ventures) as part of their tender response.

Transnet would accordingly allow a “preference” in accordance with the 10% preference system, as per the Preferential Procurement Policy Framework Act 5 of 2000 (as amended) to companies who provide a BBBEE accreditation Certificate. All procurement and disposal transactions in excess of R30000 will be evaluated accordingly. All transactions below R30000 will as far as possible be earmarked for EME’s.

TRANSNET consequently urges Respondents (Large enterprises and QSE’s – see below) to have themselves duly accredited by any one of the Accreditation Agencies approved by SANAS (South African National Accreditation System, under the auspices of the DTI).

In terms of Government Gazette No. 32094, Notice No. 354 dated 23 March 2009, as from 1 August 2009, only BBBEE accreditation Certificates issued by SANAS approved verification agencies will be valid.

However accreditation certificates issued before 23 March 2009 and which are still within their one (1) year validity period will still be acceptable, until their expiry date provided that the accreditation was done in accordance **with the latest codes (i.e. those promulgated on 9 February 2007).**

BBBEE Accreditation Certificates issued after the published date i.e. 23 March 2009, by a Verification Agency not approved by SANAS, will **NOT** be acceptable as from 23 March 2009.

14.1. Enterprises will be rated by such Accreditation Agencies based on the following:

- (a) **Large Enterprises (i.e. annual turnover >R35 million):**
 - Rating level based on all 7 (seven) elements of the BBBEE scorecard
 - Enterprises to provide BBBEE certificate and detailed scorecard (to be renewed annually)
- (b) **Qualifying Small Enterprises – QSE (i.e. annual turnover >R5 million but <R35 million):**
 - Rating based on any 4 (four) of the elements of the BBBEE scorecard
 - Enterprises to provide BBBEE certificate and detailed scorecard (to be renewed annually)
- (c) **Exempted Micro Enterprises – EME (i.e. annual turnover <R5m are exempted from being rated or verified):**
 - Automatic BBBEE Level 4 rating, irrespective of race ownership, i.e. 100% BBBEE recognition
 - Black ownership >50% or Black Women ownership >30% automatically qualify as Level 3 BBBEE rating, i.e. 110% BBBEE recognition
 - EME’s should provide documentary proof of annual turnover (i.e. audited financials) plus proof of Black ownership if Black ownership >50% or Black Women ownership >30% (to be renewed annually) from their Auditors / Accounting Officers

14.2. In addition to the above, Respondents who wish to enter into a Joint Venture (JV) or subcontract portions of the contract to BBBEE companies must state in their Tenders / Proposals the percentage of the total contract value which would be allocated to such BBBEE companies, should they be successful in being awarded any business. A rating certificate in respect of such BBBEE JV-partners and/or sub-contractors, as well as a breakdown of the distribution of the aforementioned percentage allocation must also be furnished with the tender response to enable Transnet to evaluate / adjudicate on all tenders received on a fair basis.

14.3..Each Respondent is required to furnish proof of its BBBEE status (Certificate and Detailed Scorecard) as stipulated above to TRANSNET.

Turnover: Indicate your company’s most recent annual turnover:

R.....



Turnover: Indicate your company's most recent annual turnover:

R.....

- If annual turnover <R5m, please attach auditors / accounting officers letter confirming annual turnover and percentage black ownership as well as Black Women ownership
- If annual turnover >R5m please attach BBBEE certificate and detailed scorecard from an accredited rating agency.

14.4 The DTI has created an online **B-BBEE Registry** (<http://www.dti.gov.za>) in order to provide a central and standardized source of the B-BBEE status of all entities, and to facilitate the flow of this information amongst entities by providing a Unique Profile Number (UPN) per each listing. Existing and prospective suppliers are therefore urged to list their B-BBEE status on the DTI Registry. Hence, entities verified by DTI, will receive the following benefits:

- Their BBBEE status will be verified and confirmed by the DTI, before listing on the Registry
- Listing on the Registry will provide suppliers the option to market themselves on the DTI B-BBEE Opportunities Network. This is a search engine that is designed to help businesses find B-BBEE compliant entities who match specific requirements in terms of the nature of services/goods provided, region, B-BBEE status or other search criteria.

