



Transnet Freight Rail  
an Operating Division of  
TRANSNET LIMITED  
(Registration No. 1990/000900/06)

## REQUEST FOR QUOTE (RFQ)

RFQ NUMBER – CRAC- JHB 6743

**SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION  
SUBSTATION FOR A PERIOD OF THREE MONTHS**

ISSUE DATE : 14 OCTOBER 2010  
CLOSING DATE : 26 OCTOBER 2010  
CLOSING TIME : 10H00  
VALIDITY DATE : 14 DECEMBER 2010

Please note that late responses and those delivered or posted  
to the incorrect address will be disqualified.

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

Respondent's Signature

1

Date and Company Stamp



**CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION  
SUBSTATION FOR A PERIOD OF THREE MONTHS**

**SCHEDULE OF DOCUMENTS**

**Section**

- 1. Notice to Bidders**
- 2. Background, Overview and Scope of Requirements**
- 3. Specification**
- 4. Quotation Form**
- 5. Resolution of Board of Directors (Respondent's Representative)**
- 6. Certificate of Acquaintance with RFQ Documents**
- 7. General Tender Conditions (CSS5 – Services)**
- 8. Standard Terms and Conditions of Contract (US7 - Services)**
- 9. Non-Disclosure Agreement**
- 10. Supplier Code of Conduct**
- 11. Supplier Declaration Form**

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Respondent's Signature

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Date and Company Stamp



## SECTION 1

### CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION FOR A PERIOD OF THREE MONTHS

#### NOTICE TO BIDDERS

1. Quotations are requested from interested / selected persons, companies, close corporations or enterprises (hereinafter referred to as the "**Respondent(s)**") to supply the above-mentioned requirement to Transnet.

On or after 13 October 2010 the RFQ documents may be inspected at, and are obtainable from the office of Transnet Freight Rail, Tender Advice Centre, 21 Wellington Road, Ground Floor, Inyanda House 1, Parktown, Johannesburg.

**A non refundable tender fee of R100.00 (VAT inclusive) is applicable per tender (listed below) - Payment is to be made to Transnet Freight Rail, Standard Bank Account number 203158598, Branch code 004805. The deposit slip must reflect RFQ: HOAC-JHB-6743 and the Company Name.**

**Receipt/s to be presented prior to collection of the tender/s.**

Any additional information or clarification will be faxed or emailed to all potential Respondents, if necessary.

For specific queries before the closing of the RFQ, the following Transnet employee(s) may be contacted by email only:

Name : Beverley Ramaru 011 584 0611  
Division : Supply Chain Services  
Email : [Beverley.ramaru@transnet.net](mailto:Beverley.ramaru@transnet.net)

2. Quotations in duplicate must reach the Depot Engineer, before the closing hour on the date shown below, and must be enclosed in a sealed envelope which must have inscribed on the outside:

|   |   |
|---|---|
| RFQ No  | : CRAC-JHB 6743   |
| Description                                       | : Supply four positive Isolator switches for 3Kv DC Traction Substation |
| Closing date and time                             | : 26 October 2010 @ 10:00 am  |
| Closing address (refer options paragraph 4 below) |   |

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Respondent's Signature

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Date and Company Stamp



#### 4 DELIVERY INSTRUCTIONS FOR THIS RFQ

- 4.1 **If posted**, the envelope must be addressed to the Transnet Acquisition Council, and must be dispatched in time for sorting by the Post Office to reach the Secretary before the closing time of the RFQ. In the event of the late receipt of a Quotation, the Respondent's franking machine impression will not be accepted as proof that the response was posted in time.
- 4.2 **If delivered by hand**, the envelope is to be deposited in the TRANSNET tender box which is located at the Acquisition Counsel , and should be addressed as follows:

THE SECRETARY  
TRANSNET FREIGHT RAIL ACQUISITION COUNCIL  
GROUND FLOOR  
INYANDA HOUSE 1  
21 WELLINGTON ROAD  
PARKTOW

The measurements of the "tender slot" are 500mm wide x 100mm high, and Respondents must please ensure that response documents or files are not larger than the above dimensions. Responses which are too bulky (i.e. more than 100mm thick) must be split into two or more files, and placed in separate envelopes.

- 4.3 **If dispatched by courier**, the envelope must be addressed as follows and delivered to the 21 Wellington road Inyanda House no 1 Parktown and a signature obtained from that Office.

