



RFQ / TENDER

Tender No: EFQ-11102

Vendor No: 11001386

BOARD LIST
BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT
2000

Purchaser : Nobahle Mjoli
Telephone : 011 584 0606
Fax Number:

Please quote reference:
K62/6000593101

Deliver to:
TFR Head Office
Supply Chain Services
2000 Johannesburg

Closing Date : 01.08.2013
Validity Date : 10.10.2013
RFQ No : 6000593101

DESIGN, SUPPLY AND DELIVER ISOLATOR ROCKING 11KV 400A 2349/I
(LINK SWITCHES) UNDER THE CONTROL OF DEPOT ENGINEER ISANDO.

THE RFQ DOCUMENTS ARE OBTAINABLE FROM THE OFFICE OF TRANSNET FREIGHT RAIL, TENDER ADVISE CENTRE, GROUND FLOOR, INYANDA HOUSE 1, WELLINGTON ROAD, PARKTOWN, DURING OFFICE HOURS 08:00 TO 15:00 AND NON-REFUNDABLE RFQ FEE OF R100.00 IS APPLICABLE PER RFQ. PAYMENT TO BE MADE TO TRANSNET FREIGHT RAIL, STANDARD BANK ACCOUNT NUMBER : 203158598, BRANCH CODE : 004805. RFQ CLOSING DATE: 01 AUGUST 2013.

THE DEPOSIT SLIP MUST REFLECT THE RFQ NUMBER AND THE COMPANY NAME.
RECEIPT TO BE PRESENTED AT COLLECTION OF THE RFQ DOCUMENT.

QUOTATIONS MAYBE FAXED TO : (011) 774-9219.

FOR ANY TECHNICAL ENQUIRIES WITH REGARD TO THIS RFQ YOU CAN CONTACT :MR
TSHEPO TAOLE (011) 570-7098/073 202 7127.

1.1 QUOTATION/S MUST BE SUBMITTED PUNCTUALLY AT 10:00 ON OR BEFORE CLOSING DATE AND LATE QUOTATIONS WILL NOT BE CONSIDERED.

1.2 IF POSTED:

21 WELLINGTON ROAD
INYANDA HOUSE 1
PARKTOWN
2193

1.3 ,IF DELIVERED BY HAND:

TRANSNET FREIGHT RAIL-SUPPLY CHAIN SERVICES
21 WELLINGTON ROAD
INYANDA HOUSE 1

DATE: SIGNATURE OF TENDERER(S):

CONTACT PERSON: TEL No:

RFQ / TENDER

Tender No: EFQ-11102 **Page**
Date : 22.07.2013 **2**

BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT

PARKTOWN

2. CONDITIONS:

2.2 ANY PURCHASE ORDER PLACED AS A RESULT OF YOUR QUOTATION WILL BE SUBJECT TO THE STANDARD TERMS AND CONDITIONS OF CONTRACT, FORM US7, (LATEST), GENERAL TENDER CONDITIONS, FORM CSS5 (LATEST) AND CONDITIONS MENTIONED HEREIN.

2.3 TENDERERS MAY OFFER AN EARLIER VALIDITY DATE, BUT THEIR QUOTATION MAY, IN THAT EVENT, BE DISREGARDED FOR THIS REASON.

2.4 TENDERERS ARE REQUIRED TO OFFER ONLY FIRM PRICES. PRICES SUBJECT TO REVIEW IN TERMS OF CLAUSE 32 OF FORM US7 WILL ONLY BE CONSIDERED SHOULD THE DELIVERY PERIOD REQUIRED EXCEED 6 MONTHS.

2.5 BEST DELIVERY TIME MUST BE OFFERED.

2.6 DISCOUNT (TRADE DISCOUNT) CASH DISCOUNT (CONDITONAL DISCOUNT) VALUE VALUE ADDED TAX (VAT) MUST BE SHOWN SEPARATELY.

2.7 TRANSNET RESERVES THE RIGHT TO NEGOTIATE PRICES AND COMMERCIAL ASPECTS AFTER THE CLOSING DATE OF THE QUOTATION.

"PREVIEW COPY ONLY"

DATE:

SIGNATURE OF TENDERER(S):

RFQ / TENDER

Tender No: EFQ-11102 **Page**
Date : 22.07.2013 **3**

BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT

2.8 DIRECT DELIVERY INTIMATES DELIVERY BEING EFFECTED INTO THE WAREHOUSE OR THE ACTUAL POINT OF SUPPLY AND SHOULD THEREFORE INCLUDE ANY TRANSPORTATION MODE DEEMED NECESSARY IN EXECUTING THIS METHOD OF DELIVERY BASIS IN ORDER TO MEET THE REQUIRED DELIVERY DATE.