Transnet supports this DTI initiative and will use the DTI Registry to verify prospective and existing suppliers' BBBEE credentials.

14.5. Kindly provide Transnet with your DTI B-BBEE UNIQUE PROFILE NUMBER with all tender submissions.

DTI BBBEE UNIQUE PROFILE NUMBER:

.....

14.6. Failure to submit your BBBEE information in terms of 14.3 and/or 14.5 (above) will result in a score of zero being allocated for BBBEE evaluation.

SIGNATURE OF TENDERER: _____ **Date:** _____

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Transnet Supplier Declaration/Application



The Financial Director or Company Secretary

Transnet Vendor Management has received a request to load your company on to the Transnet vendor database. Please furnish us with the following to enable us to process this request:

9. Complete the "Supplier Declaration Form" (SDF) on page 2 of this letter
10. Copy of cancelled cheque **OR** letter from the bank verifying banking details (**with bank stamp**)
11. **Certified** copy of Identity document of Shareholders/Directors/Members (where applicable)
12. **Certified** copy of certificate of incorporation, CM29 / CM9 (name change)
13. **Certified** copy of share Certificates of Shareholders, CK1 / CK2 (if CC)
14. A letter with the company's letterhead confirming physical and postal addresses
15. **Original** or **certified** copy of SARS Tax Clearance certificate and Vat registration certificate
16. A signed letter from the Auditor / Accountant confirming most recent annual turnover and percentage black ownership in the company **AND/OR** BBBEE certificate and detailed scorecard from an accredited rating agency (ABVA Member).

NB: - **Failure to submit the above documentation will delay the vendor creation process.**
 - Where applicable, the respective Transnet business unit processing your application may request further information from you. E.g. proof of an existence of a Service/Business contract between your business and the respective Transnet business unit etc.

IMPORTANT NOTES:

- g) **If your annual turnover is less than R5 million**, then in terms of the DTI codes, you are classified as an Exempted Micro Enterprise (EME). If your company is classified as an EME, please include in your submission, a signed letter from your Auditor / Accountant confirming your company's most recent annual turnover is less than R5 million and percentage of black ownership and black female ownership in the company **AND/OR** BBBEE certificate and detailed scorecard from an accredited rating agency (e.g. permanent ABVA Member), should you feel you will be able to attain a better BBBEE score.
- h) **If your annual turnover is between R5 million and R35million**, then in terms of the DTI codes, you are classified as a Qualifying Small Enterprise (QSE) and you claim a specific BBBEE level based on any 4 of the 7 elements of the BBBEE score-card, please include your BEE certificate in your submission as confirmation of your status.
NB: BBBEE certificate and detailed scorecard should be obtained from an accredited rating agency (e.g. permanent ABVA Member).
- i) **If your annual turnover is in excess of R35million**, then in terms of the DTI codes, you are classified as a Large Enterprise and you claim a specific BEE level based on all seven elements of the BBBEE generic score-card. Please include your BEE certificate in your submission as confirmation of your status.
NB: BBBEE certificate and detailed scorecard should be obtained from an accredited rating agency (permanent ABVA Member).
- j) **To avoid PAYE tax being automatically deducted from any invoices received from you**, you must also contact the Transnet person who lodged this request on your behalf, so as to be correctly classified in terms of Tax legislation.
- k) Unfortunately, **No payments can be made to a vendor** until the vendor has been registered, and no vendor can be registered until the vendor application form, together with its supporting documentation, has been received and processed.
- l) **Please return the completed Supplier Declaration Form (SDF) together with the required supporting documents mentioned above to the Transnet Official who is intending to procure your company's services/products in order that he/she should complete and Internal Transnet Departmental Questionnaire before referring the matter to the appropriate Transnet Vendor Master Office.**

Regards,

Transnet Vendor/Supplier Management *[please substitute this with your relevant Transnet department before sending this document out]*