THE SECRETARY  
TRANSNET FREIGHT RAIL ACQUISITION COUNCIL  
GROUND FLOOR  
INYANDA HOUSE 1  
21 WELLINGTON ROAD  
PARKTOW

5. Please note that this RFQ closes punctually at **10:00 on 26 October 2010 (Tuesday)**.
6. If responses are not posted or delivered as stipulated herein, such responses will not be considered and will be treated as "UNRESPONSIVE."
7. NO EMAIL OR FACSIMILE RESPONSES WILL BE CONSIDERED.
8. The responses to this RFQ will be opened as soon as practicable after the expiry of the time advertised for receiving them.
9. Transnet shall not, at the opening of responses, disclose to any other company any confidential details pertaining to the Quotations / information received, i.e. pricing, delivery, etc. The names and location of the Respondents will, however, be divulged to other Respondents upon request.
10. Envelopes must not contain documents relating to any RFQ other than that shown on the envelope. All envelopes must reflect the return address of the Respondent on the reverse side.
11. No slips are to be attached to the response documents. Any additional conditions must be embodied in an accompanying letter. Subject only to clause 22 (*Alterations made by the Respondent to Tendered Prices*) of the General Tender Conditions, alterations, additions or deletions must not be made by the Respondent to the actual RFQ documents.

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Respondent's Signature

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Date and Company Stamp



## 12. **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 R 30,000 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. 32467, Notice No. 810 dated 31 July 2009, as from 1 February 2010 only BBBEE certificates issued by Accredited Verification Agencies of Verification Agencies that are in possession of a valid pre-assessment letter from South African National Accreditation System will be valid.**

**However accreditation certificates issued by non-accredited verification agencies before 01 February 2010 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. 01 February 2010, by a Verification Agency not approved by SANAS, will NOT be acceptable as from 01 February 2010.**

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

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.

**Each Respondent is required to furnish proof of its BBBEE status (Certificate and Detailed Scorecard) and ensure that the documentation is valid at the date of Tender Submission as stipulated above to TRANSNET.**

*Failure to submit your BBBEE Certificate and Detailed Scorecard will result in a score of zero being allocated for BBBEE evaluation.*

|  |
|--|
| <p><b>Turnover:</b> Indicate your company's most recent annual turnover:</p> <p>R.....</p> |
|--|

- 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.

**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.



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

|   |
|---|
| <b>DTI BBEE UNIQUE PROFILE NUMBER:</b><br>..... |
|---|

Failure to submit your BBEE information in terms of the above-mentioned clauses will result in a score of zero being allocated for BBEE evaluation.

**13 COMMUNICATION**

Respondents are warned that a response will be liable to disqualification should any attempt be made by a Respondent either directly or indirectly to canvass any officer(s) or employee of Transnet in respect of this RFQ between the closing date and the date of the award of the business.

A respondent may, however, BEFORE THE CLOSING DATE AND TIME, direct any enquiries relating to the RFQ to the Transnet employee as indicated in clause 2 above, and may also at any time after the closing date of the RFQ, communicate with the Depot Engineer, at telephone number \_\_\_\_\_ or fax no. \_\_\_\_\_ on any matter relating to its RFQ response.

**14 INSTRUCTIONS FOR COMPLETING THE RFQ**

- (i) Sign one set of documents (sign and date the bottom of each page). This set will serve as the legal and binding copy. A duplicate set of documents is required. This second set can be a copy of the original signed Quotation.
- (ii) Both sets of documents to be submitted to the address specified above.
- (iii) The following returnable documents must accompany all Quotations:
  - Respondent's valid Tax Clearance Certificate.

**15 COMPLIANCE**

The successful Respondent (hereinafter referred to as the "Supplier") shall be in full and complete compliance with any and all applicable State and Local Laws and Regulations.

**16 ADDITIONAL NOTES:**

- All returnable documents as indicated in the Quotation Form (Section 3) must be returned with the response
- Respondents are to note that Quotations in which firm prices are quoted for the duration of any resulting contract may receive precedence over prices which are subject to adjustment
- Changes by the Respondent to its submission will not be considered after the closing date
- The person or persons signing the Quotation must be legally authorised by the Respondent to do so (Refer Section 4). A list of those person(s) authorised to negotiate on your behalf (if not the authorised signatories) must also be submitted along with the Quotation together with their contact details.
- All prices must be quoted in South African Rands



- Transnet reserves the right to undertake post-tender negotiations with selected Respondents or any number of short-listed Respondents and may wish to visit the Respondent's place of manufacture (works) during this process.

**NB: Unless otherwise expressly stated, all Quotations furnished pursuant to this Request shall be deemed to be offers. Any exceptions to this statement must be clearly and specifically indicated. Transnet reserves the right to reject any or all offers.**

## 17 ISCLAIMERS

Respondents are hereby advised that Transnet is not committed to any course of action as a result of its issuance of this RFQ and/or its receipt of a Quotation in response to it. In particular, please note that Transnet reserves the right to:

- modify the RFQ's Services and request Respondents to re-bid on any changes
- reject any Quotation which does not conform to instructions and specifications which are detailed herein
- disqualify Quotations submitted after the stated submission deadline
- not necessarily accept the lowest priced Quotation
- reject all Quotations, if it so decides
- award a contract in connection with this Quotation at any time after the RFQ's closing date
- award only a portion of the proposed Services which are reflected in the scope of this RFQ
- split the award of the contract between more than one Supplier
- make no award of a contract

Kindly note that Transnet will not reimburse any Respondent for any preparatory costs or other work performed in connection with this Quotation, whether or not the Respondent is awarded a contract.