3. EVALUATION CRITERIA

3.1. PRE-QUALIFICATION CRITERIA MANDATORY 60% THRESHOLD: COMPLIANCE TO SPECIFICATION, RISK/SAFETY PLAN, EXPERIENCE, EQUIPMENT AND LETTER OF GOOD STANDING. COMPANIES WHO DO NOT MEET THE THRESHOLD WILL NOT GO THROUGH THE SECOND PHASE. 3.2. COMPETITIVE PRICING.

TAX CLEARANCE CERTIFICATES:

The Regulations in terms of the Public Finance Management Act, 1999: Framework for Supply Chain Management as published in Government Gazette No. 25767 dated 5 December 2003, Clause 9 (1) (d), stipulates that the accounting officer or accounting authority of an institution to which these regulations apply must reject any bid from a supplier who fails to provide written proof from the South African Revenue that the supplier either has no outstanding tax obligations or has made arrangements to meet outstanding tax obligations.

Tenderers will be disqualified if a valid tax clearance certificate or written proof from the South African Revenue Service that supplier has made arrangements to meet outstanding tax obligations is not submitted with the tender.

COMPANY DETAILS:

NAME OF COMPANY: _____

CONTACT PERSON: _____

TEL. NO. _____ **FAX NO:** _____

REG. NO. _____

BROAD BASED BLACK ECONOMIC EMPOWERMENT (BBBEE)

Transnet fully endorses and supports the Government's Broad-based Black Economic Empowerment Programme and it is strongly of the opinion that all South African Business Enterprises have an equal obligation to redress the imbalances of the past.

Transnet will therefore prefer to do business with local business enterprises who share these same values. Transnet will endeavour to do business with local business enterprises that possess a BBBEE "recognition level" of at least a level 5. Transnet urges Tenderers (large enterprises and QSE's - see below) to have themselves accredited by any one of the various Accreditation Agencies available, who do their BBBEE ratings in accordance with the latest Codes (i.e. those promulgated on 9 February 2007) and whose names appear on the present ABVA (Association of BEE Verification Agencies) - "List of Full Members" as displayed on the ABVA website (www.abva.co.za).

Although no agencies have, as yet, been accredited by SANAS (SA National Accreditation System), Transnet will, in the interim, accept rating certificates of tenderers who have been verified by any of the listed agencies.

Enterprises will be rated by such agency based on the following:

1. Large Enterprises (i.e. annual turnover >R35million:

" Rating level based on all seven elements of the BBBEE scorecard.

2. Qualifying Small Enterprises - (QSE) (i.e. annual turnover >R5million but <R35million:

" Rating based on any four elements of the BBBEE scorecard.

NB:

3. Emerging Micro Enterprises - (EME) (i.e. annual turnover <R5m) are exempted from being rated/verified:

" Automatic rating of Level 4 BBBEE irrespective of race of ownership, i.e. 100% BBBEE recognition

" Black ownership >50% or Black Women ownership >30% automatically qualifies as Level 3 BBBEE, i.e. 110% BBBEE recognition

" EME's should provide certified documentary proof of annual turnover (i.e. audited financials) plus proof of Black ownership if Black ownership >50% or Black Women ownership >30% from the EME's Auditor/Accounting Officer.

DATE:

SIGNATURE OF TENDERER(S):

RFQ / TENDER

Tender No: EFQ-11102
Date : 22.07.2013

Page
4

BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT

4. In addition to the above, Tenderers who wish to enter into a Joint Venture or subcontract portions of the contract to BBBEE companies, must state in their tenders the percentage of the total contract value that will 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-contractor/s, as well as a breakdown of the distribution of the aforementioned percentage must also be furnished

In view of the high emphasis which Transnet places on Broad-based Black Economic Empowerment, Transnet will allow certain preference points for BBBEE in the evaluation of all responses. Depending upon the value of the ensuing business award (i.e. below or in excess of R2m), the 80/20 or 90/10 point preference systems will be utilized where BBBEE will count out of 20 or 10 respectively in the evaluation process.