Company Trading Name							
Company Registered Name							
Company Registration Number Or ID Number If A Sole Proprietor							
Form of entity	CC	Trust	Pty Ltd	Limited	Partnership	Sole Proprietor	
VAT number (if registered)							
Company Telephone Number							
Company Fax Number							
Company E-Mail Address							
Company Website Address							
Postal Address						Code	
Physical Address						Code	
Contact Person							
Designation							
Telephone							
Email							
Annual Turnover Range (Last Financial Year)		< R5 Million		R5-35 million		> R35 million	
Does Your Company Provide		Products		Services		Both	
Area Of Delivery		National		Provincial		Local	
Is Your Company A Public Or Private Entity				Public		Private	
Does Your Company Have A Tax Directive Or IRP30 Certificate				Yes		No	
Main Product Or Service Supplied (E.G.: Stationery/Consulting)							
BEE Ownership Details							
% Black Ownership		% Black women ownership		% Disabled person/s ownership			
Does your company have a BEE certificate		Yes		No			
What is your broad based BEE status (Level 1 to 8 / Unknown)							
How many personnel does the firm employ		Permanent		Part time			
Name of person procuring your services/products							
Contact number							
Transnet operating division							
Duly Authorised To Sign For And On Behalf Of Firm / Organisation							
Name				Designation			
Signature				Date			
Stamp And Signature Of Commissioner Of Oath							
Name				Date			
Signature				Telephone No.			

NB: Please return the completed Supplier Declaration Form (SDF) together with the required supporting documents mentioned above to the Transnet Official who is intending to procure your company's services/products.

Internal Transnet Departmental Questionnaire (for office use only)

NB: "Once-off vendor" will only be created for extraordinary circumstances, i.e. derailments and other emergency

situations. Note that only one (1) purchase order must be created against a "once-off vendor". Should the need arise to use a "once-off vendor" again, then an updated SDF together with the required documentation, is required for a "trade vendor" to be created



Section 1: To be completed by the Transnet Requesting / Sourcing Department													
Vendor Name						Vendor Number							
TFR		TRE		TPT		TPL		TNPA		TCP		TRN	
Create		Unblock		Amend		Extend		Once-Off / Emergency Request					
Supplier's trading name													
Supplier's registered name													
Please indicate if the Supplier has a contract with sourcing Transnet OD								Yes		No			
If yes please submit / furnish details of such a contract (together with the SDF)													

b) What is being procured from the supplier?			
vi. Products only	Yes		No
vii. Services only	Yes		No
viii. Labour only	Yes		No
ix. Mix of services and products	Yes		No
x. Mix of services and labour	Yes		No

d) If your answer is **YES** to questions II, III, IV or V in paragraph a) above, please indicate whether the relevant **PAYE questionnaires** have been forwarded to the appropriate **Transnet Operational Divisions'** decision making bodies / **Strategic Supply Management** team for a directive /decision on tax withholding from payments to this supplier.

Yes		No	
-----	--	----	--

e) If your reply to (b) is "NO", please furnish reasons :

d) Advise on the Detailed Procurement Process (DPP) / Procurement Mechanism that was followed (Please also take into consideration the revised P2P value/strategy as set out in the Weekly News Bulletin dated 6 October 2008 on the Intranet)

Name	Grade	Date								Signature
		Y	Y	Y	Y	M	M	D	D	

Section 2: To be completed by the BEE Department (this section is for Confirmation/Determining of BEE Status)										
NARROW BASED (NB)				BROADBASED (BBBEE)						
BEE O/S	BWBE	DPBE	MR	CONTB. LEVEL	EME: <R5m	QSE: >R5m <R35m	LARGE: >R35m	VALIDITY DATE		
Name	Grade	Date								Signature
		Y	Y	Y	Y	M	M	D	D	
		Y	Y	Y	Y	M	M	D	D	

Section 3: To be completed by Supplier Management										
I hereby approve		disapprove		this application						
Name	Grade	Date								Signature
		Y	Y	Y	Y	M	M	D	D	
Vendor Number	Date captured on SAP				Recon Account					