## 18 EGAL REVIEW

Any Quotation submitted by a Respondent is subject to review and negotiation of the proposed contract by Transnet's Legal Counsel.



Respondents to complete this section:

NAME OF RESPONDENT .....

PHYSICAL ADDRESS .....

Respondent's contact person:

Name.....

Designation.....

Telephone.....

Cell Phone.....

Facsimile.....

Email.....

Website.....

**Transnet urges its clients, suppliers and the general public to report any fraud or corruption on the part of Transnet's employees to TIP-OFFS ANONYMOUS : 0800 003 056**

"Preview Copy Only"

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
Date and Company Stamp

## SECTION 2

### **CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION FOR A PERIOD OF THREE MONTHS**

#### **SCOPE OF WORK:**

#### **SUPPLY TWO (2) POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION WITH FOUR INTERLOCKS EACH.**

1. The supplier must supply two positive isolator switches for 3kV DC substation with four interlocks (1 for the ac disconnects, 2 for the positive isolator and 1 for the rectifier barrier gate) each and deliver them to Krugersdorp depot.
2. All the requirements for the positive isolator switches to refer to specification **BBB4724** attached.

#### **SCOPE OF WORK:**

#### **SUPPLY FOUR (4) POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION WITH SIX INTERLOCKS EACH.**

3. The supplier must supply one positive isolator switches for 3kV DC substation with four interlocks (1 for the ac disconnects, 2 for the positive isolator, 2 for the earthing switch and 1 for the rectifier barrier gate) each and deliver them to Krugersdorp depot.
4. All the requirements for the positive isolator switches to refer to specification **BBB4724** attached.



**SECTION 3**

**CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION FOR A PERIOD OF THREE MONTHS**

**SPECIFICATION**

**TECHNOLOGY MANAGEMENT.**

**SPECIFICATION.**

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**REQUIREMENTS FOR POSITIVE ISOLATOR FOR 3 KV DC TRACTION SUBSTATIONS**

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|             |   |              |       |
|-------------|---|--------------|-------|
| Author:     | Chief Engineering Technician<br>Technology Management | D.O.Schulz   | ..... |
| Approved:   | Senior Engineer<br>Technology Management              | L.O.Borchard | ..... |
| Authorised: | Principal Engineer<br>Technology Management           | W.A.Coetzee  | ..... |

Date: 21<sup>st</sup> September 2009

Circulation Restricted To:

Transnet Freight Rail – Chief Engineer Infrastructure  
- Technology Management

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### **1.0 SCOPE.**

1.1 The specification covers Transnet freight rail requirements for the design, manufacture, testing and supply of a 3kV DC positive isolator for traction substations.

### **2.0 BACKGROUND.**

2.1 The positive isolator is an off-load isolating switch is installed between the 3kV DC reactor and the substation 3 kV DC positive busbar. The purpose of the positive isolator is to isolate and earth the 3kV DC output of the rectifier from the substation positive busbar that feeds via high-speed circuit breakers to the overhead track equipment.

2.2 The positive isolator switch combined with its earthing switch and control equipment is housed in a freestanding metal cubicle.

**3.0 STANDARDS, PUBLICATIONS AND DRAWINGS**

Unless otherwise specified all materials used and equipment developed and supplied shall comply with the current edition of the relevant SANS, NEMA and Transnet freight rail specifications which are referred to in this specification:

**3.1 SOUTH AFRICAN NATIONAL STANDARDS**

SANS 1091: National Colour Standard.

SANS 1274: Coatings applied by the powder-coating process.

**3.2 NATIONAL ELECTRICAL MANUFACTURING ASSOCIATION**

NEMA GPO-3: For GPO-3 insulating material

**3.3 TRANSNET FREIGHT RAIL**

|           |           |             |             |            |           |
|-----------|-----------|-------------|-------------|------------|-----------|
| CEE 0224: | Drawings, | Catalogues, | Instruction | manuals    | and       |
|           | spares    | lists       | for         | electrical | equipment |
|           | contract. |             |             | supplied   | under     |

BBB 3005: 3kV DC Undervoltage relay manufacturing specification.

Transnet Freight Rail “Electrical Safety Instructions”.

**4.0 TENDERING PROCEDURE.**

4.1 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.

4.2 A statement of non-compliance shall be motivated by the tenderer.

4.3 Tenderers shall submit descriptive literature consisting of detailed technical specifications, general constructional details and principal dimensions, together with clear illustrations of the equipment offered.