EACH RESPONDENT IS REQUIRED TO FURNISH PROOF OF THE ABOVE TO TRANSNET. FAILURE TO DO SO WILL RESULT IN A SCORE OF ZERO BEING ALLOCATED FOR BBBEE.

Turnover: Kindly indicate your company's annual turnover for the past year R_____

- " If annual turnover <R5m, please attach certified confirmation from your Auditor/Accounting Officer
- " If annual turnover >R5m please attach original or certified copy of accreditation certificate and detailed scorecard by an ABVA accreditation agency (registered as a "Full Member")

PAYMENT TERMS

The following payment terms will apply as from 1 October 2008.

- " All suppliers will be paid 30 days from receipt of month end statement, i.e. payment term F055.

CONDITIONS:

This quotation is subject to the provisions of the Standard Terms and Conditions of Contract, Form US7, (Latest) and the General Tender Conditions, Form CSS5 (Latest) and any other standard or special conditions mentioned and/or embodied in the quotation request.

SCHEDULE OF REQUIREMENTS

PRICES TENDERED ARE TO BE "DIRECT" AND EXCLUDE VAT.

IN THIS REGARD THE TENDERER'S ATTENTION IS DIRECTED TO PARAGRAPH 16 OF FORM CSS5 (LATEST).

DATE:

SIGNATURE OF TENDERER(S):

RFQ / TENDER

Tender No: EFQ-11102 **Page**
Date : 22.07.2013 5

BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT

TRANSNET INSISTS ON HONESTY AND INTEGRITY BEYOND REPROACH AT ALL TIMES AND WILL NOT TOLERATE ANY FORM OF IMPROPER INFLUENCING, BRIBERY, CORRUPTION, FRAUD, OR ANY OTHER UNETHICAL CONDUCT ON THE PART OF BIDDERS/ TRANSNET EMPLOYEES. IF, IN THE OPINION OF TRANSNET'S CHIEF OPERATING OFFICER, A TENDERER / CONTRACTOR / SUPPLIER HAS OR HAS CAUSED TO BE PROMISED, OFFERED OR GIVEN TO ANY TRANSNET EMPLOYEE, ANY BRIBE, COMMISSION, GIFT, LOAN, ADVANTAGE OR OTHER COSIDERATION, TRANSNET SHALL BE ENTITLED TO REVOKE THE TENDER / CONTRACT BY FOLLOWING ITS INTERNAL POLICIES THAT GOVERN THE ECLUSION PROCESS. IN SUCH AN EVENT TRANSNET WILL BE ENTITLED TO PLACE ANY TENDERER / CONTRACTOR / SUPPLIER WHO HAS CONTRAVENED THE PROVISIONS OF TRANSNET'S BUSINESS ETHICS ON ITS LIST OF EXCLUDED TENDERERS. THIS LIST WILL ALSO BE DISTRIBUTED TO ALL OTHER STATE OWNED ENTERPRISES AND GOVERNMENT DEPARTMENTS.

TRANSNET INVITES ITS VALUED SUPPLIERS TO REPORT ANY ALLEGATIONS OF FRAUDCORRUPTION OR OTHER UNETHICAL ACTIVITIES TO TRANSNET TIP-OFFS ANONYMOUS,AT ANY OF THE FOLLOWING ADDRESSES / CONTACT NUMBERS:-

TOLL-FREE ANONYMOUS HOTLINE - 0800 003 056
EMAIL - Transnet@tip-offs.com
FAX NUMBER - 0800 007 788
FREEPOST DN 298, UMHLANGA ROCKS, 4320

CONFIDENTIALITY IS QUARANTEED

Item	Qty	Material	Description	R.....
00010	5	Supply of Isolator Rocking	11kV,400A 234	Each

Delivery Date: 25.03.2014

FULL DETAILS OF DESCRIPTION

Supply of Isolator Rocking 11kV,400A 2349/1 (Link Switches)

"PREVIEW COPY ONLY"

DATE: SIGNATURE OF TENDERER(S):