TRADING AS TRANSNET FREIGHT RAIL

TENDER NO: 1030 72862

PROJECT SPECIFICATION FOR

SUPPLY, DELIVER AND INSTALL OUTDOOR, THREE PHASE 88KV ISOLATOR,
COMBINED WITH EARTHING SWITCHES AT VARIOUS SUBSTATIONS FOR THE
DEPOT ENGINEER ISANDO

PRIEVIEW COPY ONLY

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PRIEVIEW COPY ONLY

1 Synopsis

1.1 This project specification covers Transnet Freight Rail's requirements for supply, deliver and installation of outdoor, three phases 88Kv & 44kV AC isolators combined with earthing switches at Sasolburg, Road-

bend, Westonaria(x2), Welgedagt(x3), losberg,kliprivier,kookrus substations for the depot engineer Isando.



2 Standards

2.1 Unless otherwise specified, all materials and equipments supplied shall comply with current editions of the relevant SABS, BS, IEC, or Transnet Freight Rail publications where applicable.

2 The following publications are referred to in this specification and must be adhered to:

2.2.1 Transnet Freight Rail Specifications

2.2.1.1 BBB7842; (*Outdoor, high voltage, alternating current disconnectors combined with earthing switches*)

2.2.1.2 CEE.0224: (*Drawings, Catalogues, Instruction manuals, Spares list for electrical equipment supplied under contract*)

2.2.1.3 CEE.0012.2002: (*Method of tendering*)

2.2.2 South African National Standards

2.2.2.1 SANS 62271-102: (*High voltage switchgear and control gear part 102: Alternating Current Disconnects and earthing switches*)

2.3 Any items offered in accordance with other standard will be considered at sole discretion of Transnet Freight Rail. The Contractor shall supply the details stating where the items differs from these specification as well as supply a copy (in English) of the recognized standard specification(s) with which it complies.

3 Work to be done by contractor

3.1 The Contractor shall supply and install:

- 3.1.1 88kv/44kV AC power isolator type with associated fittings
- 3.1.2 Power isolator type, manually operated earthing blades, auxiliary contacts (interlock)
- 3.1.3 Lattice type structure.

3.2 The contractor shall also work at one in-feed point as follows:

- 3.2.1 Remove jumpers
- 3.2.2 Remove existing holders
- 3.2.3 Remove existing structure and foundation with bolt group
- 3.2.4 Supply and fit chemical anchors
- 3.2.5 Erect steel structures
- 3.2.6 Erect isolators and earth switches with interlock
- 3.2.7 Reconnect droppers
- 3.2.8 Reconnect electric cable

3.3 Tendering Procedure

- 3.3.1 Tender shall comply with specification CEE.0012.2002.

- 3.3.2 The Contractor shall supply a site diary. This book shall be used to record any unusual events during the period of the work. Any delays to the work shall also be recorded such as delays caused by poor weather conditions, delays caused by permit being cancelled etc.
- 3.3.3 The appointed Technical Officer must countersign such delays. Other delays such as non-availability of equipments from suppliers must be communicated to the Project Manager in writing.

3.4 Commissioning of Equipment

- 3.4.1 Commissioning will only take place after all defects have been rectified to the satisfaction of the Technical Officer and Project Manager.
- 3.4.2 Commissioning will include the energizing of equipment from the primary isolator to the track feeder circuits. The Contractor must prove the satisfactory operation of all equipment under live conditions.
- 3.4.3 On completion of commissioning the Contractor will hand the equipment over to the Technical Officer in terms of the relevant instruction.
- 3.4.4 The commissioning of the protection equipment by Transnet Freight Rail will no way absolve the Contractor of his responsibility during the guarantee period. It is Contractor's responsibility to satisfy himself that the commissioning of the protection equipment has been carried out in a satisfactory manner and in no way compromises the proper operation of the equipment supplied in terms of the contract.

4. Work to be done by Transnet freight rail

- 4.1 Transnet Freight Rail will have an Electrician available for isolation of electrical equipment and issuing of work permits.
- 4.2 Transnet Freight Rail will assist the Contractor with any information he might need.
- 4.3 Transnet Freight Rail will have Electrician to erect barriers when and where applicable to safeguard the staff from entering restricted areas and accidental contact with live high voltage equipment.