4.4 Failure to comply with clauses 4.1, 4.2, and 4.3 could preclude a tender from consideration.

**5.0 SERVICE CONDITIONS.**

**5.1 ATMOSPHERIC SERVICE 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.

## 5.2 ELECTRICAL SERVICE CONDITIONS

- 5.2.1 The nominal traction substation DC supply voltage is 3kV DC but can vary between 2,4kV and 3,9kV for sustained periods.
- 5.2.2 The positive isolator can be subjected to short circuit conditions up to 30kA for 200 milli seconds.

## 5.3 MECHANICAL SERVICE CONDITIONS

The 3kV DC traction substations are situated next to railway lines and the equipment will be subjected to vibration. The design must take appropriate counter measures to ensure reliability of equipment that is sensitive to vibration.

## 6.0 GENERAL DESIGN

- 6.1 The positive isolator comprises of an isolating and earthing switch complete with its operating mechanism. The equipment is housed in a metal cubicle with the required control circuitry for the 3kV DC Ampere and Voltage meters and the 3kV DC undervoltage relay protection (if required).
- 6.1.1 The isolating and earthing switch with its operating mechanism and shall be mounted on a metal frame.
- 6.1.2 The 3 kV DC voltmeter and DC ammeter and undervoltage relay (if specified) shall be fitted in the low voltage metering and calibration compartment and shall be totally isolated from the high voltage compartment.
- 6.2 The general design and layout of the positive isolator shall ensure that no access to the equipment is possible when the switch is in the closed position.

### ISOLATING SWITCH

- 6.3 The isolating switch shall be a medium voltage, manually operated off load switch rated at a minimum for 3kV DC and 3000 Amperes continuous.
- 6.4 The isolating switch shall be designed to carry the continuous rectifier output current without overheating when switched on load.
- 6.5 The isolating switch shall comprise of a moving arm finger contact that engages smoothly and solidly with a fixed contact.
- 6.6 The isolating switch moving arm finger contact and fixed contact shall be manufactured from copper or phosphor bronze.
- 6.7 The minimum dimensions of the moving arm contact shall be 25mm thick X 80mm wide. The fixed contact shall be designed to accommodate the moving contact.
- 6.8 The contact surfaces of the isolating switch moving contact, fixed contact, and busbar joints in positive isolator cubicle shall be nickel-plated.

### EARTHING SWITCH

- 6.9 The earthing switch shall comprise of a moving arm contact and a fixed contact into which the moving contact makes contact.
- 6.10 The earthing switch shall be a medium voltage, manually operated off load switch with minimum rating of 1500 Ampere.
- 6.11 The earthing switch moving and fixed contact shall be manufactured from copper or phosphor bronze.

#### **PANEL CONSTRUCTION**

- 6.12 The panel shall be constructed from steel sheeting of at least 2,5 mm thickness. The panel shall be of a rigid construction with facilities for lifting purposes.
- 6.13 The dimensions of the panel shall be in the order of
- |        |         |
|--------|---------|
| Height | 2000 mm |
| Width  | 800 mm  |
| Depth  | 1000 mm |
- 6.14 The removable covers shall be fitted with fasteners that require a special tool in order to remove the covers. Hinged covers are not acceptable.
- 6.15 The panel shall have a High Voltage and a Low Voltage compartment partitioned by a substantial metal sheet.
- 6.16 The front cover for the low voltage compartment shall be fitted with a window to give visibility to the indicating / measuring instruments.
- 6.17 A window shall be provided in the HV compartment to provided visibility of the position of the moving and fixed contacts of the positive isolator and earthing switch.
- 6.18 The windows shall be manufactured from clear polycarbonate, or non-shattering laminated glass or other approved material.
- 6.19 The interior and exterior surface of the panels shall be powder coated in accordance with SANS 1274. The coating shall be type 4 for corrosion-resistant coatings for interior use using thermosetting type high gloss coatings. The interior and exterior of the panel shall be Eau-de-Nil, colour code No H 43 in accordance with SANS 1091.
- 6.20 The frame of the metal cubicle that houses the positive isolator shall be fitted with support insulators to insulate the equipment from the floor.

#### **LOW VOLTAGE COMPARTMENT**

- 6.21 The 3kV DC voltmeter and DC ammeter and undervoltage relay (if specified) shall be fitted in the low voltage compartment and shall be totally isolated from the high voltage compartment.
- 6.22 The compartment shall be provided with a hinged plate on which the 3kV DC indicating/measuring instruments are mounted.
- 6.23 The hinge plate shall provide easy access to the under voltage relay transmitter and receiver in the LV compartment for calibration purposes.

- 6.24 The hinged plate shall be fitted behind the front cover of the low voltage compartment so that the front cover must first be removed before access can be gained to the low voltage compartment.
- 6.25 The supplier shall make provision for an electrical interlock to be fitted on the front cover of LV compartment which will cause the substation to trip and lockout in the event of the cover been removed while the traction substation is on load.