RFQ / TENDER

Tender No: EFQ-11102
Date : 22.07.2013

Page
6

BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT

3. ADDITIONAL INFORMATION REQUIRED: (WHERE APPLICABLE)

3.1 THE FOLLOWING ADDITIONAL INFORMATION IS REQUIRED:

- (A) DISCOUNT:
- (B) SETTLEMENT DISCOUNT:
- (C) PRICE/S FIRM:
- (D) PRICE/S FIRM UNTIL THEREAFTER SUBJECT TO REVIEW.
- (E) PRICE/S NOT FIRM:
- (F) SABS MARK:
- (G) SABS PERMIT NO:
- (H) BRAND/MAKE/TYPE:
- (I) FULL NAME AND ADDRESS OF MANUFACTURER:
- (J) FULL NAME AND ADDRESS OF INSPECTION POINT:
- (K) COUNTRY OF ORIGIN:

Comply : _____ Does not Comply : _____ Not applicable : _____

Justification :

(L) SURPLUS MATERIAL:

TENDERERS MUST INDICATE IF THEY WILL BE PREPARED TO PURCHASE BACK FROM TRANSNET ANY SURPLUS MATERIAL WHICH MAY BECOME AVAILABLE FROM ANY RESULTING PURCHASE ORDER/CONTRACT ORIGINATED FROM THE QUOTATION SUBMITTED:

(M) PAYMENT OVERSEAS:

ONLY IF TRANSNET LIMITED IS REQUESTED BY THE TENDERER TO EFFECT PAYMENT OVERSEAS DIRECT TO THE TENDERER'S PRINCIPAL/SUPPLIER THE FOLLOWING INFORMATION IS REQUIRED:

* EXCHANGE RATE ON WHICH THE QUOTATION PRICE IS BASED: R1,00 (S.A. CURRENCY) BEING EQUAL TO (FOREIGN CURRENCY)

* PERCENTAGE IN RELATION TO THE QUOTATION PRICE TO BE REMITTED OVERSEAS:

* NAME OF COUNTRY TO WHICH PAYMENT IS TO BE MADE:

* APPLICABLE DATE OF EXCHANGE RATE:

* BENEFICIARY'S NAME AND FULL ADDRESS:

DATE:

SIGNATURE OF TENDERER(S):

RFQ / TENDER

Tender No: EFQ-11102
Date : 22.07.2013

Page
7

BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT

.....
* BENEFICIARY'S BANKERS AND FULL ADDRESS:
.....
.....
.....

.....
* APPLICABLE ACCOUNT NUMBER:
.....

(N) DELIVERY DATE:

TENDERERS MUST FURNISH THEIR ACTUAL DELIVERY AND MANUFACTURING PERIOD HEREUNDER NOTWITHSTANDING THE DELIVERY DATES SPECIFIED BY TRANSNET.

THE FOLLOWING MUST ALSO BE FURNISHED IN REGARD TO THE ABOVE:

1. PERIOD REQUIRED TO OBTAIN RAW MATERIAL.(DAYS)
2. MANUFACTURING PERIOD.(DAYS)
3. PERIOD TO TRANSPORT MATERIAL TO DESTINATION.(DAYS)

MATERIAL NO.	1.(PERIOD)	2.(PERIOD)	3.(PERIOD)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

INDICATE THE PERCENTAGE (%) OF THE PRICE THAT IS SUBJECT TO THE VARIABLE COPPER FEE:%.

"PREVIEW COPY ONLY"

DATE:

SIGNATURE OF TENDERER(S):

**SPOORNET
(Infrastructure)(Electrical)**

Specification No. CEE.0200.93

<p>This issue cancels Specification no.: CEE.0200.87</p>
--

11 kV, OUTDOOR, THREE-POLE, AIR-BREAK ISOLATING SWITCHES

**This Specification Covers the Supply of 11 kV Outdoor,
Three-Pole, Air-Break Isolating Switches**

"PREVIEW COPY ONLY"

1.0 SCOPE

This specification covers the supply of 11 kV outdoor, three-pole air-break isolating switches.

2.0 STANDARDS/SPECIFICATIONS

2.1 The following standards are referred to in this specification:

2.1.1 South African Bureau of Standards:

SABS 763 - Hot dip galvanising.