5. Material to be supplied by Transnet freight rail

- 5.1 Nil

6. Material to be supplied by the contractor

- 6.1 The Contractor shall supply all materials and equipments for the work.

7. Safety

- 7.1 The Contractor shall comply with the requirements of safety legislation and regulations in all respect:
 - 7.1.1 Act, No. 85 of 1993, The Compensation for Occupational Injuries and Diseases.
 - 7.1.2 Act, No. 130 of 1993, The Occupational Health and Safety.
- 7.2 The Contractor will issue all workers employed by him relevant protection clothing applicable to the type of work being performed.
- 7.3 The contractor will employ a competent supervisor who will oversee the safe running and completion of the works and related activities.
- 7.4 The Contractor must see that all his workers are in a safe area i.e.
 - 7.4.1 Be alert at all times for trains
 - 7.4.2 Not climbing mast

7.4.3 Stay away from all live electrical wires



8. Inspection of the work

8.1. All work done by the Contractor will be inspected by Transnet Freight Rail’s Technical Officers for compliance with standards.

9. Guarantee and defects

9.1 The Contractor shall guarantee the satisfactory operation of the complete installation supplied by him and accept liability for maker’s defects, which may appear in design, materials and workmanship.

9.2 The guarantee period shall expire after a period of 12 month commencing on the date of completion of the Contract or the date the equipment is handed over to Transnet Freight Rail whichever is late.

9.3 Any specific type of fault occurring three time within the guarantee period and which cannot be proven to be due to other faulty equipment not forming part of this contract e.g. faulty locomotive or overhead track equipment etc. shall automatically be deemed an inherent defect. Such inherent defect shall be fully rectified to the satisfaction of the Technical Officer and at the cost of the Contractor.

9.4 If urgent repairs have to be carried out by Transnet Freight Rail staff to maintain supply during the guarantee period and the Contractor shall inspect such repairs to ensure that guarantee period is not affected and should they be covered by the guarantee, reimburse Transnet Freight Rail the cost of material and labour.

10. Duration of work

10.1 The completion date will be not later than **one month** from the commencing date of the contract on site.

11. Penalties

11. 1 Should the Contractor fails to complete the work by the date stipulated or such extended date(s) as may be allowed by Transnet Freight Rail, he shall pay to Transnet Freight Rail as penalties in terms of conventional penalties act 1996 as amended the prescribed amount for each date or part thereof during which the work remains incomplete.

---END---

BILL OF QUANTITIES TENDER NO. 1030 72862

SCHEDULE OF WORK AND PRICES				
DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1. Supply and install				Per each
1.1. 88Kv AC, three phase outdoor power isolator type with associated fittings	7	Each		
1.2. 44Kv AC, three phase outdoor power isolator type with associated fittings	3	Each		
1.3. Power isolator type, manually operated earthing blades, auxiliary contacts interlock	10	Each		
1.4. Supporting lattice type structure	10	Each		
2. Work to be done at feeder bays				
2.1. Remove jumpers	30	Each		
2.2. Remove existing holders	10	Each		
2.3. Remove existing structure, cables and foundation	10	Each		
2.4. Supply and fit chemical anchors	80	Each		
2.5. Erect steel structures	10	Each		
2.6. Erect isolators and earth switches	10	Each		
2.7. Reconnect droppers	80	Each		
2.8. Reconnect electric cable from isolator to panel	10	Each		
3. Other expenses				
3.1. Hydraulic machinery	10	Each		
3.2. Transport	5000	km		

TOTAL FOR SCHEDULE OF QUANTITIES	
ADD 14% VAT	
TOTAL FOR TENDER	

- NOTE:** 1. The quantities given are provisional and are included for the sole purpose of evaluating the amount. These quantities may be altered, if necessary, on the sole discretion of the Engineer.
2. The prices quoted will be valid for at least 90 days.