#### **HIGH VOLTAGE COMPARTMENT**

- 6.26 The HV compartment shall house the positive isolator switch combined with its earthing switch, all the 3kV DC busbars and 500mm<sup>2</sup> copper cables, the potential dividers and fuse for the metering equipment.
- 6.27 Provision shall be made for the rail connection for the negative connections of the 3 kV DC potential dividers for the undervoltage relay and voltmeter. The rail connection shall consist of a copper busbar mounted on an insulator.
- 6.28 The positive connections for the fuse and potential dividers for the 3 kV DC undervoltage relay and voltmeter shall be connected to the 3 kV DC positive busbar on the track breaker side of the positive isolator.
- 6.29 High voltage insulated cables shall be used for the fuses and positive and negative connections of the potential dividers.
- 6.30 A 6mm X 50mm copper busbar connected to the earthing switch be provided in the rear of the HV compartment for the termination of the cables of the traction substation DC earth leakage system and the earthing cable of the metal cubicle of the positive isolator.
- 6.31 All low voltage wiring in the high voltage compartment shall be run in metal trunking.

#### **CLEARANCES AND INSULATION**

- 6.32 The positive isolator switch 3kV insulation to earth shall be designed to withstand a test voltage of 10,5kV, 50 Hz AC for one minute.
- 6.33 The clearance of the positive isolating equipment at nominal 3kV DC and steelwork shall be not less than 150 mm.
- 6.34 The insulating material used in the construction of the positive isolator switch shall comply with NEMA standards for GP03 or better for satisfactory operation at coastal and other high humidity areas.
- 6.35 All insulation used for the construction of apparatus shall resist the effects of humidity, dust and temperature variations and shall not have a tendency to distort.

#### **MECHANICAL INTERLOCKING**

- 6.36 An externally mounted mechanical interlock shall be fitted to prevent the on load operation of the positive isolator switch or reconnection to the overhead track system while the rectifier bay is open.
- 6.37 The mechanical interlocking system for the positive isolator switch shall be of the key exchange type The "Castell" key exchange system is preferred.
- 6.38 The switching operation of the opening and earthing of the positive isolator shall only be possible once the traction substation has been switched off load from the incoming AC supply.

### **7.0 METERING, UNDERVOLTAGE RELAY AND WIRING**

## 7.1 METERING

The 3 kV DC voltmeter and ammeter shall conform to the following requirements.

- 7.1.1 The 3 kV DC voltmeter shall be a moving coil type, 96mm X 96mm. The range shall be 0-4000V with a class of 1.5 accuracy.
- 7.1.1.1 The 3 kV DC voltmeter shall be provided with a high voltage fuse and potential divider consisting of not less than 10 vitreous enamel resistors in series and shall be installed in the HV compartment of the positive isolator panel.  
Epoxy sealed HV potential dividers may be offered subject to the approval of Transnet freight rail Technology Management.
- 7.1.1.2 The 3 kV DC voltmeter shall be labelled "Busbar Voltage"
- 7.1.1.2 The fuse and voltage divider shall be housed in the HV compartment of the panel. The fuse shall be connected by means of a single core HV conductor from the positive 3kV to the potential divider.
- 7.1.2 A moving coil DC Ampere meter 96mm X 96mm with range of 0 - 4000 amperes and accuracy class of 1.5 shall be supplied
- 7.1.2.1 The 3 kV DC Ampere meter shall be calibrated for 4000 amperes full scale with an input of 50mV obtained from a 4000 amperes 50 mV shunt, which shall be supplied by the tenderer.

## 7.2 3 kV DC UNDERVOLTAGE RELAY

- 7.2.1 Where specified the tenderer shall supply a 3kV DC undervoltage relay in accordance with Transnet freight rail's specification BBB 3005.
- 7.2.2 The potential divider and fuse shall be installed in the HV compartment of the positive isolator switch panel.
- 7.2.3 The transmitter and receiver of the undervoltage shall be mounted in the LV compartment.
- 7.2.4 Depending on space constraints in the LV compartment of the positive isolator switch panel, the 3kV DC undervoltage relay may be wall mounted in an easily accessible location.

## 7.3 WIRING AND TERMINALS

- 7.3.1 All terminal blocks and groups of terminal blocks shall be suitably numbered.
- 7.3.2 All wires shall be provided with identification tags at terminals and shall be marked as reflected on the panel-wiring diagram. The diagram markings and wire markings shall be the same.

## 8.0 LABELLING

- 8.1 All removable covers of the positive isolator shall be fitted with approved Transnet freight rail warning signs.
- 8.2 The warning signs and labelling shall be of the engraved type.