2.1.2 International Electrotechnical Commission:

IEC 129 - Alternating current disconnectors (isolators) and earthing switches.

IEC 168 - Test on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1000 V.

IEC 273 - Dimensions of indoor and outdoor post insulators and post insulator units for systems with nominal voltages greater than 1000 V.

2.1.3 Spoornet Infrastructure (Electrical) Specifications:

CEE.0089 - Drawings for electrical equipment supplied under electric light and power contracts.

CEE.0012 - Method of tendering.

3.0 METHOD OF TENDERING

Method of tendering shall be in accordance with Specification CEE.0012.

Complies/Does not comply

4.0 SERVICE CONDITIONS

4.1 The isolating switches shall be designed and rated for operation under the following conditions:

Altitude - 0 to 1800 m above sea level.

Ambient air temperature - Minus 5 degrees Celsius to plus 40 degrees Celsius.

Relative humidity - As high as 86 percent.

Lightning conditions - Severe.

High winds are experienced. In some areas smog and salt laden atmospheres are encountered. Sudden changes in temperature can occur and on occasions, snow and freezing conditions are experienced.

Complies/Does not comply

5.0 APPENDIX

5.1 The following appendix forms part of this specification:

5.1.1 Appendix No. 1: Technical Data Sheet

The "Technical Data Sheet" which calls for specific technical information to be furnished by tenderers.

Failure to complete the Technical Data Sheet may preclude a tender from consideration.

Complies/Does not comply

6.0 ADDITIONAL INFORMATION

Tenderers shall submit detailed descriptive information, literature and illustrations covering the

should not, however, exceed 825 mm.

- 8.16 The isolating switches shall be so designed and uniformly constructed to ensure that, when assembled into 3-pole units, the contacts of all 3 poles make and break simultaneously when operated.
- 8.17 The equipment shall be supplied complete with phase pole coupling shafts, levers, joints, unions, operating rods, operating handles and all equipment necessary for their operation, with the exception of the operating rod intermediate guides which will be provided by the purchaser to suit the type of structure on which they will be mounted.
- 8.18 The phase pole coupling shafts and levers shall be designed for positive location and fixing to avoid the possibility of their shifting once aligned and secured. They shall also be designed to permit the securing of the levers to the phase pole coupling shafts at any desired position along the shafts.
- 8.19 Operating rods shall be of pipe of adequate diameter and wall thickness, and 7 metres in length. All couplings and joints necessary shall be supplied. The connecting up of the operating rods to the operating handle mechanisms shall be by means which do not necessitate the cutting of screw threads at the ends of the operating rods when the rods are cut to length on site.
- 8.20 The operating handle mechanisms shall be of rugged design capable of standing up to robust treatment during repeated operations. Holes for fixing the mechanisms to mounting brackets shall be provided. Operation of the handles shall be up to "close" and down to "open" and substantial means shall be provided to enable the operating handles to be locked in the "closed" or "open" positions by means of a padlock to be supplied by Spoornet Infrastructure (Electrical).
- 8.21 All ferrous parts shall be hot dip galvanised in accordance with SABS 763. The mass of galvanised coating shall be determined in accordance with the non-destructive method under clause 6.3 of that specification.
- 8.22 All bearings shall be of non-corroding material and designed to prevent seizing. Provision for greasing shall be made or bearings shall be of the self-lubricating type.

9.0 TEST CERTIFICATES

Complies/Does not comply

- 9.1 Certified records of type tests carried out on the insulators and the isolating switches will be accepted as evidence of compliance with requirements. Full details of tests performed and copies of type test certificates shall be submitted with tenders.
- 9.2 All insulators used in the construction of the isolating switches shall have passed the prescribed routine tests.
- 9.3 The routine power-frequency voltage tests on manufacturer's premises shall be successfully performed on all isolating switches after complete assembly and before delivery.

10.0 SPARES

Complies/Does not comply

- 10.1 Tenderers shall submit a list of recommended spares, showing a separate price for each item.
- 10.2 Tenderers shall state whether the spares will be held ex-stock and be readily available for purchase by Spoornet Infrastructure (Electrical) as and when required.

11.0 INSPECTION

Complies/Does not comply

Spoornet Infrastructure (Electrical) reserves the right to inspect the equipment at any stage during manufacture and to be represented at any tests.