SIGNATURE OF TENDERER: _____ **Date:** _____



A division of Transnet limited

**ENGINEERING & TECHNOLOGY
TECHNOLOGY MANAGEMENT**

SPECIFICATION

**OUTDOOR, HIGH VOLTAGE, ALTERNATING CURRENT
DISCONNECTORS COMBINED WITH EARTHING
SWITCHES**

Author: Engineering Technician
Technology Management

D.O. Schulz

A handwritten signature in black ink, appearing to read "D. Schulz", written over a dotted line.

Approved: Senior Engineer
Technology Management

L.O. Borchard

A handwritten signature in black ink, appearing to read "L.O. Borchard", written over a dotted line.

Authorised: Principal Engineer
Technology Management

W.A. Coetzee

A handwritten signature in black ink, appearing to read "W.A. Coetzee", written over a dotted line.

Date: 18th Oct 2004

Circulation restricted to:

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BBB 7842 Version 1**1.0 SCOPE**

- 1.1 This specification covers Spoornet's requirements for the supply of outdoor, 3 phase, 50 hertz disconnectors combined with earthing switches for voltages above 1 000 V.
- 1.2 Equipment is required for installation at the end of overhead transmission lines to control the power supply to traction substations and step- down points and shall consist of a 3 pole disconnector to be connected to the line and provided with facilities to earth the "load" side of the circuit.

2.0 STANDARDS AND PUBLICATIONS

The following publications and documents (latest edition) are referred to herein.

2.1 SOUTH AFRICAN NATIONAL STANDARDS

- SANS 121 : Hot dip galvanized coatings for fabricated iron or steel article.
- SANS 60273 : Characteristics of indoor and outdoor post insulators for systems with nominal voltages greater than 1000 V.
- SANS 60815 : Guide for selection of insulators in respect of polluted conditions
- SANS 62271-102 : High voltage switchgear and controlgear part 102: Alternating Current disconnectors and earthing switches

2.3 SPOORNET SPECIFICATIONS

- CEE.0224 : Drawings, catalogues, instruction manuals, spares list for electrical equipment supplied under contract.

3.0 TENDERING PROCEDURE

- 3.1 Tenderers shall indicate clause by clause compliance with the specification. This shall take the form of a separate document listing all the specifications clause numbers indicating the individual statement of compliance or non-compliance.
- 3.2 A statement of non-compliance shall be motivated by the tenderer.
- 3.3 Tenderers shall complete annexure 2. "Technical data sheet."
- 3.4 Tenderers shall submit descriptive literature consisting of detailed technical specifications, general constructional details and principal dimensions, together with clear illustrations of the equipment offered.
- 3.5 Failure to comply with clauses 3.1, 3.2, 3.3 and 3.4 could preclude a tender from consideration.

4.0 ANNEXURES

The following annexures form an integral part of this specification and shall be read in conjunction with it.

- 4.1 Annexure 1 - "Schedule of Requirements"
This annexure details the specific requirements for this application.
- 4.2 Annexure 2 - "Technical Data Sheet"
This annexure calls for specific technical information to be furnished with tenders.
- 4.2.1 This annexure is used during adjudication of tenders to assess the equipment offered.
- 4.2.2 Equipment described in annexure 2 shall comply with, and be supplied in terms of this specification. No changes or substitutions will be allowed without the written consent of Spoornet.

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4.2.3 Acceptance of the equipment detailed in this annexure in no way relieves the tenderer of his obligation to fulfil his statement of compliance with the specification.

4.2.4 Tenderers are responsible for the accuracy of information submitted in this annexure.

5.0 SERVICE CONDITIONS

5.1 The equipment shall be designed and rated for continuous operation under the following conditions:

- Altitude : 0 to 1800m above sea level.
- Ambient temperature : -5 °C to +45 °C
- Relative humidity : 10% to 90%
- Lightning Conditions : 12 ground flashes per square kilometre per annum.
- Pollution : Heavily salt laden or polluted with smoke from industrial sources.