- 8.3 The warning signs shall read as follows

**"CAUTION-HIGH VOLTAGE  
Do not open panel and work on this apparatus  
unless the substation is totally isolated and earthed."**



- 8.4 The lettering "**CAUTION-HIGH VOLTAGE**" shall be 15mm in size and the rest of the wording on the label 10mm. The lettering shall be red on a white background.
- 8.5 The labels shall be screwed or riveted to the panels.
- 9.0 **INSPECTION AND TESTING.**
- 9.1 Transnet freight rail reserves the right to carry out inspections and any tests on the equipment at the works of the supplier/ manufacture.
- 9.2 Arrangements must be made with The Senior Engineer, Technology Management Transnet freight rail for inspections to be carried out before delivery of the equipment.
- 9.3 Routine test certificates shall be supplied for each positive isolator switch and undervoltage relay.
- 10.0 **DRAWINGS, INSTRUCTION MANUALS AND SPARES LISTS**
- 10.1 Drawings, instruction manuals and spare parts catalogues shall be supplied in accordance with Transnet freight rail specification CEE.0224.
- 10.2 The tenderer shall supply three copies of an instruction/maintenance manuals and construction and schematic diagrams.
- 10.3 The contractor shall submit details of spares required in accordance with Transnet freight rail's specification CEE.0224.
- 11.0 GUARANTEE AND DEFECTS**
- 11.1 The contractor shall guarantee the satisfactory operation of the complete electrical installation supplied and installed by him and accept liability for maker's defects, which may appear in design, materials and workmanship.
- 11.2 The guarantee period for all substations shall expire after: -  
A period of 12 months commencing on the date of completion of the contract or the date the equipment is handed over to Transnet freight rail whichever is the later.
- 11.3 Any specific type of fault occurring three times 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 Maintenance manager and at the cost of the Contractor.
- 11.4 If urgent repairs have to be carried out by Transnet freight rail staff to maintain supply during the guarantee period the contractor shall inspect such repairs to ensure that the guarantee period is not affected and should they be covered by the guarantee, reimburse Transnet freight rail the cost of material and labour.

END



## SECTION 4

### CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION FOR A PERIOD OF THREE MONTHS

#### QUOTATION FORM

I/We \_\_\_\_\_  
(name of company, close corporation or partnership)

of (full address) \_\_\_\_\_  
\_\_\_\_\_

carrying on business under style or title of (trading as)  
\_\_\_\_\_  
\_\_\_\_\_

represented by \_\_\_\_\_  
in my capacity as \_\_\_\_\_

being duly authorised thereto by a Resolution of the Board of Directors or Members or Certificate of Partners, as the case may be, dated \_\_\_\_\_ a certified copy of which is annexed hereto, hereby offer to supply the above-mentioned Services at the prices quoted in the schedule of prices in accordance with the terms set forth in the accompanying letter(s) reference \_\_\_\_\_ and dated \_\_\_\_\_ (if any) and the documents listed in the accompanying schedule of RFQ documents.

I/We agree to be bound by those conditions in Transnet's:

- (i) Standard Terms and Conditions of Contract, Form No. US7 - Services;
- (ii) General Tender Conditions, Form CSS5 – Services; and
- (iii) any other standard or special conditions mentioned and/or embodied in the Request for Quotation form; and;-

I/We accept that unless Transnet should otherwise decide and so inform me/us in the facsimile or letter of acceptance, this Quotation (and, if any, its covering letter and any subsequent exchange of correspondence), together with Transnet's acceptance thereof shall constitute a binding contract between Transnet and me/us.

Should Transnet decide that a formal contract should be signed and so inform me/us in the facsimile or letter of acceptance, this Quotation (and, if any, its covering letter and any subsequent exchange of correspondence) together

\_\_\_\_\_  
Respondent's Signature

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\_\_\_\_\_  
Date and Company Stamp



with Transnet's letter of acceptance/intent, shall constitute a binding contract between Transnet and me/us until the formal contract is signed.

I/We further agree that if, after I/we have been notified of the acceptance of my/our Quotation, I/we fail to enter into a formal contract if called upon to do so, or fail to commence the supply of Services within 4 (four) weeks, Transnet may, without prejudice to any other legal remedy which it may have, recover from me/us any expense to which it may have been put in calling for Quotations afresh and/or having to accept any less favourable Quotation.

I/We accept that any contract resulting from this offer will be for a period of as and when required only; and agree to a penalty clause to be negotiated with Transnet, which will allow Transnet to invoke a penalty (details to be negotiated) against us should the delivery of the Services be delayed due to non-performance by us.

The law of the Republic of South Africa shall govern the contract created by the acceptance of this RFQ. The *domicillium citandi et executandi* shall be a place in the Republic of South Africa to be specified by the Respondent hereunder, at which all legal documents may be served on the Respondent who shall agree to submit to the jurisdiction of the courts of the Republic of South Africa. Foreign Respondents shall, therefore, state hereunder, the name of their accredited agent in the Republic of South Africa who is empowered to sign any contract which may have to be entered into in the event of their Quotation being accepted and to act on their behalf in all matters relating to the contract.