TECHNICAL DATA SHEET

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

11 kV, OUTDOOR, THREE-POLE, AIR-BREAK ISOLATING SWITCHES

- 1.0 Tenderer _____
- 2.0 Manufacturer's Name and Type No. _____
- 3.0 Rated voltage (3-phase) at 50 Hz _____ kV
- 4.0 Rated normal current _____ A
- 5.0 Rated breaking current _____ A
- 6.0 Rated short-time withstand current (1 second) _____ kA
- 7.0 Rated lightning impulse withstand voltage:
- (i) To earth and between poles _____ kV (peak)
- (ii) Across the isolating distance _____ kV (peak)
- 8.0 Rated 1 minute power frequency withstand voltage:
- (i) To earth and between poles _____ kV (rms)
- (ii) Across the isolating distance _____ kV (rms)
- 9.0 Type of contacts _____
- 10.0 Minimum clearance in air:
- (i) Between live parts and earth _____ mm
- (ii) Between poles _____ mm
- (iii) For isolating distance _____ mm
- 11.0 Recommended spacing between pole centres _____ mm
- 12.0 Insulator details:
- (i) Manufacturer's Name and Type No. _____
- (ii) Creepage distance _____ mm
- (iii) Rated power frequency withstand voltage _____ kV (rms)
- (iv) Rated lightning impulse withstand voltage _____ kV (peak)
- 13.0 Test Data: Tenderers shall include with their offers full details and certificates of type tests carried out on equipment offered as well as full details of routine tests which will be carried out on the equipment. See clause 9.0 of the specification.
- 14.0 Tenderers shall advise the axial force in Newton required on the operating rod to open and close the isolators and the distance travelled in millimetres for opening and closing;
- _____ Newton _____ mm.

END

TENDERER'S SIGNATURE DATE

CHIEF ENGINEER (ELECTRICAL) (INFRASTRUCTURE)

**SPOORNET
(Infrastructure)(Electrical)**

Specification No. CEE.0200.93

<p>This issue cancels Specification no.: CEE.0200.87</p>
--

11 kV, OUTDOOR, THREE-POLE, AIR-BREAK ISOLATING SWITCHES

**This Specification Covers the Supply of 11 kV Outdoor,
Three-Pole, Air-Break Isolating Switches**

"PREVIEW COPY ONLY"

INDEX

SECTION	CONTENTS	PAGE NO
1.0	SCOPE	3
2.0	STANDARDS/SPECIFICATIONS	3
3.0	METHOD OF TENDERING	3
4.0	SERVICE CONDITIONS	3
5.0	APPENDIX	3
6.0	ADDITIONAL INFORMATION	4
7.0	INSTRUCTIONS AND DRAWINGS	4
8.0	CONSTRUCTION AND PERFORMANCE	4
9.0	TEST CERTIFICATES	6
10.0	SPARES	6
11.0	INSPECTION	6
12.0	PACKING	7

"PREVIEW COPY ONLY"

1.0 SCOPE

This specification covers the supply of 11 kV outdoor, three-pole air-break isolating switches.

2.0 STANDARDS/SPECIFICATIONS

2.1 The following standards are referred to in this specification:

2.1.1 South African Bureau of Standards:

SABS 763 - Hot dip galvanising.

2.1.2 International Electrotechnical Commission:

IEC 129 - Alternating current disconnectors (isolators) and earthing switches.

IEC 168 - Test on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1000 V.

IEC 273 - Dimensions of indoor and outdoor post insulators and post insulator units for systems with nominal voltages greater than 1000 V.

2.1.3 Spoornet Infrastructure (Electrical) Specifications:

CEE.0089 - Drawings for electrical equipment supplied under electric light and power contracts.

CEE.0012 - Method of tendering.

3.0 METHOD OF TENDERING

Method of tendering shall be in accordance with Specification CEE.0012.

Complies/Does not comply

4.0 SERVICE CONDITIONS

4.1 The isolating switches shall be designed and rated for operation under the following conditions:

Altitude - 0 to 1800 m above sea level.

Ambient air temperature - Minus 5 degrees Celsius to plus 40 degrees Celsius.

Relative humidity - As high as 86 percent.