6.0 CLEARANCES

6.1 The following minimum safety clearances shall be maintained between any live conductor and earthed metal: -

Nominal phase to phase r.m.s system voltage	22kV	33kV	44kV	66kV	88kV	132kV
Highest phase to phase r.m.s voltage for equipment.	24kV	36kV	48kV	72kV	100kV	145kV
Safety clearance	320mm	430mm	540mm	770mm	1000mm	1450mm

7.0 DISCONNECTORS COMBINED WITH EARTHING SWITCHES

This section shall be read in conjunction with SANS 62271-102

7.1 The combined AC disconnector and earthing switches shall be designed, manufactured and tested in accordance with SANS 62271-102.

7.2 Disconnectors and earthing switches shall have been type tested to verify performance and safety. Proof of these tests in the form of type test certificates shall be included in the tender documents.

7.3 The disconnectors shall be provided with a means for earthing the "load" side of the circuit, either by means of a separate earthing switch interlocked with its operating mechanism or contacts so placed that when the disconnector is in the "open" position, the "load" side is earthed.

7.4 The disconnectors shall be of the air-break type with the blades operating in a horizontal plane.

7.5 The disconnectors shall be so mounted that the phase-to-phase clearance for both the "open and earthed" and "closed" positions, shall not be less than:

- 22kV - 355mm
- 33kV - 510mm
- 40kV - 610mm
- 66kV - 890mm
- 88kV - 1,14metres
- 132 kV - 1,7metres

7.6 The operation of the disconnector shall be manual. (Dependent or independent).

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- 7.7 The operating mechanism shall be constructed of anti-corrosive material to prevent sticking due to rust. All ferrous material shall be galvanised.
- 7.8 The operating handle shall be provided with suitable attachments to enable it to be locked in the up (closed) position and in the down (open and earthed) position by standard locks, supplied by Spoomet.
- 7.9 The operating assembly shall be fixed at a satisfactory operating height of approximately 1m from the bottom of the structure.
- 7.10 A mechanism shall be provided to mechanically interlock the operating handle with the associated primary circuit breaker to ensure that operation is only possible when the circuit breaker is in the "open" position.
It must, however, be possible to close the primary circuit breaker when the earthing switch is in the "earthed" position.
- 7.11 Electrical contacts shall be fitted to interlock the operating handle with the associated primary circuit breaker. In the event of accidental operation or movement of the operating handle the primary circuit breaker will be tripped before the main contacts of the AC disconnector starts opening.
- 7.12 A notice with the following inscription shall be mounted next to the operating mechanism:
"DO NOT OPERATE UNDER LOAD"
Refer to clause 11.4.2 of specification.
- 8.0 SUPPORT STRUCTURES**
- 8.1 The combined AC disconnector and earthing switches shall be rigidly mounted on robust, hot-dipped galvanised supporting steel structures or pedestals in accordance with SANS 121.
- 8.2 The supporting steel structures or pedestals shall provide a minimum clearance of 3,6 metres (up to 88 kV) or 4,1 metres (above 88 kV) from the lowest "live" high voltage connection to finished yard level. Outline drawings submitted with tenders must indicate the actual clearances proposed.
- 9.0 CONNECTIONS**
- 9.1 All high voltage connections must be of the solderless, concentric grip, or other approved solderless type, and must be of adequate cross-sectional area to suit both electrical and mechanical requirements. All connections to the disconnectors must be flexible so as not to affect smooth operation of the blade mechanism.
- 10.0 POST INSULATORS**
- This section shall be read in conjunction with SANS 60273.
- 10.1 All post insulators shall be designed, manufactured and tested in accordance with SANS 60273.
- 10.2 Unless otherwise stated in Annexure 1, creepage distances for heavy polluted atmospheres shall be in accordance SANS 60815 Clause 4.
- 11.0 NAMEPLATES AND LABELS**
- 11.1 All nameplates and labels shall be in English.
- 11.2 In addition to the data called for in SANS 62271-102 the nameplate of each device shall indicate the Spoomet contract number.
- 11.3 Labels other than interchangeable labels shall be fixed by screws or rivets.
- 11.4 All labels shall be made of composite sandwich type plastic material of the following colour combinations:
- 11.4.1 Identification labels: White lettering on Black background. Letters must be of sufficient size to be clearly legible from a distance of 3 m.