Respondent to indicate *domicillium citandi et executandi* hereunder:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NOTIFICATION OF AWARD OF RFQ**

As soon as possible after approval to award the contract/s, the successful Respondent (the Supplier) will be informed of the acceptance of its Quotation. Unsuccessful Respondents will be advised in writing of the name of the successful Supplier and the reason as to why their Quotations have been unsuccessful, for example, in the category of price, delivery period, quality, BBBEE status or for any other reason.

**VALIDITY PERIOD**

Transnet desires a validity period of 3 (three) months (from closing date) against this RFQ. It should be noted that Respondents may offer an earlier validity period, but that their Quotations may be disregarded for that reason. Should Respondents be unable to comply with this validity period, an alternative validity period must be stated hereunder:

This RFQ is valid until \_\_\_\_\_ (State alternative validity period/date).

**TAX (VAT) REGISTRATION NUMBER**

The Respondent must state hereunder the tax registration number which is applicable to Value-Added Tax:

\_\_\_\_\_

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
Date and Company Stamp



**TAX CLEARANCE CERTIFICATE**

Respondents are required to forward a valid copy of their company's Tax Clearance Certificate with their Quotation.

Indicate tax clearance certificate expiry date: \_\_\_\_\_

**BANKING DETAILS**

BANK: \_\_\_\_\_

BRANCH NAME / CODE: \_\_\_\_\_

ACCOUNT HOLDER: \_\_\_\_\_

ACCOUNT NUMBER: \_\_\_\_\_

**NAME(S) AND ADDRESS / ADDRESSES OF DIRECTOR(S) OR MEMBER(S)**

The Respondent must disclose hereunder the full name(s) and address(s) of the director(s) or members of the company or close corporation (C.C.) on whose behalf the RFQ is submitted.

(i) Registration number of company / C.C. ....

(ii) Registered name of company / C.C. ....

(iii) Full name(s) of director/member(s)      Address/Addresses      ID Number/s

|       |       |
|-------|-------|
| ..... | ..... |
| ..... | ..... |
| ..... | ..... |
| ..... | ..... |
| ..... | ..... |

**REGISTRATION CERTIFICATE**

Respondents must submit a certified copy of their company's Registration Certificate with their Quotation.

**NAME AND ADDRESS OF ACCREDITED AGENT**

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
Date and Company Stamp



Provide hereunder, if applicable, details of the accredited agent in the Republic of South Africa appointed as local representative by foreign Respondents and whose address shall be regarded as the Respondent's domicilium citandi et executandi in terms of the Standard Terms and Conditions of Contract, US7 – Services.

|         |       |
|---------|-------|
| Name    | ..... |
| Address | ..... |
|         | ..... |

**CONFIDENTIALITY**

All information related to a subsequent contract, both during and after completion, is to be treated with strict confidence. Should the need however arise to divulge any information gleaned from provision of the Services, which is either directly or indirectly related to Transnet's business, written approval to divulge such information will have to be obtained from Transnet.

**DISCLOSURE OF PRICES TENDERED**

Respondents must indicate here **whether Transnet may disclose** their tendered prices and conditions to other Respondents:

|     |                          |    |                          |
|-----|--------------------------|----|--------------------------|
| YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
|-----|--------------------------|----|--------------------------|

**DECLARATION**

Respondents to declare hereunder whether any family and/or direct relationship exists between any of the owners / members / directors / partners / shareholders (unlisted companies) of the responding company and any employee or board member of the Transnet Group:

|     |                          |    |                          |
|-----|--------------------------|----|--------------------------|
| YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
|-----|--------------------------|----|--------------------------|

If YES, please indicate below:

FULL NAME OF OWNER/MEMBER/DIRECTOR/  
PARTNER/SHAREHOLDER

ADDRESS

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Indicate nature of relationship (if any):

---



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\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
Date and Company Stamp



(Failure to furnish complete and accurate information in this regard may lead to the disqualification of a response and may preclude a Respondent from future business with Transnet)

## RETURNABLE DOCUMENTS

Respondents are required to submit the following returnable documents with their responses (see tick):

|  |   |
|--|---|
| Notice to Bidders – Section 1  | √ |
| Background overview – Section 2  | √ |
| Quotation Form – Section 3   | √ |
| Specification  | √ |
| Resolution of Board of Directors (Respondent's Representative) – Section 4 | √ |
| Certificate of Acquaintance with RFQ Documents – Section 5                 | √ |
| General Tender Conditions, Form CSS5 – Section 6                           | √ |
| Conditions of Contract, Form US7 – Section 7                               | √ |
| Valid Tax Clearance Certificate  | √ |
| VAT Registration Certificate   | √ |
| BBBEE Accreditation Certificate  | √ |
| Non-Disclosure Agreement – Section 8                                       | √ |
| Supplier Code of Conduct – Section 9                                       | √ |
| Supplier Declaration Form – Section 10                                     | √ |

NOTE: Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and Annexure A, as indicated in the footer of each page, must be signed and dated by the Respondent.