Lightning conditions - Severe.

High winds are experienced. In some areas smog and salt laden atmospheres are encountered. Sudden changes in temperature can occur and on occasions, snow and freezing conditions are experienced.

Complies/Does not comply

5.0 APPENDIX

5.1 The following appendix forms part of this specification:

5.1.1 Appendix No. 1: Technical Data Sheet

The "Technical Data Sheet" which calls for specific technical information to be furnished by tenderers.

Failure to complete the Technical Data Sheet may preclude a tender from consideration.

Complies/Does not comply

6.0 ADDITIONAL INFORMATION

Tenderers shall submit detailed descriptive information, literature and illustrations covering the

equipment offered, including drawings showing details of design and construction, principal dimensions and clearance to earth and between poles under all conditions of travel of the operating parts.

Complies/Does not comply

7.0 INSTRUCTIONS AND DRAWINGS

Complies/Does not comply

- 7.1 The successful tenderer shall submit to the Spornet Infrastructure (Electrical) Chief Electrical Engineer, 3 prints of drawings showing details of construction including dimensions and clearances, as well as 2 sets of detailed instructions covering the assembly, mounting, alignment, operation and maintenance of the equipment.
- 7.2 Drawings shall be in accordance with Specification No. CEE.0089.
- 7.3 The above drawings and instructions shall be supplied within 4 weeks of receipt of the order.

8.0 CONSTRUCTION AND PERFORMANCE

Complies/Does not comply

- 8.1 The isolating switches shall comply with the requirements of IEC 129.
- 8.2 They shall be of the outdoor, ganged, 3-pole, air-break type, suitable for vertical mounting on electric traction masts as well as wood, concrete and steel transmission poles. They shall be designed for motorized operation and independent manual operation by persons standing on the ground.
- 8.3 They shall be of the 3 insulator per pole, rocking type or, alternatively, of the 3 insulator per pole, pivoted blade type having two fixed terminal post insulators and a coupling insulator between the isolator blade and the operating lever on the phase coupling shaft.
- 8.4 The isolating switches shall be rated for operation on a 3 phase, 11 kV, 50 Hz system with solidly earthed neutral.
- 8.5 They shall be of the load-break type and shall be fitted with arcing horns.
- 8.6 The continuous current rating shall be not less than 100 amps.
- 8.7 The minimum 1 second short-time withstand current rating shall be 8, 0 kA rms.
- 8.8 The isolating switches shall have a rated lightning impulse withstand voltage level of 95 kV (peak) to earth and between poles and a rated 1 minute power frequency withstand voltage level of 28 kV (rms) to earth and between poles.
- 8.9 The isolating switches shall be of rugged design and construction to ensure trouble free service and long life.
- 8.10 The insulators shall comply with the requirements of IEC 168 and IEC 273.
- 8.11 The main contacts shall be liberally designed to ensure good contact under all conditions, unaffected by vibration or fault currents. They shall be of the high pressure, self-cleaning type and be manufactured from nickel-plated, hard-drawn, high-conductivity copper.
- 8.12 Adequately rated, insulated, flexible copper shunts shall be provided across all pivoted joints in the current carrying circuit.
- 8.13 Substantial incoming and outgoing terminals with universal clamps suitable for conductors of up to 13 mm in diameter shall be provided.
- 8.14 The bases for each pole of the isolating switches shall be of strong and rigid design and provided with fixing holes to enable the equipment to be assembled into 3-pole units.
- 8.15 Tenderers shall indicate the minimum distance permissible between centres of adjacent poles when assembled into 3-pole units, for the voltage and current duty specified. This distance

should not, however, exceed 825 mm.