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- 11.4.2 Danger labels: White lettering on Red background. Letters must be of sufficient size to be clearly legible from a distance of 3 m.
- 11.5 The following is a list of approved labels referred to in the body of this specification.
 - On (1)
 - Off (0)
 - Open (Verb.)
 - Close (Verb.)
 - Closed
 - Open
 - Do not operate link under load.
 - Open and earthed.
- 12.0 DRAWINGS AND INSTRUCTIONS**
- 12.1 All drawings shall be in accordance with specification CEE-0224.
- 12.2 The successful tenderer shall supply the following drawings and/or instructions, all of which shall be included in the tender price and be to the satisfaction of Spoomet.
- 12.2.1 Before delivery to site three (3) sets of detailed operating and maintenance instructions, with illustrations where necessary. These instructions shall be supplied with the "as built" drawings.
- 12.3 Late submission of drawings and instructions shall incur delivery penalties on the full contract price.
- 13.0 INSPECTION**
- 13.1 Spoomet reserves the right by prior arrangement to inspect the equipment at any stage during manufacture.
- 14.0 TOOLS AND APPLIANCES**
- 14.1 One set of any special tools and appliances required for normal operation and maintenance shall be supplied. All fittings, including holding down bolts, etc. for the complete installation of the equipment offered shall be supplied.
- 15.0 SPARES**
- 15.1 Tenderers shall submit a separate quote for recommended spares for maintenance purposes.
- 15.2 A detailed description of each item including manufacturer's catalogue number and item number where applicable shall be furnished. Separate prices for each item shall be indicated.
- 15.3 The spare list shall be divided into two parts, one covering items used in a 12 month period and those likely to be used in a 10 year period.
- 15.4 Tenderers shall also state whether a complete range of spares is held in stock by their local representatives for subsequent purchase by Spoomet as and when required.
- 16.0 PACKING**
- 16.1 The equipment shall be packed in such a manner that it will be adequately protected during handling and transport.

END

SCHEDULE OF REQUIREMENTS

- 1.0 Required for
 - 2.0 Number of sets required
 - 3.0 System of supply kV, 50 Hz, 3 phase,.....neutral
- | | DISCONNECTOR | EARTHING SWITCH |
|---|--------------|-----------------|
| 4.0 Rated voltage: |kV | kV |
| 5.0 Rated frequency: | 50 Hz | 50 Hz |
| 6.0 Rated normal current: |A | . A |
| 7.0 Rated short time withstand current: |kA | kA |
- 8.0 Special requirements:
 -
 -
 -
 -
 -

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ANNEXURE 2

TECHNICAL DATA SHEET

(To be completed by tenderers and submitted as part of their tender)

1.0	Spoornet Tender number:		
		DISCONNECTOR	EARTHING SWITCH
2.0	Name of manufacturer.	.....	.....
3.0	Type number	.....	.....
4.0	Number of poles.	.....	.....
5.0	Indoor/Outdoor.	.....	.....
6.0	Rated voltage.	.....	.....
7.0	Rated insulation level.	.....	.....
7.1	Rated 1 minute power frequency withstand voltage.	.....	.....
7.2	Rated lightning impulse withstand voltage.	.....	.....
8.0	Rated frequency.	.....	.....
9.0	Rated normal current.	.....	.....
10.0	Rated short circuit making current.	.....	.....
11.0	Rated short time withstand current.	.....	.....
12.0	Mass of complete unit.	.....	.....
13.0	Minimum clearance in air:		
13.1	Between poles.	.....	.....
13.2	To earth.	.....	.....
13.3	For isolating distance.	.....	.....
14.0	Type of closing mechanism.
15.0	Height above ground of lowest HV connection.

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ANNEXURE 2

		DISCONNECTOR	EARTHING SWITCH
16.0	Length of insulator (taut string measurement)
17.0	Type test certificate	.....	.....
17.1	Testing authority	.....	.....
17.2	Test number	.....	.....
18.0	Insulators		
18.1	Type test certificate number
18.2	Testing authority

END

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