\_\_\_\_\_  
Respondent's Signature

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\_\_\_\_\_  
Date and Company Stamp



By signing the RFQ documents, the Respondent is deemed to acknowledge that he / she has made himself / herself thoroughly familiar with all the conditions governing this RFQ, including those contained in any printed form stated to form part hereof and Transnet Limited will recognise no claim for relief based on an allegation that the Respondent overlooked any such condition or failed properly to take it into account for the purpose of calculating tendered prices or otherwise.

SIGNED at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_ 2010.

SIGNATURE OF WITNESSES:

ADDRESS OF WITNESSES:

1 \_\_\_\_\_ 1 \_\_\_\_\_

2 \_\_\_\_\_ 2 \_\_\_\_\_

SIGNATURE OF RESPONDENT'S AUTHORISED REPRESENTATIVE:

NAME

DESIGNATION

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
Date and Company Stamp





**SECTION 5**

**CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION FOR A PERIOD OF THREE MONTHS**

**SIGNING POWER : RESOLUTION OF BOARD OF DIRECTORS**

NAME OF COMPANY: \_\_\_\_\_

It was resolved at a meeting of the Board of Directors held on \_\_\_\_\_ that

| FULL NAME(S) | CAPACITY | SIGNATURE |
|--------------|----------|-----------|
| _____        | _____    | _____     |
| _____        | _____    | _____     |
| _____        | _____    | _____     |
| _____        | _____    | _____     |

in his/her capacity as indicated above is/are hereby authorised to enter into, sign, execute and complete any documents relating to Tenders, Quotations and/or Contracts for the supply of Services.

FULL NAME \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE CHAIRMAN

FULL NAME \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE SECRETARY



**SECTION 6**

**CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION FOR A PERIOD OF THREE MONTHS**

**CERTIFICATE OF ACQUAINTANCE WITH RFQ DOCUMENTS**

NAME OF COMPANY: \_\_\_\_\_

I/We \_\_\_\_\_ do

hereby certify that I/we acquainted myself/ourselves with all the documentation comprising this RFQ and all conditions contained therein, as laid down by Transnet Limited for the carrying out of the proposed supply/service/works for which I/we submitted my/our response.

I/We furthermore agree that Transnet Limited shall recognise no claim from me/us for relief based on an allegation that I/we overlooked any RFQ/contract condition or failed to take it into account for the purpose of calculating my/our offered prices or otherwise.

SIGNED at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_ 2010

WITNESS : \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE OF RESPONDENT



## SECTION 7

### CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION FOR A PERIOD OF THREE MONTHS

#### GENERAL TENDER CONDITIONS - SERVICES

Refer Form CSS5 attached hereto

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Respondent's Signature

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Date and Company Stamp



## SECTION 8

### CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION FOR A PERIOD OF THREE MONTHS

#### STANDARD TERMS AND CONDITIONS OF CONTRACT

#### FOR THE SUPPLY OF SERVICES TO TRANSNET

Refer Form US7 attached hereto.

Respondents should note the obligations as set out in  
Clause 24 of the General Tender Conditions (Section 7) which reads as follows:

*"The Supplier shall adhere to the Standard Terms and Conditions of Contract as set out in Form US7 – Services, a copy of which is attached hereto.*

*Should the Respondent find any conditions unacceptable, it should indicate which conditions are unacceptable and offer an alternative. Please note that any alternative offered shall be compared with acceptance of the Form US7 conditions or alternatives offered by other Respondents, except penalties for late deliveries, the exclusion of which may disqualify the RFQ, save where indicated otherwise by Transnet."*

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Respondent's Signature

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Date and Company Stamp



## SECTION 9

### CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION SUBSTATION FOR A PERIOD OF THREE MONTHS

#### NON-DISCLOSURE AGREEMENT ("NDA")

Complete and sign NDA attached hereto

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Respondent's Signature

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Date and Company Stamp



**SECTION 10**

**CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION  
SUBSTATION FOR A PERIOD OF THREE MONTHS**

**SUPPLIER CODE OF CONDUCT**

"Preview Copy Only"

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Respondent's Signature

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Date and Company Stamp



**SECTION 11**

**CRAC KGG 6743 SUPPLY FOUR POSITIVE ISOLATOR SWITCHES FOR 3KV DC TRACTION  
SUBSTATION FOR A PERIOD OF THREE MONTHS**

**SUPPLIER DECLARATION FORM**

"Preview Copy Only"

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Respondent's Signature

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Date and Company Stamp