- 8.16 The isolating switches shall be so designed and uniformly constructed to ensure that, when assembled into 3-pole units, the contacts of all 3 poles make and break simultaneously when operated.
- 8.17 The equipment shall be supplied complete with phase pole coupling shafts, levers, joints, unions, operating rods, operating handles and all equipment necessary for their operation, with the exception of the operating rod intermediate guides which will be provided by the purchaser to suit the type of structure on which they will be mounted.
- 8.18 The phase pole coupling shafts and levers shall be designed for positive location and fixing to avoid the possibility of their shifting once aligned and secured. They shall also be designed to permit the securing of the levers to the phase pole coupling shafts at any desired position along the shafts.
- 8.19 Operating rods shall be of pipe of adequate diameter and wall thickness, and 7 metres in length. All couplings and joints necessary shall be supplied. The connecting up of the operating rods to the operating handle mechanisms shall be by means which do not necessitate the cutting of screw threads at the ends of the operating rods when the rods are cut to length on site.
- 8.20 The operating handle mechanisms shall be of rugged design capable of standing up to robust treatment during repeated operations. Holes for fixing the mechanisms to mounting brackets shall be provided. Operation of the handles shall be up to "close" and down to "open" and substantial means shall be provided to enable the operating handles to be locked in the "closed" or "open" positions by means of a padlock to be supplied by Spornet Infrastructure (Electrical).
- 8.21 All ferrous parts shall be hot dip galvanised in accordance with SABS 763. The mass of galvanised coating shall be determined in accordance with the non-destructive method under clause 6.3 of that specification.
- 8.22 All bearings shall be of non-corroding material and designed to prevent seizing. Provision for greasing shall be made or bearings shall be of the self-lubricating type.

9.0 TEST CERTIFICATES

Complies/Does not comply

- 9.1 Certified records of type tests carried out on the insulators and the isolating switches will be accepted as evidence of compliance with requirements. Full details of tests performed and copies of type test certificates shall be submitted with tenders.
- 9.2 All insulators used in the construction of the isolating switches shall have passed the prescribed routine tests.
- 9.3 The routine power-frequency voltage tests on manufacturer's premises shall be successfully performed on all isolating switches after complete assembly and before delivery.

10.0 SPARES

Complies/Does not comply

- 10.1 Tenderers shall submit a list of recommended spares, showing a separate price for each item.
- 10.2 Tenderers shall state whether the spares will be held ex-stock and be readily available for purchase by Spornet Infrastructure (Electrical) as and when required.

11.0 INSPECTION

Complies/Does not comply

Spornet Infrastructure (Electrical) reserves the right to inspect the equipment at any stage during manufacture and to be represented at any tests.

12.0 PACKING

Complies/Does not comply

The equipment shall be adequately packed to prevent it from being damaged during handling and transport.

END

TENDERER'S SIGNATURE DATE

CHIEF ENGINEER (ELECTRICAL) (INFRASTRUCTURE)

"PREVIEW COPY ONLY"

TECHNICAL DATA SHEET

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

11 kV, OUTDOOR, THREE-POLE, AIR-BREAK ISOLATING SWITCHES

- 1.0 Tenderer _____
- 2.0 Manufacturer's Name and Type No. _____
- 3.0 Rated voltage (3-phase) at 50 Hz _____ kV
- 4.0 Rated normal current _____ A
- 5.0 Rated breaking current _____ A
- 6.0 Rated short-time withstand current (1 second) _____ kA
- 7.0 Rated lightning impulse withstand voltage:
- (i) To earth and between poles _____ kV (peak)
- (ii) Across the isolating distance _____ kV (peak)
- 8.0 Rated 1 minute power frequency withstand voltage:
- (i) To earth and between poles _____ kV (rms)
- (ii) Across the isolating distance _____ kV (rms)
- 9.0 Type of contacts _____
- 10.0 Minimum clearance in air:
- (i) Between live parts and earth _____ mm
- (ii) Between poles _____ mm
- (iii) For isolating distance _____ mm
- 11.0 Recommended spacing between pole centres _____ mm
- 12.0 Insulator details:
- (i) Manufacturer's Name and Type No. _____
- (ii) Creepage distance _____ mm
- (iii) Rated power frequency withstand voltage _____ kV (rms)
- (iv) Rated lightning impulse withstand voltage _____ kV (peak)
- 13.0 Test Data: Tenderers shall include with their offers full details and certificates of type tests carried out on equipment offered as well as full details of routine tests which will be carried out on the equipment. See clause 9.0 of the specification.
- 14.0 Tenderers shall advise the axial force in Newton required on the operating rod to open and close the isolators and the distance travelled in millimetres for opening and closing;
- _____ Newton _____ mm.

END

TENDERER'S SIGNATURE DATE

CHIEF ENGINEER (ELECTRICAL) (INFRASTRUCTURE)